Click Here to Return to AR Index

Superfund Records Center
SITE: Industri-Plex
BREAK: 2.3
OTHER: 35252

FINAL GSIP SCOPE OF WORK
Volume 2
GROUNDWATER AND SOIL INVESTIGATION DRAFT REPORT

Part I of III

INDUSTRI-PLEX SITE
WOBURN, MASSACHUSETTS

APRIL 5, 2002

Prepared for:

Industri-Plex Site Remedial Trust
Commerce Way
Woburn, Massachussetts

Prepared by:

ROUX ASSOCIATES, INC.
25 Corporate Drive, Suite 230
Burlington, Massachusetts 01803

ROUX

INDUSTRI-PLEX SITE

REMEDIAL TRUST

WOBURN, MASSACHUSETTS

FINAL GSIP SCOPE OF WORK
Volume 2
GROUNDWATER AND SOIL INVESTIGATION DRAFT REPORT
Part I of III

INDUSTRI-PLEX SITE
WOBURN, MASSACHUSETTS
APRIL 5, 2002

INDUSTRI-PLEX SITE REMEDIAL TRUST
WOBURN, MASSACHUSETTS

FINAL GSIP SCOPE OF WORK
Volume 2
GROUNDWATER AND SOIL INVESTIGATION
DRAFT REPORT
Part I of III

INDUSTRI-PLEX SITE
WOBURN, MASSACHUSETTS
APRIL 5, 2002

INDUSTRI-PLEX SITE REMEDIAL TRUST

P.O. BOX 2580
WOBURN, MA 01888-1080

April 5, 2002

Joseph F. LeMay, P. E.
Remedial Project Manager
Office of Remediation and Restoration
US EPA - I
JFK Federal Building HRM-CAN3
Boston, MA 02203

Re: Industri-Plex Site Final GSIP
- **Groundwater and Soil Investigation Draft Report**

Dear Joe,

Pursuant to the Final GSIP Statement of Work (SOW) within EPA's letter of August 25, 1998 to the Industri-Plex Site Remedial Trust ("ISRT"), as agreed to by the ISRT in a September 18, 1998 letter to the Agencies, enclosed for EPA's review and approval is the Groundwater and Soil Investigation Draft Report prepared by Roux Associates. Reports for the remaining work elements stipulated in the Final GSIP SOW, including the Surface Water Monitoring Draft Report and the Downgradient Transport Draft Report, were shipped April 1 under separate cover. The Data Tables and Figures and Data Validation Reports, both associated with this Groundwater and Soil Investigation Draft Report, were shipped April 2 under separate cover from O'Brien & Gere Engineers, Inc.

Sincerely,

D. M. Light
ISRT Coordinator

cc:(w/ Attachments)
Anna Mayor – MDEP
Gordon Bullard – TTNUS
B. Yare – Solutia
J. Garcia – Solutia
C. Dickerson – SMC
ISRT File - % Al Taney

(w/o Attachments)
L. Mette - SMC
R. Wilkinson – H&E

TEL. 781-933-2492
FAX 781-933-4321

FINAL GSIP SCOPE OF WORK
Volume 2
GROUNDWATER AND SOIL INVESTIGATION DRAFT REPORT

Part I of III

INDUSTRI-PLEX SITE
WOBURN, MASSACHUSETTS

APRIL 5, 2002

Prepared for:

Industri-Plex Site Remedial Trust
Commerce Way
Woburn, Massachussetts

Prepared by:

ROUX ASSOCIATES, INC.
25 Corporate Drive, Suite 230
Burlington, Massachusetts 01803

ROUX

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 INVESTIGATION OVERVIEW 2
- 2.1 Groundwater Investigation 2
  - 2.1.1 Buried Aquifer Conditions (Hide Piles to HBHA Pond) 7
  - 2.1.2 Western and Eastern BECO ROW 7
  - 2.1.3 HBHA Pond Buried Valley 8
  - 2.1.4 Former Mishawum Lake Groundwater Area 8
  - 2.1.5 Potable Water Supply/Interstate 95 Area 8
- 2.2 Soil Investigation 9

3.0 PRESENTATION OF RESULTS 11

TABLES

1. Groundater Gauging Data
2. Field Parameters

FIGURES

1. Location of Study Area
2. Soil Boring Locations
3. Dissolved Arsenic Concentrations (3 sheets)
4. Benzene Concentrations (3 sheets)
5. Toluene Concentrations (3 sheets)

PLATES

1. Plume Delineation Groundwater Sampling Points
2. Plume Geochemistry Groundwater Sampling Points
3. Water-Table Contour Map
4. Potentiometric-Surface Contour Map – Intermediate Overburden
5. Potentiometric-Surface Contour Map – Deep Overburden
6. Cross-Section A-A'
7. Cross-Section B-B'

APPENDICES

A. Groundwater Sampling Forms
B. Soil Sampling Forms
C. CDM Technical Memorandum

1.0 INTRODUCTION

Roux Associates, Inc. (Roux Associates) has prepared this report to present the data generated during the Groundwater and Soil Investigation conducted at the Industri-Plex Superfund Site (Site) in Woburn, Massachusetts (Figure 1). This investigation was conducted on behalf of the Industri-Plex Site Remedial Trust (ISRT) by Arcadis Geraghty & Miller, Inc. (Arcadis) and Roux Associates, between September 2000 and February 2002 and in accordance with the U.S. Environmental Protection Agency (USEPA)-approved Groundwater and Soil Investigation Work Plan (Work Plan), dated September 1999 and amended May 2000. The Work Plan addressed tasks outlined in Sections 1.2.1, 2.1, and 2.2 of the Final Groundwater/Surface Water Investigation Plan (GSIP) Statement of Work (SOW) issued by the USEPA on August 25, 1998. This report represents Volume 2 of the Final GSIP SOW Report.

2.0 INVESTIGATION OVERVIEW

The Groundwater and Soil Investigation comprised evaluations of soil and groundwater quality in an area (Study Area) that encompassed parts of the Site and areas downgradient of the Site. The Study Area is shown in Figure 1.

The groundwater component of the Groundwater and Soil Investigation included the collection of groundwater samples at multiple depth intervals along a series of transects throughout the Study Area. The objectives of the groundwater investigation were to determine the thickness of the overburden aquifer beneath the Study Area, to determine the approximate extent of Site contaminants of concern (benzene, toluene, arsenic, chromium, lead, and, mercury) in the overburden aquifer, and to characterize the geochemistry of the overburden aquifer in selected areas.

The soil component of the Groundwater and Soil Investigation included the collection of surface and subsurface soil samples in a portion of the Study Area formerly occupied by Mishawum Lake. The objectives of the soil investigation were to identify and characterize the former (now buried) lakebed sediments. Soil sampling locations are shown in Figure 2.

2.1 Groundwater Investigation

The groundwater investigation was conducted in two phases: a "Plume Delineation" phase and a "Plume Geochemistry" phase. The Plume Delineation phase of the groundwater investigation consisted of groundwater sampling from multiple depth intervals along 16 transects strategically placed throughout the Study Area, with a mainly limited analytical suite. The transects were identified as follows:

- Buried Aquifer Conditions (Hide Piles to HBHA Pond) - nine transects, designated as "B" transects;
- Western and Eastern Boston Edison Company (BECO) Right of Way (ROW) - one and two transects, respectively, designated "W" and "E";
- Hall's Brook Holding Area (HBHA) Pond Buried Valley - two transects ("H" transects);
- Former Mishawum Lake Groundwater Area - one transect ("L" transect); and
- Potable Drinking Water Supply/Interstate 95 Area - one transect ("P" transect).

These transects and their individual sampling locations are shown in Plate 1. Sampling depths and intervals varied from transect to transect. Groundwater samples were collected from the "shallow" (i.e., at or near the water table), "intermediate" (i.e., mid-point of the saturated zone), and "deep" (i.e., bedrock surface/base of overburden) portions of the overburden aquifer along the "B", "W", and "E" transects. (Several "intermediate" groundwater samples had to be recollected because the initial samples were collected from depths that deviated more than 10 percent from the true aquifer midpoint, as prescribed in the May 2000 Work Plan Addendum.) At the "H", "L", and "P" transects, groundwater samples were collected at 10-foot intervals commencing at the water table and proceeding down to top of bedrock.

The Plume Geochemistry phase of the groundwater investigation was conducted subsequent to plume delineation, and consisted of additional groundwater sampling from selected locations and depths, with a more comprehensive analytical suite. Sampling locations for this second phase were selected jointly by the ISRT and the USEPA on February 15, 2001, after reviewing the preliminary analytical results from the Plume Delineation phase. The sampling locations were spread among the various transects, with the exception of the Potable Drinking Water Supply/Interstate 95 ("P) transect. (The "P" transect was excluded as the samples collected along this transect during the Plume Delineation phase were – unlike the other transects - analyzed for the more comprehensive analytical suite.) The "Plume Geochemistry" sampling locations are shown in Plate 2.

Direct-push (e.g., MicroWell™ and Geoprobe™) methods were used to facilitate collection of the groundwater samples. Pine and Swallow Associates, Inc., MyKroWaters, Inc., and Geosearch, Inc. provided the direct-push equipment and personnel to advance temporary well screens and pipe (ranging from ½-inch to 1-inch diameter) down to the desired sampling depths at each sampling location. Once the desired depth was reached, and except where precluded by site-specific conditions, groundwater samples were collected using low-flow sampling procedures, as stipulated in the Final GSIP SOW. Groundwater was extracted from the temporary wells using a low-flow peristaltic pump, and run through a flow-through cell in which measurements of field parameters including temperature, conductivity, dissolved oxygen, pH,

oxidation-reduction potential (ORP), and turbidity were made. Groundwater was pumped until these parameters had stabilized, as defined in the USEPA Region 1 low-flow sampling Standard Operating Procedure (GW 0001), at which point sampling was conducted. At a number of locations, due mainly to the abundance of silt in the overburden aquifer, one or more field parameters did not stabilize within the four-hour maximum purging time prescribed in the Work Plan. In these cases, the samples were designated as "non-stabilized", in accordance with the Work Plan. Groundwater sampling forms, on which the field parameters were recorded and which note whether or not field parameters had stabilized, are provided in Appendix A.

At a number of other locations, groundwater recharge was limited, such that low-flow techniques could not be used. At those locations where at least some minimal amount of flow could be sustained, groundwater was pumped at a very low rate (with no parameters being measured) for four hours prior to sampling. At those locations that could not sustain any flow, or where the depth to water exceeded 25 feet (either prior to or during pumping), a peristaltic pump could not be used. In these cases, the well was purged and sampled using dedicated tubing equipped with a dedicated check valve. Measures were taken to minimize to the extent possible the amount of suspended particulate matter in the samples. Samples collected by all of these means were likewise designated as "non-stabilized", in accordance with the Work Plan, and are so noted on the groundwater sampling forms (Appendix A).

Groundwater samples collected during the Plume Delineation phase of the groundwater investigation were analyzed for a suite of parameters defined in the Final GSIP SOW as "Plume Delineation Parameters." This suite included the following:

- Benzene and toluene using USEPA Method 8260B;
- Total and dissolved arsenic using Brooks Rand Method BR0020;
- Arsenic species (III, V, and organic forms) using Brooks Rand Method BR0021 (only if arsenic concentrations exceeded 50 micrograms per liter [μg/L]);
- Chromium, iron, and lead, using USEPA Method 6010B;
- Mercury using USEPA Method 7470A; and
- Total suspended solids (TSS) using USEPA Method 160.2.

Groundwater samples collected during the Plume Geochemistry phase of the groundwater investigation were analyzed for a suite of parameters defined in the Final GSIP SOW as "Plume Geochemistry Parameters." This suite included the following:

- Target Compound List (TCL) volatile organic compounds (VOCs) using USEPA Method 8260B;
- TCL semi-volatile organic compounds (SVOCs) using USEPA Method 8270B;
- Target Analyte List (TAL) metals using USEPA Method 6010B (total and dissolved);
- Mercury using USEPA Method 7441;
- TSS using USEPA Method 160.2;
- Total and dissolved arsenic using Brooks Rand Method BR0020;
- Arsenic species using Brooks Rand Method BR0021 (only if arsenic concentrations exceeded 50 μg/L);
- Nitrate and nitrite using USEPA Method 352.2;
- Sulfate using USEPA Method 375.4;
- Carbonate and bicarbonate using USEPA Method 2320B;
- Phosphate using USEPA Method 365.1;
- Ammonia using USEPA Method 350.3; and
- Dissolved organic carbon using USEPA Method 415.1.

Brooks Rand, Ltd., of Seattle, Washington performed the arsenic and arsenic speciation analyses during both phases of the groundwater investigation. All other analyses were conducted by Lancaster Laboratories, Inc. (Lancaster Labs), of Lancaster, Pennsylvania. Additional sample volume was collected for quality control (QC) analyses: field duplicates were run at a ten percent frequency (one of every ten samples), and matrix spikes and spike duplicates were run at five percent (one of every 20 samples). Trip blanks also accompanied each cooler containing samples being submitted for VOC analysis. All groundwater samples collected during both

phases of the groundwater investigation were also analyzed in the field for ferrous iron and sulfide using Hach™ test kits. The results of the field testing for ferrous iron and sulfide are provided on the groundwater sampling forms (Appendix A).

Groundwater sample identification nomenclature used in this project is presented below. For the various types of samples associated with the site locations, alphanumeric values used in the sample designations include the following:

- B = Buried Aquifer;
- E = Eastern BECO ROW;
- W = Western BECO ROW;
- L = Mishawum Lake;
- P = Potable Drinking Water Supply/Interstate 95 Area;
- H = HBHA Pond Buried Valley;
- C = Chemistry (Plume Geochemistry samples);
- GW = Groundwater;
- NS = not stable;
- 99 = Duplicate sample;
- R = Re-collected sample (or, for P1-01, moved sampling location);
- MS = Matrix Spike; and
- MSD = Matrix Spike Duplicate

For example, a designation of B2-04-GW-03NS indicates that the sample was collected from the Buried Aquifer transect 2, at location 4, from the third depth interval, and the field parameters did not stabilize.

Summaries of the sampling activities conducted along each transect or group of transects are provided in the following sections.

2.1.1 Buried Aquifer Conditions (Hide Piles to HBHA Pond)

There were nine Buried Aquifer Conditions ("B") transects, each with five to seven sampling locations, for a total of 52 sampling locations (Plate 1). During the Plume Delineation phase, "B"-transect samples were generally collected from the shallow, intermediate, and deep portions of the overburden aquifer. However, at locations B1-02, B1-03, B2-01, B3-02, B3-04, B3-05, B5-04, and B5-05, the shallow depth to bedrock precluded the collection of groundwater samples from all three horizons. Therefore, only 143 samples were collected in this area during the initial sampling round. (It should be noted that, at locations B3-03, B4-01, B4-03, B5-01, B6-01, B7-01, B7-03, B7-05, B8-01, B8-03, B8-05, and B9-03, the intermediate-depth sample had to be re-collected because the initial intermediate sample was collected too far above or below the mid-point of the overburden aquifer. The original samples are not included in the total of 143 samples.) Of the 143 samples collected within this investigation area during the initial sampling round, 23 were designated as "non-stabilized" (five of which were sampled with a check valve).

A total of 33 samples were collected from "B" transects during the Plume Geochemistry phase, from a variety of locations (Plate 2) and depths. Of these 33 samples, 23 were designated as "non-stabilized" (three of which were collected with a check valve).

2.1.2 Western and Eastern BECO ROW

Three sampling transects were located along or just downgradient of the BECO ROW: one in the western portion of the Site ("W" transect) and two in or near the eastern portion of the Site ("E" transects), as shown in Plate 1. A total of 46 samples were collected along the BECO ROW transects during the Plume Delineation phase, from the shallow, intermediate, and deep portions of the overburden aquifer. Of these 46 samples, seven were designated as "non-stabilized," and of these seven, two were collected using a check valve.

A total of ten samples were collected from the BECO transects during the Plume Geochemistry phase, from a variety of locations (Plate 2) and depths. Two of these samples were designated as "non-stabilized," but none was collected using a check valve.

2.1.3 HBHA Pond Buried Valley

There were two HBHA Pond Buried Valley ("H") transects, one with six and one with seven sampling locations, for a total of 13 sampling locations (Plate 1). During the Plume Delineation phase, "H"-transect samples were collected every ten feet down to bedrock. A total of 60 samples were collected during the Plume Delineation phase, of which seven were designated as "non-stabilized." Of these seven "non-stabilized" samples, none was sampled using a check valve.

During the Plume Geochemistry phase, a total of six samples were collected from the "H" transects, at the locations shown in Plate 2. Field parameters had stabilized for all six additional samples.

2.1.4 Former Mishawum Lake Groundwater Area

One transect ("L" transect) with five sampling points was located in the former Mishawum Lake Groundwater Area (Plate 1). At each of the five sampling points along this transect, samples were collected every ten feet down to bedrock. A total of 22 samples were collected during the Plume Delineation phase, of which four were designated as "non-stabilized." None was sampled with a check valve.

During the Plume Geochemistry phase, a total of four samples were collected from the "L" transect, at the location shown in Plate 2. Field parameters had stabilized for all four additional samples.

2.1.5 Potable Water Supply/Interstate 95 Area

One transect ("P" transect) with seven sampling points was located in the Potable Water Supply/Interstate 95 Area (Plate 1). At each of the seven points along this transect, samples were collected every ten feet down to bedrock. A total of 34 samples were collected during the combined Plume Delineation/Plume Geochemistry sampling conducted along this transect during Spring and Summer 2000. Four of these samples were designated as "non-stabilized," one of which was sampled with a check valve. Sample P1-03-GW-06 was re-sampled in November 2001 (using a check valve), as arsenic results from the first sample were anomalous.

Based on available information, it did not appear that "P"-transect Microwells™ P1-01R and P1-02 were drilled all the way to the bedrock surface during the sampling of these locations in July and August 2001. Temporary wells were therefore installed at these locations between November 5 and 12, 2001, using one-inch-diameter Geoprobe™ casing and screen. Samples were collected at 10-foot intervals beginning 10 feet beyond the last samples collected at P1-01 (63 feet) and at P1-02 (53 feet) and continuing to refusal at bedrock. A total of six additional samples were thus collected, and were analyzed for Plume Geochemistry Parameters. All six samples were collected using a check valve due to the very low recharge rate and high silt content of groundwater at these locations, and were thus labeled as "non-stabilized." Due to the extremely high volume of silt present in this area, the last three samples (P1-01-GW-07, P1-01-GW-08, P1-02-GW-07) were collected after filling the Geoprobe™ screen with approximately three feet of silica sand to act as a filter pack in an attempt to reduce the volume of silt entering the wells. This reduced the amount of silt in the extracted groundwater significantly.

Due to the extremely high volumes of suspended solids contained in samples P1-01GW06, P1-02GW05 and P1-02GW06, these samples were re-collected in February 2002 using the sand-filled Geoprobe™ screens and extended purging times to reduce the volume of suspended solids in the extracted groundwater. In addition, because depth to groundwater exceeded the limitation of the peristaltic pump during purging activities, a combination of peristaltic pump and check valve was used to minimize sediment disturbance while keeping a constant groundwater head pressure. The wells were purged until turbidity readings were 500 NTUs or less.

After the completion of all sampling activities at the various transects, the MicroWells™ were decommissioned by pressure grouting and cutting the riser pipe below ground surface. MicroWell™ locations and elevations were surveyed using a Trimble 4700 GPS system.

2.2 Soil Investigation

Twenty soil borings were advanced in the area downgradient of the Site that was formerly occupied by Mishawum Lake. The soil boring were advanced using a Geoprobe™ operated by Zebra Environmental Corp. of Albany, New York, under the direction of Roux Associates. Soil samples were collected continuously from land surface down to the former lakebed (as evidenced by fine-grained soils containing remnant organic matter) using dedicated 2-inch-

diameter acetate liners. The stratigraphy was logged from the recovered samples and all samples were screened with a photo-ionization detector (PID). Soil boring forms showing the lithology and PID readings for each sample are provided in Appendix B.

Surficial soil (0 to 1 foot below land surface) and the soils from the uppermost horizons of the buried lakebed (if present), which varied in depth from location to location, were preserved as needed as submitted to Lancaster Labs for analysis of the following parameters:

- TCL VOCs using Method 8260B;
- TCl SVOCs using Method 8270B;
- TAL Metals using Method 6010B; and
- Mercury using Method 7471.

Surficial samples were designated "SS" samples, and the former lakebed samples were designated as "SB" samples. Duplicate samples were also collected, and additional volume for matrix spike and matrix spike duplicates were collected at two locations. A trip blank also accompanied the shipment of samples to the analytical laboratory.

After sampling was completed, the soil borings were backfilled with granular bentonite, and the locations of the borings were surveyed using a Trimble 4700 GPS System.

3.0 PRESENTATION OF RESULTS

The results of the Groundwater and Soil Investigation are presented below and in Parts II and III of this Groundwater and Soil Investigation Draft Report. Parts II and III were prepared independently by O'Brien & Gere Engineers, Inc. (OBG) of Syracuse, New York, which reviewed and validated the data developed through the sampling activities conducted by Arcadis and Roux Associates. OBG prepared statistical and 95% upper confidence limit tables from the validated analytical data, and figures showing the relative concentrations of the various analytes in soil and groundwater. These tables and figures are provided in Part II of the Groundwater and Soil Investigation Draft Report. The complete data validation report constitutes Part III of the Groundwater and Soil Investigation Draft Report.

Water level elevations measured in the MicroWells™ installed by Roux Associates and Arcadis are shown in Table 1. Given the extended length of time over which the field sampling occurred (i.e. September 2000 through February 2002), and the water level fluctuations over that period due to weather conditions, these measurements do not accurately represent Site conditions. Nonetheless, water levels and groundwater flow directions for the shallow, intermediate, and deep portions of the overburden aquifer at the Site ("B" transects) are provided in Plates 3 through 5, respectively. These plates, which include unedited Surfer™ contour plots, were generated using data obtained between September and October 2000, during which weather conditions were the most stable. Roux Associates also created cross-sections to illustrate the geometry of the buried-valley aquifer beneath the Study Area parallel and perpendicular to its axis. Plate 6 shows the cross section of a longitudinal (i.e. roughly parallel to groundwater flow) line of section extending from Transect B-1 to Transect P-1, while Plate 7 shows the cross section of a line of section drawn roughly parallel to Transects B-3 and B-4 (roughly perpendicular to groundwater flow). The locations of the lines of section are shown in the respective plates. The cross sections also show the vertical hydraulic gradients throughout the overburden aquifer, although it must be borne in mind that the water-level data shown were developed over the course of almost a year.

Analytical result concentrations for arsenic (dissolved), benzene, and toluene are shown in Figures 3A/B/C through 5A/B/C, respectively. The overburden aquifer contains abundant silt, and this silt is readily mobilized by even low-flow sampling processes, as indicated by the

significant number of groundwater samples that did not stabilize. In fact, during purging activities, the large amount of fines contained in the groundwater at many locations caused the field parameter equipment to foul and yield inaccurate readings. (Turbidity readings, as well as the other field parameters, are shown on the Groundwater Sampling Forms in Appendix A, and final parameter readings are shown in Table 2.) In addition, a significant number of groundwater samples indicated high TSS and total arsenic concentrations at several locations throughout the Site. Three sample locations along the Potable Drinking Water transect ("P" transect) were re-sampled to confirm the initial TSS and arsenic concentrations. Re-collected samples were carefully purged and surged to ensure minimization disturbance of the groundwater aquifer matrix. Analytical results indicated that the previous arsenic results were biased high due to the high TSS content.

An independent evaluation of the relationship between TSS and arsenic concentrations was performed by Camp Dresser & McKee (CDM) of Denver, Colorado. CDM's findings, which were provided in a Technical Memorandum (Appendix C), suggest that the total arsenic concentrations are biased high due to the digestion/dissolution of arsenic adsorbed to suspended solids during the analytical procedures, and that dissolved arsenic concentrations are more representative of actual Site conditions. Dissolved arsenic concentrations were therefore used to generate Figures 3A, 3B, and 3C.

Respectfully Submitted,

ROUX ASSOCIATES, INC.

Lyndsey H. Colburn

Staff Assistant Geologist

Lawrence McTiernan

Principal Hydrogeologist/

Project Manager

TABLES

Table 1: Groundwater Gauging Data

Date Installed	Date Sampled	Sample Location	Surface elevation	GW Elevation	Total Depth
9/6/00	9/6/00	B1-01-GW-01	79.59	71.42	17
9/7/00	9/7/00	B1-01-GW-02	79.59	69.94	19
9/6/00	9/8/00	B1-01-GW-03NS	79.59	69.38	23
3/28/01	4/17/01	B1-02-GW-03	95.051	73.191	27
----	-----	B1-03-GW-01	104.73	---	20.5
3/2/01	4/16/01	B1-04-GW-01NS	82.808	76.098	13.5
4/5/01	4/16/01	B1-04-GW-02NS	82.808	---	17
3/2/01	4/16/01	B1-04-GW-03NS	82.808	---	21
9/6/00	9/6/00	B1-05-GW-01	64.7	62.42	7
9/6/00	9/6/00	B1-05-GW-02	64.7	64.61	13
9/6/00	9/7/00	B1-05-GW-03	64.7	61.97	21
9/18/00	9/21/00	B2-01-GW-01	73.02	60.82	18
3/16/01	3/20/01	B2-02-GW-01NS	70.727	61.267	15
3/29/01	4/9/01	B2-02-GW-02NS	70.727	62.737	19
3/16/01	3/20/01	B2-02-GW-03	70.727	69.517	22.5
9/12/00	9/18/00	B2-03-GW-01	67.7	60.87	14
9/19/00	9/20/00	B2-03-GW-02	67.7	59.61	28
9/20/00	9/21/00	B2-03-GW-03	67.7	58.9	43
2/14/01	4/5/01	B2-04-GW-01	78.5	65.54	9
3/23/01	4/6/01	B2-04-GW-02	78.5	---	24
4/4/01	4/5/01	B2-04-GW-03	78.5	64.5	29
9/6/00	9/7/00	B2-05-GW-01	74.58	64.05	16
9/6/00	9/8/00	B2-05-GW-02	74.58	62.74	23
9/12/00	9/14/00	B2-05-GW-03R	74.58	61.68	32
3/28/01	3/26/01	B2-06-GW-01NS	75.036	71.016	9.5
4/4/01	4/6/01	B2-06-GW-02	75.036	64.916	14
3/28/01	3/29/01	B2-06-GW-03	75.036	---	18
9/6/00	9/7/00	B3-01-GW-01	77.568	69.688	15
9/14/00	9/14/00	B3-01-GW-02	77.568	69.308	15.5
9/6/00	9/8/00	B3-01-GW-03	77.568	70.698	16
3/2/01	3/15/01	B3-02-GW-01	77.567	64.237	19.5
3/2/01	3/15/01	B3-02-GW-03	77.567	63.747	24
9/7/00	9/7/00	B3-03-GW-01	69.53	62.25	10
9/19/00	9/20/00	B3-03-GW-02R	69.53	62.14	22.5
9/11/00	9/12/00	B3-03-GW-03	69.53	61.96	31
3/2/01	3/26/01	B3-04-GW-01NS	69.178	62.948	10
9/7/00	9/11/00	B3-05-GW-01	68.45	62.45	12
3/16/01	3/19/01	B3-06-GW-01	73.883	64.843	15
3/21/01	3/26/01	B3-06-GW-02	73.883	64.383	20.5
3/16/01	3/19/01	B3-06-GW-03	73.883	---	25
9/11/00	9/12/00	B4-01-GW-01	68.3	59.19	17
9/19/00	9/20/00	B4-01-GW-02R	68.3	60.63	27.5
9/18/00	9/19/00	B4-01-GW-03	68.3	60.46	40
3/15/01	3/16/01	B4-02-GW-01	64.896	58.796	17
3/23/01	3/26/01	B4-02-GW-02	64.896	61.296	21
3/15/01	3/16/01	B4-02-GW-03	64.896	59.156	30
9/12/00	9/13/00	B4-03-GW-01	63.942	57.082	12
9/19/00	9/19/00	B4-03-GW-02R	63.942	---	29
9/14/00	9/18/00	B4-03-GW-03	63.942	57.022	45

Table 1: Groundwater Gauging Data

Date Installed	Date Sampled	Sample Location	Surface elevation	GW Elevation	Total Depth
3/9/01	3/9/01	B4-04-GW-01	74.706	59.056	21
3/14/01	3/21/01	B4-04-GW-02	74.706	59.186	30.5
3/8/01	3/14/01	B4-04-GW-03	74.706	59.076	40
9/8/00	9/8/00	B4-05-GW-01	74.25	59.8	22
	9/11/00	B4-05-GW-02	74.25	56.47	26
9/8/12/2000	9/12/00	B4-05-GW-03	74.25	56.77	34
9/8/00	9/11/00	B5-01-GW-01	68.57	59.22	16
9/19/00	9/19/00	B5-01-GW-02R	68.57	58.04	27
9/13/00	9/13/00	B5-01-GW-03	68.57	57.42	40
3/21/01	3/21/01	B5-02-GW-01	72.147	63.647	14
3/29/01	4/9/01	B5-02-GW-02	72.147	64.217	22
3/21/01	3/21/01	B5-02-GW-03	72.147	62.917	30
9/8/00	9/11/00	B5-03-GW-01NS	71.4	61.9	14
9/13/00	9/19/00	B5-03-GW-02	71.4	61.92	25
9/14/00	9/18/00	B5-03-GW-03	71.4	62.86	37.5
4/2/01	4/9/01	B5-04-GW-01	65.99	63.93	10
9/8/00	9/11/00	B5-05-GW-01	65.3	62.51	7.5
3/29/01	4/11/01	B5-06-GW-01NS	69.477	61.387	10
4/23/01	4/25/01	B5-06-GW-01R	69.957	---	15
4/27/01	4/27/01	B5-06-GW-02R	70.89	---	17.5
4/23/01	4/25/01	B5-06-GW-03R	70.89	---	21
9/14/00	9/21/00	B6-01-GW-01	73.3	60.01	19
9/25/00	9/27/00	B6-01-GW-02R	73.3	58	30.5
9/22/00	9/22/00	B6-01-GW-03	73.3	58.17	40.5
2/28/01	3/12/01	B6-02-GW-01	70.066	60.366	14.5
3/29/01	4/10/01	B6-02-GW-02	70.066	62.636	19.5
2/28/01	3/12/01	B6-02-GW-03	70.066	48.166	23.5
9/19/00	9/20/00	B6-03-GW-01	70.525	58.955	17
9/21/00	9/25/00	B6-03-GW-02	70.525	58.475	23
9/25/00	9/26/00	B6-03-GW-03	70.525	58.055	33
4/2/01	4/11/01	B6-04-GW-01	65.431	60.961	14
4/27/01	5/4/01	B6-04-GW-02RNS	65.431	58.731	17
4/27/01	5/4/01	B6-04-GW-03RNS	65.431	58.831	23
9/20/00	9/21/00	B6-05-GW-01	64.655	58.505	13
9/21/00	9/25/00	B6-05-GW-02	64.655	58.265	23
3/29/01	4/5/01	B6-05-GW-03NS	64.655	59.735	40.5
9/11/00	9/12/00	B7-01-GW-01	61.4	57.97	10.83
9/13/00	9/19/00	B7-01-GW-02R	61.4	57.01	36
9/14/00	9/18/00	B7-01-GW-03	61.4	57.04	62
3/8/01	3/9/01	B7-02-GW-01NS	67.495	57.705	20
3/8/01	3/14/01	B7-02-GW-02	67.495	56.495	29
3/8/01	3/9/01	B7-02-GW-03NS	67.495	57.185	41
9/18/00	9/21/00	B7-03-GW-01	65.925	56.625	16
9/25/00	10/2/00	B7-03-GW-02R	65.925	55.035	36
9/21/00	9/22/00	B7-03-GW-03	65.925	54.525	52
2/28/01	3/12/01	B7-04-GW-01	64.073	58.223	13
3/29/01	4/10/01	B7-04-GW-02	64.073	59.973	22
2/28/01	3/12/01	B7-04-GW-03	64.073	59.123	32.5

Table 1: Groundwater Gauging Data

Date Installed	Date Sampled	Sample Location	Surface elevation	GW Elevation	Total Depth
9/20/00	9/21/00	B7-05-GW-01	63.993	56.833	12
9/26/00	9/27/00	B7-05-GW-02R	63.993	52.113	46
9/25/00	10/2/00	B7-05-GW-03NS	63.993	45.653	78.5
3/15/01	/16/01,4/4/2001	B7-06-GW-01	62.567	59.207	12
3/21/01	3/26/01	B7-06-GW-02	62.567	58.587	19
3/15/01	3/16/01	B7-06-GW-03	62.567	56.717	25
4/2/01	4/4/01	B7-07-GW-01	64.854	61.494	15
4/5/01	4/5/01	B7-07-GW-02	64.854	58.194	24.5
4/2/01	4/4/01	B7-07-GW-03	64.854	56.414	39.5
9/26/00	9/26/00	B8-01-GW-01	67.25	53.69	20
9/28/00	9/29/00	B8-01-GW-02R	67.25	53.59	50
9/26/00	9/29/00	B8-01-GW-03NS	67.25	52.75	78
2/21/01	2/21/01	B8-02-GW-01	70.338	50.308	27
2/22/01	2/22/01	B8-02-GW-02NS	70.338	51.688	46.5
2/16/01	2/21/01, 3/1/01	B8-02-GW-03NS	70.338	48.918	65
9/22/00	9/25/00	B8-03-GW-01	68.761	51.801	23
	8/2/01	B8-03-GW-02R	68.761	51.551	40
9/25/00	9/28/00	B8-03-GW-03NS	68.761	---	56
2/21/01	2/22/01	B8-04-GW-01	66.498	52.998	19
3/1/01	3/26/01	B8-04-GW-02	66.498	53.708	42
2/21/01	2/22/01	B8-04-GW-03	66.498	---	64.5
9/22/00	9/25/00	B8-05-GW-01	59.66	52.87	13
9/27/00	9/28/00	B8-05-GW-02R	59.66	52.01	45
9/27/00	9/28/00	B8-05-GW-03	59.66	52.48	76.5
5/2/01	4/10/01	B8-06-GW-01	65.576	55.386	12
4/23/01	5/4/01	B8-06-GW-01RNS	65.576	56.376	14
4/27/01	4/27/01	B8-06-GW-02R	65.576	---	32
4/23/01	4/26/01	B8-06-GW-03R	65.576	---	48
9/25/00	9/25/00	B9-01-GW-01	56.814	51.554	11
9/25/00	9/26/00	B9-01-GW-02	56.814	50.334	23
9/27/00	9/28/00	B9-01-GW-03	56.814	51.144	31
3/1/01	3/2/01	B9-02-GW-01	55.311	51.011	9.5
3/14/01	3/14/01	B9-02-GW-02	55.311	51.301	29.5
3/1/01	3/2/01	B9-02-GW-03	55.311	53.001	52.5
9/25/00	9/25/00	B9-03-GW-01	54.785	50.405	10
9/27/00	9/29/00	B9-03-GW-02RNS	54.785	50.105	32
9/27/00	9/29/00	B9-03-GW-03NS	54.785	49.915	53
1/17/01	1/19/01	B9-04-GW-01	61.772	59.752	8
1/24/01	1/31/01	B9-04-GW-02	61.772	59.492	17.5
1/17/01	1/19/01	B9-04-GW-03	61.772	59.052	29
9/25/00	9/25/00	B9-05-GW-01	54.186	50.566	10
9/26/00	9/27/00	B9-05-GW-02	54.186	50.686	24.5
9/27/00	9/28/00	B9-05-GW-03	54.186	49.506	39.5
3/1/01	3/2/01	B9-06-GW-01	54.946	51.546	9.5
3/14/01	3/21/01	B9-06-GW-02	54.946	52.156	28.5
3/1/01	3/2/01	B9-06-GW-03	54.946	50.956	50.5
10/2/00	10/3/00	W5-01-GW-01	64.14	54.09	15
10/9/00	10/10/00	W5-01-GW-02R	64.14	54.1	36
10/4/00	10/4/00	W5-01-GW-03	64.14	53.46	54.5

Table 1: Groundwater Gauging Data

Date Installed	Date Sampled	Sample Location	Surface elevation	GW Elevation	Total Depth
10/2/00	10/2/00	W5-02-GW-01	61.156	50.856	16
3/28/01	4/6/01	W5-02-GW-02R	61.156	56.786	32
10/3/00	10/4/00	W5-02-GW-03	61.156	50.676	47.5
10/2/00	10/2/00	W5-03-GW-01	56.871	52.191	11
10/10/00	10/10/00	W5-03-GW-02R	56.871	49.921	36.5
10/4/00	10/5/00	W5-03-GW-03	56.871	50.071	61.5
10/2/00	10/2/00	W5-04-GW-01	58.267	49.867	14
10/3/00	10/3/00	W5-04-GW-02	58.267	50.407	31
10/4/00	10/5/00	W5-04-GW-03	58.267	47.717	56
	7/27/01	W5-04-GW-03		---	
10/2/00	10/3/00	W5-05-GW-01	56.758	50.848	12
10/9/00	10/11/00	W5-05-GW-02R	56.758	49.708	29
10/4/00	10/5/00	W5-05-GW-03	56.758	48.768	51
10/2/00	10/3/00	W5-06-GW-01	57.5	51.18	12
3/28/01	4/11/01	W5-06-GW-02RNS	57.5	52.59	37
10/3/00	10/5/00	W5-06-GW-03	57.5	48.15	61.5
3/1/01	3/15/01	W5-07-GW-01	57.409	53.499	9
4/2/01	4/6/01	W5-07-GW-02	57.409	53.579	33
3/14/01	3/15/01	W5-07-GW-03	57.409	45.249	56
3/29/01	4/4/01	W5-08-GW-01NS	65.115	58.785	9
4/4/01	4/9/01	W5-08-GW-02	65.115	58.985	28
3/29/01	4/4/01	W5-08-GW-03	65.115	58.625	44.5
	10/6/00	E4-01-GW-01NS	56.957	52.617	9
2/15/01	2/21/01	E4-01-GW-02R	56.957	53.297	16.5
1/31/01	2/21/01	E4-01-GW-03	56.957	53.197	23.25
2/1/01	2/5/01	E4-02-GW-01NS	67.056	57.956	16.5
2/15/01	2/16/01	E4-02-GW-02	67.056	53.946	29
2/1/01	2/2/01	E4-02-GW-03	67.056	53.956	42.75
1/31/01	2/5/01	E4-03-GW-01NS	64.328	60.518	9
2/15/01	4/18/01	E4-03-GW-02NS	64.328	57.308	18
1/31/01	2/2/01	E4-03-GW-03	64.328	53.488	26
1/31/01	2/2/01	E4-04-GW-01NS	54.726	51.276	8.5
2/15/01	2/16/01	E4-04-GW-02	54.726	53.826	27
1/31/01	2/1/01	E4-04-GW-03	54.726	51.226	44.5
1/31/01	2/5/01	E3-01-GW-01	57.758	54.658	11
1/19/01	1/22/01	E3-01-GW-02	57.758	52.358	36.5
3/23/01	1/12/01	E3-01-GW-03	57.758	---	37.5
1/8/01	1/11/01	E3-02-GW-01	53.117	50.557	15
1/19/01	1/22/01	E3-02-GW-02	53.117	49.717	29
1/8/01	1/11/01	E3-02-GW-03	53.117	50.697	52.5
1/11/01	2/5/01	E3-03-GW-01	65.405	59.085	11.5
2/15/01	2/20/01	E3-03-GW-02	65.405	59.515	26.5
1/30/01	2/5/01	E3-03-GW-03	65.405	59.395	41
3/23/01	4/10/01	E3-03-GW-03R	65.405	60.605	37.5
3/16/01	3/19/01	H1-01-GW-01	65.277	53.367	18
3/21/01	4/11/01	H1-01-GW-02	65.277	53.387	24
3/16/01	3/19/01	H1-01-GW-03	65.277	53.097	35.5
10/2/00	10/4/00	H1-02-GW-01	53.694	48.114	14
10/10/00	10/11/00	H1-02-GW-02	53.694	50.544	18.7

Table 1: Groundwater Gauging Data

Date Installed	Date Sampled	Sample Location	Surface elevation	GW Elevation	Total Depth
10/2/00	10/4/00	H1-03-GW-01	57.448	52.588	14
10/10/00	10/11/00	H1-03-GW-02	57.448	52.488	19
10/11/00	10/12/00	H1-03-GW-03	57.448	52.268	28.5
1/18/01	1/30/01	H1-03-GW-04	57.448	49.648	39
1/31/01	2/7/01	H1-03-GW-05NS	57.448	52.748	49
3/14/01	3/20/01	H1-03-GW-05R	57.448	55.208	49
2/8/01	2/12/01	H1-03-GW-06NS	57.448	53.918	59
10/5/00	10/6/00	H1-04-GW-01	57.846	52.186	9
10/10/00	10/11/00	H1-04-GW-02	57.846	51.896	19
10/11/00	10/11/00	H1-04-GW-03	57.846	52.416	29
1/25/01	1/26/01	H1-04-GW-04NS	57.846	47.836	39
2/1/01	2/7/2001	H1-04-GW-05NS	57.846	48.306	49
3/14/01	3/20/01	H1-04-GW-05R	57.846	55.176	49
2/8/01	2/12/01	H1-04/GW-06NS	57.846	53.506	59
1/25/01	2/1/01	H1-05-GW-01	58.269	54.569	10
5/4/01	5/4/01	H1-05-GW-02R	58.269	54.619	20
10/6/00	10/6/00	H1-06-GW-01	57.32	52.68	9
10/10/00	10/11/00	H1-06-GW-02	57.32	52.75	18
10/5/00	10/6/00	H1-07-GW-01	58.802	53.992	9
10/11/00	10/11/00	H1-07-GW-02	58.802	54.162	18
1/19/01	2/22/01	H1-07-GW-03	58.802	52.342	26
5/9/01	5/10/01	H2-01-GW-01NS	59.9	49.8	14
5/9/01	5/10/01	H2-01-GW-02	59.9	49.6	24
1/12/01	1/17/01	H2-02-GW-01	55.887	54.287	7
1/17/01	1/19/01	H2-02-GW-02	55.887	52.067	17
1/24/01	1/25/01	H2-02-GW-03	55.887	51.587	27
1/24/01	1/25/01	H2-02-GW-04	55.887	51.037	37
1/30/01	1/31/01	H2-02-GW-05	55.887	52.687	41.25
1/11/01	1/17/01	H2-03-GW-01	55.655	52.295	9
1/11/01	1/17/01	H2-03-GW-02	55.655	52.295	20
1/19/01	1/19/01	H2-03-GW-03	55.655	---	30
1/19/01	1/24/01	H2-03-GW-04	55.655	49.655	40
1/24/01	1/26/01	H2-03-GW-05	55.655	52.355	50
1/24/01	1/26/01	H2-03-GW-06	55.655	50.725	59.3
1/12/01	1/12/01	H2-04-GW-01	56.711	---	9
1/12/01	1/12/01	H2-04-GW-02	56.711	---	19
1/19/01	1/22/01	H2-04-GW-03	56.711	51.601	29
1/19/01	1/22/01	H2-04-GW-04	56.711	52.181	39
1/24/01	1/25/01	H2-04-GW-05	56.711	51.801	49
1/24/01	1/26/01	H2-04-GW-06NS	56.711	27.501	59
2/1/01	2/13/01	H2-04-GW-07	56.711	52.101	69.25
10/5/00	10/10/00	H2-05-GW-01	56.94	51.89	9
10/11/00	10/12/00	H2-05-GW-02	56.94	51.66	18
1/17/01	1/18/01	H2-05-GW-03	56.94	52.15	29
1/17/01	1/18/01	H2-05-GW-04	56.94	---	38
1/22/01	1/24/01	H2-05-GW-05	56.94	50.43	48
1/25/01	1/31/01	H2-05-GW-06	56.94	52.24	58
2/1/01	2/12/01	H2-05-GW-07	56.94	52.67	68

Table 1: Groundwater Gauging Data

Date Installed	Date Sampled	Sample Location	Surface elevation	GW Elevation	Total Depth
10/5/00	10/10/00	H2-06-GW-01	55.281	51.921	8
10/11/00	10/12/00	H2-06-GW-02	55.281	51.461	18
1/17/01	1/18/01	H2-06-GW-03	55.281	51.381	28
1/17/01	1/18/01	H2-06-GW-04	55.281	50.051	38
1/22/01	1/24/01	H2-06-GW-05	55.281	51.331	48
1/22/01	1/24/01	H2-06-GW-06	55.281	51.511	58
	1/30/01	H2-06-GW-07	52.281	51.55	68
2/15/01	2/15/01	L2-01-GW-01	56.02	50.09	12
2/15/01	2/15/01	L2-01-GW-02	56.02	50.27	22
2/16/01	2/20/01	L2-01-GW-03	56.02	50.07	32
2/16/01	2/20/01	L2-01-GW-04	56.02	50.55	42
2/22/01	2/23/01	L2-01-GW-05	56.02	50.62	52
2/22/01	2/23/01	L2-01-GW-06	56.02	50.52	62
2/28/01	3/1/01	L2-01-GW-07	56.02	50.49	72
2/8/01	2/9/01	L2-02-GW-01	59.996	49.706	15
2/8/01	2/9/01	L2-02-GW-02	59.996	49.836	25
2/14/01	2/15/01	L2-02-GW-03	59.996	50.146	35
2/15/01	2/20/01	L2-02-GW-04NS	59.996	50.236	45
2/22/01	2/23/01	L2-02-GW-05	59.996	51.096	53
2/2/01	2/6/01	L2-03-GW-01NS	61.795	48.515	17
2/2/01	2/6/01	L2-03-GW-02NS	61.795	48.995	27
2/8/01	2/8/01	L2-03-GW-03	61.795	50.535	37
2/8/01	2/8/01	L2-03-GW-04	61.795	49.935	41.5
2/2/01	2/7/01	L2-04-GW-01NS	57.235	47.445	15
2/2/01	2/7/01	L2-04-GW-02	57.235	47.085	25
2/8/01	2/14/01	L2-04-GW-03	57.235	47.935	35
2/2/01	2/13/01	L2-05-GW-01	59.19	51.91	14
2/2/01	2/13/01	L2-05-GW-02	59.19	51.29	24
2/14/01	2/14/01	L2-05-GW-03	59.19	49.33	34
4/6/01	4/12/01	P1-01-GW-01	65.539	---	23
7/27/01	7/27/01	P1-01-GW-01R	65.67	49.51	26.5
4/5/01	4/12/01	P1-01-GW-02	65.539	50.239	33
5/16/01	5/25/01	P1-01-GW-02R	65.67	48.97	35
4/12/01	4/23/01	P1-01-GW-03	65.539	49.839	36.5
7/9/01	7/20/01	P1-01-GW-03R	65.67	49.16	44
7/27/01	7/27/01	P1-01-GW-04R	65.67	49.11	53
8/1/01	8/1/01	P1-01-GW-05R	65.67	49.03	63
11/7/01	11/7/01	P1-01-GW-06NS	65.67	---	73
2/5/02	2/6/02	P1-01-GW-06R2NS	65.67	43.87	73
11/12/01	11/12/01	P1-01-GW-07NS	65.67	---	83
11/13/01	11/13/01	P1-01-GW-08NS	65.67	---	93
2/7/02	2/8/02	P1-01-GW-08R2NS	65.67	48.52	93
7/9/01	7/20/01	P1-02-GW-01	65.564	48.334	23
5/16/01	5/25/01	P1-02-GW-02	57.045	40.345	33
7/9/01	7/20/01	P1-02-GW-03	57.045	40.755	43
7/27/01	7/30/01	P1-02-GW-04	57.045	40.215	53
11/5/01	11/5/01	P1-02-GW-05NS	57.045	---	63
2/5/02	2/8/02	P1-02-GW-05R2NS	57.045	38.795	63
11/6/01	11/6/01	P1-02-GW-06NS	57.045	39.355	74
2/5/02	2/6/02	P1-02-GW-06R2NS	57.045	32.845	74
11/8/01	11/8/01	P1-02-GW-07NS	57.045	40.135	80

Table 1: Groundwater Gauging Data

Date Installed	Date Sampled	Sample Location	Surface elevation	GW Elevation	Total Depth
4/11/01	4/20/01	P1-03-GW-01	59.524	51.924	12
4/11/01	4/20/01	P1-03-GW-02	59.524	53.214	22
4/23/01	4/26/01	P1-03-GW-03	59.524	---	32
5/9/01	4/26/01	P1-03-GW-04	59.524	---	42
5/9/01	5/16/01	P1-03-GW-05NS	59.524	53.624	52
5/9/01	5/16/01	P1-03-GW-06NS	59.524	53.424	61
4/11/01	4/20/01	P1-04-GW-01	68.662	59.732	14
4/11/01	4/20/01	P1-04-GW-02	68.662	59.912	24
4/23/01	4/24/01	P1-04-GW-03	68.662	60.282	34
4/23/01	4/24/01	P1-04-GW-04	68.662	59.902	44
4/12/01	4/19/01	P1-05-GW-01	54.482	45.552	14
4/11/01	4/19/01	P1-05-GW-02	54.482	43.982	24
4/23/01	4/25/01	P1-05-GW-03	54.482	---	31
4/23/01	4/26/01	P1-05-GW-04NS	54.482	---	44
4/27/01	4/30/01	P1-05-GW-05	54.482	---	57.5
4/12/01	4/13/01	P1-06-GW-01	61.943	54.823	13
4/12/01	4/13/01	P1-06-GW-02	61.943	54.793	23
4/12/01	4/13/01	P1-06-GW-03	61.943	54.533	33
4/12/01	4/13/01	P1-06-GW-04	61.943	52.603	38
4/12/01	4/18/01	P1-07-GW-01	63.638	55.988	13
4/12/01	4/30/01	P1-07-GW-02	63.638	---	23
4/23/01	4/30/01	P1-07-GW-03NS	63.638	---	33

Table 2: Field Parameters

Sample ID	Date	pH	Conductivity (ms/cm) *	Turbidity (NTUs)	Redox (mV)	Dissolved O2 (mg/l)	Temp (C)	Sulfide (mg/l)	Ferrous Iron (mg/l)
B1-01-GW-01	9/6/00	6.98	0.67	5.32	-178.00	0.28	16.5	0.80	3.30
B1-01-GW-02	9/7/00	7.01	0.67	8.16	-161.00	0.36	17.1	0.20	3.30
B1-01-GW-03NS	9/8/00			OR					
B1-02-GW-01		6.98	0.67	5.32	-178.00	5.28	16.5	0.27	3.30
B1-02-GW-02		7.01	0.67	8.16	161.00	0.36	17.1	0.20	3.30
B1-02-GW-03NS	4/17/01	---	---	---	---	---	---		
B1-03-GW-01NS	9/8/00								
B1-04-GW-01NS	3/29/01	---	---	---	---	---	---	0.80	3.30
B1-04-GW-01NS	4/16/01								
B1-04-GW-01NS	4/17/01								
B1-04-GW-01NS	4/18/01	---	---	---	---	---	---	0.80	3.30
B1-04-GW-02NS	4/16/01	---	---	---	---	---	---		
B1-04-GW-03NS	4/16/01	---	---	---	---	---	---	0.80	3.30
B1-05-GW-01	9/6/00	6.43	70.00	6.38	-137.00	3.10	18.6	0.80	3.30
B1-05-GW-02	9/6/00	7.37	0.09	12.40	-217.00	0.52	14.7	0.80	0.56
B1-05-GW-03	9/7/00	7.65	0.15	8.61	-274.00	1.78	15.6	0.24	0.85
B2-01-GW-01	9/21/00	6.06	58.00	36.40	-57.00	2.14	23.4	0.00	3.30
B2-02-GW-01NS	3/20/01	---	---	---	---	---	---	0.80	0.47
B2-02-GW-02NS	4/9/01	---	---	---	---	---	---	0.18	3.30
B2-02-GW-03	3/20/01	4.96	512.00	28.50	124.60	1.46	12.9	0.00	0.96
B2-03-GW-01	9/18/00	4.52	0.10	2.58	224.00	5.38	24.6	0.02	0.41
B2-03-GW-02	9/20/00	6.75	0.39	43.90	-99.00	2.10	20.1	0.06	3.30
B2-03-GW-03NS	9/21/00	6.25	0.24	OR	-52.00	2.73	19.6	0.80	3.28
B2-04-GW-01	4/5/01	3.66	576.00	130.00	133.50	0.30	9.8	0.50	2.70
B2-04-GW-02	4/6/01	4.10	270.00	23.00	297.80	0.81	10.9	0.00	1.46
B2-04-GW-03	4/5/01	4.86	1200.00	12.00	215.40	10.30	11.2	0.01	3.30
B2-05-GW-01	9/7/00	6.60	0.20	18.40	-124.00	0.87	17.7	0.04	3.30
B2-05-GW-02	9/8/00	6.47	0.14	35.60	-70.00	0.66	21.7	0.07	3.30
B2-05-GW-03NS	9/12/2000 C	6.55	0.19	OR	-147.00	0.27	19.6		
B2-05-GW-03R	9/14/00	6.41	0.15	23.60	-63.00	1.77	16.9	0.07	3.30
B2-06-GW-01NS	3/29/01	---	---	---	---	---	---	0.80	3.30
B2-06-GW-02	4/6/01	6.24	1598.00	14.80	-21.60	4.49	8.5	0.00	3.30
B2-06-GW-03	3/29/01	6.53	1709.00	250.00	-18.10	2.95	8.2	0.23	3.30

Table 2: Field Parameters

Sample ID	Date	pH	Conductivity (ms/cm) *	Turbidity (NTUs)	Redox (mV)	Dissolved O2 (mg/l)	Temp (C)	Sulfide (mg/l)	Ferrous Iron (mg/l)
B3-01-GW-01	9/7/00	6.60	0.16	24.80	-104.00	1.31	21.3	0.12	3.30
B3-01-GW-02	9/14/00	6.53	0.15	12.10	-81.00	2.75	24.5	0.17	3.30
B3-01-GW-03	9/8/00	6.49	0.15	69.40	-108.00	0.77	19.7	0.20	3.30
B3-02-GW-01	3/15/01	6.58	2595.00	1.37	-106.30	0.60	10.3	0.80	3.26
B3-02-GW-03	3/15/01	6.80	3026.00	1.39	-101.70	0.89	10.7	0.21	2.44
B3-03-GW-01	9/8/00	6.49	0.09	9.26	-122.00	0.66	22.2	0.32	3.30
B3-03-GW-02	9/8/2000 C	7.06	0.21	46.80	-144.00	2.26	24.4	0.08	0.97
B3-03-GW-02R	9/20/00	6.39	0.13	4.50	-127.00	0.26	22.0	0.09	3.30
B3-03-GW-03	9/12/00	6.50	0.13	45.00	-91.00	4.43	22.3	0.14	3.30
B3-04-GW-01NS	3/26/01	---	---	---	---	---	---		
B3-04-GW-01NS	4/18/01	---	---	---	---	---	---		
B3-05-GW-01	9/11/00	5.34	23.00	38.60	96.00	1.97	21.4	0.80	3.30
B3-06-GW-01	3/19/01	6.89	1795.00	2.08	-73.50	1.15	11.24	0.20	3.30
B3-06-GW-02	3/26/01	6.93	2123.00	5.28	-32.00	6.51	11.5	0.54	1.82
B3-06-GW-03	3/19/01	7.62	2119.00	36.40	-89.50	13.02	12.6	0.03	0.37
B4-01-GW-01	9/12/00	5.73	52.00	13.00	61.00	6.04	18.6	0.00	2.21
B4-01-GW-02	9/14/2000 C	6.06	50.00	35.10	8.00	3.28	18.6	0.46	1.50
B4-01-GW-02R	9/20/00	5.33	49.00	36.10	127.00	4.71	15.1	0.12	1.75
B4-01-GW-03	9/19/00	5.43	50.00	16.20	132.00	4.70	16.9		1.87
B4-02-GW-01	3/16/01	5.05	298.00	11.30	-68.60	1.80	10.0	0.00	2.11
B4-02-GW-02	3/26/01	5.19	141.00	11.70	164.00	7.52	10.1	0.03	0.70
B4-02-GW-03	3/16/01	5.16	446.00	4.16	182.10	3.47	11.7	0.06	0.50
B4-03-GW-01	9/13/00	5.85	0.10	11.30	20.00	2.51	20.1	---	---
B4-03-GW-02	9/14/2000 C	5.98	76.00	40.50	52.00	2.02	21.0	0.46	1.50
B4-03-GW-02R	9/19/00	5.54	0.14	35.10	94.00	0.42	19.4	0.16	1.16
B4-03-GW-03	9/18/00	6.71	0.34	36.20	-79.00	5.49	21.7	0.80	1.45
B4-04-GW-01	3/9/01	3.76	1238.00	4.68	199.80	2.03	11.5	0.09	3.30
B4-04-GW-02	3/21/01	5.79	1187.00	3.38	30.40	8.40	12.2	0.00	3.30
B4-04-GW-03	3/14/01	6.01	1215.00	7.00	4.00	0.80	12.2	0.04	3.30
B4-05-GW-01	9/8/00	4.98	80.00	28.10	153.00	2.45	21.0	0.01	3.30
B4-05-GW-02	9/11/00	4.43	0.12	40.00	208.00	6.49	24.1	0.00	3.30
B4-05-GW-03	9/12/00	5.26	0.25	47.10	36.00	0.36	18.9	0.18	3.30
B5-01-GW-01	9/11/00	6.30	0.29	19.50	-81.00	1.50	19.5	0.46	3.30
B5-01-GW-02	9/12/00	6.61	0.30	41.00	-85.00	2.39	22.4	0.80	3.30
B5-01-GW-02R	9/19/00	6.87	0.28	39.40	-113.00	0.68	21.6	0.28	3.30
B5-01-GW-03	9/13/00	7.15	0.34	36.00	-83.00	3.71	25.5	0.52	3.30

Table 2: Field Parameters

Sample ID	Date	pH	Conductivity (ms/cm) *	Turbidity (NTUs)	Redox (mV)	Dissolved O2 (mg/l)	Temp (C)	Sulfide (mg/l)	Ferrous Iron (mg/l)
B5-02-GW-01	3/21/01	6.20	1132.00	1.96	-32.80	0.87	9.5	0.10	3.30
B5-02-GW-02	4/9/01	6.76	2658.00	24.60	-103.10	33.29	11.4	0.17	3.30
B5-02-GW-03	3/21/01	7.16	5201.00	43.10	-105.40	5.30	11.4	0.37	1.77
B5-03-GW-01NS	9/12/00								
B5-03-GW-02	9/14/00	7.25	0.24	18.60	-167.00	0.00	14.8	0.09	3.30
B5-03-GW-03	9/18/00	7.53	1.80	20.90	-177.00	0.00	14.8	0.25	3.15
B5-04-GW-01	4/9/01	5.63	8333.00	14.90	146.30	0.03	7.4	0.00	2.32
B5-05-GW-01	9/11/00	6.06	0.12	10.16	-49.00	1.47	22.3	0.02	3.30
B5-06-GW-01NS	4/11/01								
B5-06-GW-01	4/25/01	6.63	2210.00	17.00	-82.40	0.25	8.9	0.06	3.30
B5-06-GW-02	4/27/01	7.15	1604.00	5.70	-66.70	2.57	10.3	0.00	3.30
B5-06-GW-03R	4/25/01	6.59	1957.00	2.41	-128.60	0.10	10.6	0.04	3.30
B6-01-GW-01	9/21/00	6.42	0.10	42.20	-117.00	0.68	21.6	0.36	3.30
B6-01-GW-02	9/25/00	6.15	0.19	33.90	-61.00	-70.00	19.9	0.10	3.30
B6-01-GW-02R	9/27/00	6.55	0.13	54.20	-101.00	0.00	16.5	0.32	3.30
B6-01-GW-03	9/22/00	6.95	0.12	48.30	-154.00	0.50	18.1	0.28	3.30
B6-02-GW-01	3/12/01	6.34	373.00	14.00	-26.40	-0.03	8.3	0.29	3.30
B6-02-GW-02	4/10/01	6.54	1180.00	4.58	-59.00	5.91	9.1	0.45	3.30
B6-02-GW-03	3/12/01	7.35	2150.00	8.70	-267.40	0.16	10.95	0.80	0.49
B6-03-GW-01	9/20/00	7.54	0.89	29.80	-214.00	0.54	26.8	0.80	0.29
B6-03-GW-02	9/25/00	7.59	1.40	17.80	-385.00	0.00	16.8	0.57	0.15
B6-03-GW-03	9/26/00	7.56	0.73	41.20	-235.00	0.36	15.2	0.53	1.24
B6-04-GW-01NS	4/11/01							0.59	0.16
B6-04-GW-02NS	5/4/01	---	---	---	---	---	---	0.80	3.30
B6-04-GW-03NS	5/4/01							0.80	3.30
B6-05-GW-01	9/21/00	6.89	75.00	8.27	-145.00	0.55	19.0	0.01	3.30
B6-05-GW-02	9/25/00	6.66	0.14	29.30	-127.00	0.58	15.4	0.07	3.30
B6-05-GW-03NS	4/5/01	6.52	890.00	---	-31.20	3.46	12.4	0.80	3.30
B6-08-GW-01NS	5/4/01							0.09	3.30
B7-01-GW-01	9/12/00	6.48	0.15	55.00	-123.00	4.41	24.5		3.30
B7-01-GW-02	9/13/00	6.18	75.00	18.60	-95.00	2.99	18.4	0.18	3.30
B7-01-GW-02R	9/19/00	5.90	52.00	21.40	-4.00	0.69	16.7	0.11	2.23
B7-01-GW-03	9/18/00	6.49	45.00	497.00	-143.00	0.15	24.8	0.80	3.30
B7-02-GW-01NS	3/9/01							0.80	3.30
B7-02-GW-02	3/14/01	5.87	1199.00	40.08	33.80	7.35	11.7	0.08	3.30
B7-02-GW-03NS	3/9/01							0.80	3.30

Table 2: Field Parameters

Sample ID	Date	pH	Conductivity (ms/cm) *	Turbidity (NTUs)	Redox (mV)	Dissolved O2 (mg/l)	Temp (C)	Sulfide (mg/l)	Ferrous Iron (mg/l)
B7-03-GW-01	9/21/00	3.86	0.46	27.40	280.00	7.65	18.5	0.80	2.40
B7-03-GW-02	9/22/00	7.11	0.27	25.40	-333.00	0.00	17.5	0.80	1.74
B7-03-GW-02R	10/2/00	4.03	0.46	25.00	299.00	8.26	13.9	0.80	1.90
B7-03-GW-03	9/22/00	7.31	1.10	38.00	-205.00	0.00	18.5	0.49	1.04
B7-04-GW-01	3/12/01	7.54	970.00	4.70	-86.30	4.95	7.69	0.49	1.30
B7-04-GW-02	4/10/01	7.07	1767.00	18.20	-84.60	0.01	10.0	0.09	1.09
B7-04-GW-03	3/12/01	7.71	6351.00	12.00	113.10	0.93	10.9	0.07	0.26
B7-05-GW-01	9/21/00	3.92	0.46	28.00	256.00	7.32	18.2	0.12	3.30
B7-05-GW-02	9/25/00C	6.18	69.00	17.80	12.00	0.74	13.7		2.65
B7-05-GW-02R	9/27/00	6.43	61.00	47.60	-86.00	0.64	16.4		
B7-05-GW-03NS	10/2/00	7.02	38.00	380.00	-188.00	0.53	18.8	0.39	3.30
B7-06-GW-01	3/16/01	5.50	271.00	13.30	138.80	7.97	5.08	0.01	0.66
B7-06-GW-02	3/26/01	5.67	300.00	1.50	122.40	5.80	7.2	0.07	0.47
B7-06-GW-03	3/16/01	5.29	417.00	2.60	153.30	2.05	8.7	0.01	0.21
B7-07-GW-01	4/4/01	5.77	170.00	31.20	153.60	9.25	9.1	0.01	1.76
B7-07-GW-02	4/5/01	5.77	515.00	5.57	25.00	0.21	11.4	0.03	0.84
B7-07-GW-03	4/4/01	6.02	402.00	3.40	31.60	0.82	11.6	0.02	0.87
B8-01-GW-01	9/26/00	6.09	73.00	8.00	-67.00		13.8	0.72	2.13
B8-01-GW-02	9/27/2000 C	6.26	0.41	18.20	-38.00	0.71	16.2	0.08	3.30
B8-01-GW-02R	9/29/00	5.96	0.38	41.70	-75.00	0.56	14.5	0.10	3.30
B8-01-GW-03NS	9/29/00	6.17	0.85	OR	-119.00	0.39	15.5		
B8-02-GW-01	2/21/01	7.20	1425.00	3.65	-149.70	4.96	11.58	0.80	0.91
B8-02-GW-02NS	2/22/01	---	---	---	---	---	---	0.80	1.84
B8-02-GW-03NS	2/21/01							0.80	---
B8-03-GW-01	9/25/00	6.15	69.00	13.30	-9.20	0.64	15.5	0.02	3.30
B8-03-GW-02	9/26/00 C	6.03	42.00	20.20	-115.00	0.51	13.8	0.03	3.30
B8-03-GW-02R	8/2/01	7.00	2128.00	20.00	-138.10	0.76	14.2	0.09	3.30
B8-03-GW-03NS	9/28/00	7.55	1.10		-224.00	0.27	16.6	0.80	2.44
B8-04-GW-01	2/22/01	4.81	251.00	2.89	221.30	0.02	9.7	0.00	1.45
B8-04-GW-02	3/26/01	7.85	13582.00	9.00	-10.30	3.08	10.3	0.50	0.94
B8-04-GW-03	2/22/01	7.99	1235.00	90.50	9.00	0.00	7.1	0.47	1.93
B8-05-GW-01	9/25/00	6.16	64.00	13.20	-95.00	0.47	14.6	0.08	3.30
B8-05-GW-02		6.65	70.00	9.44	-146.00	0.45	13.1	0.01	3.30
B8-05-GW-02R	9/28/00	7.64	0.44	40.00	-178.00	0.00	13.0	0.30	3.18
B8-05-GW-03	9/28/00	6.78	0.24	40.00	-164.00	0.58	13.1	0.24	3.30

Table 2: Field Parameters

Sample ID	Date	pH	Conductivity (ms/cm) *	Turbidity (NTUs)	Redox (mV)	Dissolved O2 (mg/l)	Temp (C)	Sulfide (mg/l)	Ferrous Iron (mg/l)
B8-06-GW-01	4/10/01							0.30	3.30
B8-06-GW-02	4/27/01	6.64	1350.00	7.10	108.40	0.64	12.98	0.00	1.52
B8-06-GW-03	4/26/01	6.50	2247.00	8.20	73.00	0.22	13.2	0.00	1.59
B9-01-GW-01	9/25/00	6.50	72.00	3.81	-124.00	0.54	16.8	0.07	3.30
B9-01-GW-02	9/26/00	6.62	1.20	36.10	-106.00	0.00	12.5	0.48	2.48
B9-01-GW-03	9/28/00	6.97	1.10	38.00	-106.00	0.00	15.5	0.32	3.30
B9-02-GW-01	3/2/01	6.42	735.00	2.40	-51.80	4.97	5.98	0.00	3.30
B9-02-GW-02	3/14/01	6.37	5123.00	53.10	-27.80	4.80	11.30	0.20	3.30
B9-02-GW-03	3/2/01	6.71	3564.00	31.00	-63.80	2.65	11.21	0.10	3.30
B9-03-GW-01	9/25/00	6.26	30.00	1.00	15.00	1.82	19.1	0.02	0.18
B9-03-GW-02	9/26/00 C	6.75	0.28	31.20	-98.00	0.02	15.1	0.28	2.49
B9-03-GW-02RNS	9/29/00	6.76	0.24	270.00	-109.00	0.96	14.9	0.68	3.30
B9-03-GW-03NS	9/29/00	6.98	51.00	OR	-142.00	0.05	25.2	0.80	0.00
B9-04-GW-01		---	---	---	---	---	---	0.49	3.10
B9-04-GW-02	1/31/01	5.44	780.00	10.41	-334.90	0.01	12.89	0.16	3.30
B9-04-GW-03		---	---	---	---	---	---	0.41	3.30
B9-05-GW-01	9/25/00	6.50	40.00	3.20	-66.00	0.60	19.0	0.00	3.30
B9-05-GW-02	9/27/00	5.84	0.28	9.90	7.00	0.41	16.5	0.00	3.30
B9-05-GW-03	9/28/00	6.40	0.11	19.00	-37.00	1.17	16.1	0.00	3.30
B9-06-GW-01	3/2/01	6.32	318.00	3.74	-274.80	1.20	8.9	0.00	0.11
B9-06-GW-02	3/21/01	4.76	5171.00	40.50	100.80	0.21	13.9	0.09	3.30
B9-06-GW-03	3/2/01	6.37	715.00	28.70	-16.10	3.06	13.2	0.15	0.65
W5-01-GW-01	10/3/00	5.38	32.00	2.30	126.00	5.72	17.8	0.13	2.45
W5-01-GW-02	10/3/00	5.69	56.00	31.00	80.00	0.54	18.1	0.14	3.30
W5-01-GW-02R	10/10/00	4.72	0.12	15.20	151.00	0.62	14.7		
W5-01-GW-03	10/4/00	4.70	0.17	27.70	121.00	0.76	15.4	0.10	3.30
W5-02-GW-01	10/2/00	4.39	0.43	12.00	199.00	5.50	19.1	0.04	0.19
W5-02-GW-02	10/3/00	6.28	0.22	1.00	-62.00	5.16	17.7	0.09	2.82
W5-02-GW-02R	4/6/01	5.38	1087.00	26.00	40.10	0.27	10.4	0.12	3.30
W5-02-GW-03	10/4/00	5.89	0.26	50.00	19.00	0.09	14.0	0.68	3.19
W5-03-GW-01	10/2/00	6.04	0.09	5.79	-54.00	0.44	15.6	0.02	3.30
W5-03-GW-02	10/3/00	6.08	0.31	25.30	-110.00		16.2	0.25	3.30
W5-03-GW-02R	10/10/00	6.19	0.47	16.70	-58.00	1.14	11.8	0.19	3.30
W5-03-GW-03	10/5/00	5.94	0.83	45.00	-60.00	0.09	13.7	0.32	3.30
W5-04-GW-01	10/2/00	4.38	0.43	14.00	185.00	5.51	19.5	0.17	3.30
W5-04-GW-02	10/3/00	6.62	0.54	35.20	-104.00	0.43	14.9	0.23	3.30
W5-04-GW-03	10/5/00	7.21	0.65	50.00	-132.00	0.42	12.7	0.33	2.73

Table 2: Field Parameters

Sample ID	Date	pH	Conductivity (ms/cm) *	Turbidity (NTUs)	Redox (mV)	Dissolved O2 (mg/l)	Temp (C)	Sulfide (mg/l)	Ferrous Iron (mg/l)
W5-05-GW-01	10/3/00	6.34	17.00	5.11	-94.00	1.56	17.9	0.36	1.16
W5-05-GW-02	10/3/00	7.45	2.20	46.70	-259.00	0.28	16.7	0.70	3.30
W5-05-GW-02R	10/11/00	7.58	2.20	37.90	-263.00	0.06	14.6	0.68	2.01
W5-05-GW-03	10/5/00	6.63	1.30	34.10	-147.00	0.40	13.8	0.35	1.61
W5-06-GW-01	10/3/00	6.18	44.00	2.98	-71.00	1.27	18.5	0.00	3.30
W5-06-GW-02	10/4/00	7.33	0.79	40.00	-168.00	0.70	16.1	0.31	3.30
W5-06-GW-02R	4/11/01	---	---	---	---	---	---	0.80	1.50
W5-06-GW-03	10/5/00	7.37	0.42	40.00	-162.00	0.31	12.9	0.00	3.30
W5-07-GW-01	3/15/01	6.19	469.00	9.00	-39.50	7.26	6.3	0.04	3.30
W5-07-GW-02R	4/6/01	6.83	151.00	80.20	-19.10	0.27	10.2	0.00	3.30
W5-07-GW-03	3/15/01	7.20	1690.00	65.00	-91.70	1.97	10.8	0.23	1.77
W5-08-GW-01NS	4/4/01							0.80	3.30
W5-08-GW-02	4/9/01	5.66	471.00	40.00	39.70	0.42	11.8	0.08	3.30
W5-08-GW-03	4/4/01	5.76	397.00	72.00	67.30	5.52	11.7	0.14	3.30
E4-01-GW-01NS	10/6/00	---	---	---	---	---	---		
E4-01-GW-02	10/11/00	5.88	62.00	14.50	38.00	0.47	15.2	0.00	3.10
E4-01-GW-02R	2/21/01	5.74	430.00	4.15	-146.70	0.01	8.1	0.00	0.75
E4-01-GW-03	2/21/01	6.31	383.00	4.23	383.00	0.33	8.7	0.01	0.64
E4-02-GW-01NS	2/2/01							0.80	2.86
E4-02-GW-02	2/16/01	5.68	690.00	0.86	-208.80	0.64	11.58	0.00	1.24
E4-02-GW-03	2/2/01		6.44	18.60	-17.20	4.28	11.5		
E4-03-GW-01NS	2/7/01							0.80	3.05
E4-03-GW-02	4/18/01	---	---	---	---	---	---	0.80	0.80
E4-03-GW-03	2/2/01	5.93	777.00	4.50	-137.80	0.25	11.4	0.01	3.30
E4-04-GW-01NS	2/2/01							0.40	3.30
E4-04-GW-02	2/16/01	6.30	547.00	86.90	-25.30	2.17	11.92	0.20	3.30
E4-04-GW-03	2/1/01	6.21	609.00	39.20	-315.70	0.22	11.87	0.21	1.76
E3-01-GW-01	1/12/01	5.81	85.00	2.30	94.10	9.28	6.41	0.01	0.31
E3-01-GW-02	1/22/01	6.02	509.00	2.93	-32.80	0.28	10.69	0.14	0.52
E3-01-GW-03	1/12/01	6.81	805.00	6.10	-113.90	0.25	10.49	0.01	0.45
E3-02-GW-01	1/11/01	5.85	83.00	0.00	95.80	7.15	10.01	0.20	3.30
E3-02-GW-02	1/22/01	6.22	308.00	2.90	-64.70	0.24	11.08	0.04	0.47
E3-02-GW-03	1/11/01	6.17	779.00	2.30	-377.70	0.23	10.63	0.02	3.30
E3-03-GW-01	2/5/01	5.52	133.00	1.79	61.40	5.34	7.85	0.00	1.41
E3-03-GW-02	2/20/01	5.97	78.00	2.24	44.10	0.02	12.32	0.03	0.65
E3-03-GW-03	2/5/01	6.10	67.00	4.38	13.40	4.63	10.39	0.01	0.79
E3-03-GW-03R	4/10/01	6.49	205.00	20.70	34.90	0.79	11.81	0.00	0.40

Table 2: Field Parameters

Sample ID	Date	pH	Conductivity (ms/cm) *	Turbidity (NTUs)	Redox (mV)	Dissolved O2 (mg/l)	Temp (C)	Sulfide (mg/l)	Ferrous Iron (mg/l)
H1-01-GW-01	3/19/01	6.70	919.00	16.30	11.50	11.67	11.28	0.01	3.30
H1-01-GW-02	4/11/01	6.26	998.00	1.58	72.10	4.70	13.1	0.00	3.30
H1-01-GW-03	3/19/01	6.31	1148.00	3.71	30.80	3.55	14.11	0.00	3.30
H1-02-GW-01	10/4/00	5.24	83.00	20.50	64.00	0.53	18.5	0.10	3.30
H1-02-GW-02	10/11/00	6.39	0.11	15.90	4.00	0.55	15.8	0.05	0.67
H1-03-GW-01	10/4/00	5.99	49.00	6.18	-25.00	0.85	18.3	0.04	1.38
H1-03-GW-02	10/11/00	6..49	49.00	6.10	-19.00	0.22	16.2	0.19	0.79
H1-03-GW-03	10/12/00	6.73	0.10	44.60	-78.00	0.11	16.7	0.12	2.00
H1-03-GW-04	1/30/01	7.29	830.00	40.70	-187.50	0.50	11.8		
H1-03-GW-05NS	2/7/01	—	---	—	---	—	---	0.77	3.30
H1-03-GW-05R	3/20/01	6.93	855.00	183.00	-94.70	3.21	12.3	0.27	3.30
H1-03-GW-06NS	2/12/01	---	—	—	---	—	—	0.31	3.30
H1-04-GW-01	10/6/00	5.93	50.00	11.00	14.00	3.30	17.5	0.07	2.95
H1-04-GW-02	10/11/00	6.01	0.27	6.20	28.00	5.04	16.4	0.02	2.81
H1-04-GW-03	10/12/00	6.12	0.24	16.40	3.00	2.94	15.8	0.02	2.33
H1-04-GW-04NS	1/26/01	—	---	—	---	—	---	0.80	3.30
H1-04-GW-05NS	2/7/01	---	---	---	---	---	---		
H1-04-GW-05R	3/20/01	6.91	720.00	22.10	-65.30	2.36	12.8	0.09	2.76
H1-04-GW-06NS	2/12/01	---	---	---	---	—	---	0.35	1.42
H1-05-GW-01	2/1/01	6.84	463.00	1.91	11.40	10.20	6.9		
H1-05-GW-02R	5/4/01	6.88	1080.00	59.00	-35.70	3.22	11.43	0.24	0.40
H1-06-GW-01	10/6/00	5.54	52.00	13.60	39.00	0.87	17.8	0.00	2.24
H1-06-GW-02	10/11/00	5.82	56.00	13.40	59.00	1.39	16.6	0.00	2.43
H1-07-GW-01	10/6/00	6.04	0.31	5.50	-8.00	3.70	15.5	0.01	3.12
H1-07-GW-02	10/11/00	5.79	84.00	13.80	43.00	0.51	15.09	0.00	3.30
H1-07-GW-03	2/22/01	5.32	383.00	2.39	86.40	0.25	9.68	0.00	0.08
H2-01-GW-01NS	5/10/01	---	---	---	---	---	—	0.04	3.30
H2-01-GW-02NS	5/10/01	---	---	—	---	—	—	0.03	0.62
H2-02-GW-01	1/17/01	6.81	300.00	6.36	-58.60	2.61	4.30	0.50	0.64
H2-02-GW-02	1/19/01	—	---	—	—	—	—	0.08	3.30
H2-02-GW-03	1/25/01	5.86	401.00	3.46	-19.10	0.24	10.53	0.05	3.30
H2-02-GW-04	1/25/01	5.02	357.00	2.74	105.30	0.37	11.25	0.01	1.64
H2-02-GW-05	1/31/01	6.07	1583.00	3.44	-50.00	0.37	10.48	0.09	1.58

Table 2: Field Parameters

Sample ID	Date	pH	Conductivity (ms/cm) *	Turbidity (NTUs)	Redox (mV)	Dissolved O2 (mg/l)	Temp (C)	Sulfide (mg/l)	Ferrous Iron (mg/l)
H2-03-GW-01	1/17/01	5.90	534.00	0.29	-209.00	0.38	5.99	0.00	0.39
H2-03-GW-02	1/17/01	5.67	624.00	2.67	-362.90	0.17	11.25	0.00	3.30
H2-03-GW-03	1/19/01	5.42	545.00	6.80	-2.10	0.31	10.35		
H2-03-GW-04	1/24/01	4.71	2075.00	7.29	84.50	0.56	11.25		
H2-03-GW-05	1/26/01	4.73	2154.00	6.75	-207.50	0.15	10.66	0.06	3.30
H2-03-GW-06	1/26/01	5.62	1424.00	6.54	-374.50	0.13	10.87	0.08	3.30
H2-04-GW-01	1/12/01	5.86	739.00	1.40	-115.30	2.33	7.22	0.06	0.94
H2-04-GW-02	1/12/01	5.83	90.00	1.70	77.90	4.71	12.11	0.06	0.79
H2-04-GW-03	1/22/01	5.71	262.00	2.79	-110.70	2.77	12.43	0.00	1.07
H2-04-GW-04	1/22/01	5.93	616.00	4.18	-358.30	0.20	11.98	0.03	---
H2-04-GW-05	1/25/01	5.95	726.00	81.60	-397.90	0.37	11.55	0.06	1.62
H2-04-GW-06NS	1/26/01	---	---	---	---	---	---	0.09	3.30
H2-04-GW-07	2/13/01	6.64	952.00	6.03	-94.80	0.34	11.25	0.04	3.30
H2-05-GW-01	10/10/00	6.35	14.00	10.00	22.00	3.82	14.10	0.14	0.99
H2-05-GW-02	10/12/00	5.81	13.00	11.20	60.00	6.37	15.62	0.00	1.45
H2-05-GW-03	1/18/01	5.71	128.00	3.49	36.50	4.02	10.23		
H2-05-GW-04	1/18/01	5.94	488.00	37.50	-10.50	0.76	10.32		
H2-05-GW-05	1/24/01	5.83	628.00	1.35	-73.50	0.49	10.38	0.07	0.48
H2-05-GW-06	1/31/01	6.13	631.00	8.00	-421.30	0.00	10.87	0.06	0.81
H2-05-GW-07	2/12/01		6.31	30.00	-386.00	0.39	10.89		
H2-06-GW-01	10/10/00	5.13	19.00	6.60	90.00	0.72	14.89	0.00	3.30
H2-06-GW-02	10/12/00	5.93	65.00	14.80	3.00	0.90	14.54	0.00	3.26
H2-06-GW-03	1/18/01	6.15	518.00	4.10	-313.70	0.21	9.78	0.01	0.61
H2-06-GW-04	1/18/01	6.16	549.00	4.60	-366.20	0.25	9.76	0.01	1.17
H2-06-GW-05	1/24/01	6.20	587.00	3.59	-314.90	0.27	10.26	0.00	0.61
H2-06-GW-06	1/24/01	6.20	554.00	4.11	-376.90	0.29	10.54	0.06	0.79
H2-06-GW-07	1/30/01	6.10	554.00	1.00	-184.10	0.02	9.80	0.08	1.29
L2-01-GW-01	2/15/01	6.16	576.00	0.36	113.90	3.44	8.21	0.07	0.67
L2-01-GW-02	2/15/01	5.72	921.00	5.61	-4.40	1.14	11.75	0.00	0.91
L2-01-GW-03	2/20/01	6.02	454.00	2.76	-166.10	0.81	12.22	0.02	1.66
L2-01-GW-04	2/20/01	5.94	423.00	3.65	19.30	0.04	11.65	0.03	1.06
L2-01-GW-05	2/23/01	5.44	530.00	3.60	13.80	3.75	10.96	0.00	1.80
L2-01-GW-06	2/23/01	6.04	263.00	6.46	-49.10	0.01	11.27	0.03	3.30
L2-01-GW-07	3/1/01	6.26	424.00	13.60	-46.20	6.09	10.35	0.06	3.30

Table 2: Field Parameters

Sample ID	Date	pH	Conductivity (ms/cm) *	Turbidity (NTUs)	Redox (mV)	Dissolved O2 (mg/l)	Temp (C)	Sulfide (mg/l)	Ferrous Iron (mg/l)
L2-02-GW-01	2/9/01	6.20	1457.00	0.15	37.20	3.82	10.12	0.00	1.35
L2-02-GW-02	2/9/01	6.26	844.00	0.25	-205.70	0.48	13.78	0.00	1.23
L2-02-GW-03	2/15/01	6.00	1073.00	3.15	-83.30	2.21	14.44	0.06	0.93
L2-02-GW-04NS	2/20/01	---	---	---	---	---	---	0.69	3.30
L2-02-GW-05	2/23/01	5.91	1001.00	0.92	-17.70	3.26	14.16	0.03	0.68
L2-03-GW-01NS	2/6/01	5.46	1208.00	63.90	54.50	0.68	11.95	0.09	0.76
L2-03-GW-02NS	2/6/01	5.44	1191.00	---	-19.10	0.24	13.84	0.80	0.91
L2-03-GW-03	2/8/01	6.11	1615.00	2.50	-246.00	0.32	13.47	0.02	0.84
L2-03-GW-04	2/8/01	6.63	1660.00	2.19	-175.50	0.30	13.26	0.00	1.13
L2-04-GW-01NS	2/7/01	—	---	---	---	---	---	0.00	5.98
L2-04-GW-02	2/7/01	6.16	1754.00	0.75	-148.40	0.26	12.10	0.00	0.56
L2-04-GW-03	2/14/01	6.49	2067.00	3.71	-81.20	0.49	12.03	0.02	1.12
L2-05-GW-01	2/13/01	6.32	1337.00	7.30	-59.10	11.30	7.47	0.00	3.30
L2-05-GW-02	2/13/01	5.97	1343.00	4.50	-38.10	0.28	12.30	0.03	3.30
L2-05-GW-03	2/14/01	6.10	2356.00	3.08	-107.20	0.63	12.03	0.06	0.59
P1-01-GW-01	4/12/01	6.07	676.00	2.08	17.60	4.26	8.19	0.00	3.30
P1-01-GW-01R	7/27/01	6.01	2221.00	10.23	-89.40	3.10	14.78	0.05	3.30
P1-01-GW-02	4/12/01	6.34	986.00	4.13	109.10	15.24	9.8	0.00	0.76
P1-01-GW-02R	5/25/01	6.69	2035.00	40.00	-239.20	0.25	13.9	0.08	0.98
P1-01-GW-03	4/23/01	---	---	---	---	---	---		
P1-01-GW-03R	7/20/01	5.84	1730.00	5.50	-91.30	0.09	14.7	0.17	1.04
P1-01-GW-04R	7/27/01	5.97	599.00	4.90	24.90	0.09	15.0	0.02	0.45
P1-01-GW-05R	8/1/01	6.38	538.00	11.00	-84.20	2.59	14.9	0.09	3.30
P1-01-GW-06NS	11/7/01							0.80	3.30
P1-01-GW-06NS	11/12/01							—	—
P1-01GW06R2NS	2/6/02			500.00					
P1-01-GW-07NS	11/12/01							---	---
P1-01-GW-08NS	11/13/01							0.47	3.30
P1-01GW08R2NS	2/8/02	7.85	293.00	380.00	7.10	7.44	12.72		
P1-02-GW-01	7/20/01	5.85	1578.00	27.70	-191.60	0.36	14.8	0.13	3.30
P1-02-GW-02	5/25/01	6.24	633.00	20.00	-98.00	0.11	12.7	0.17	2.29
P1-02-GW-03	7/20/01	6.27	460.00	11.40	-157.20	1.57	18.5	0.01	3.30
P1-02-GW-04	7/30/01	6.97	1115.00	25.60	-145.80	0.33	14.3	0.02	1.70
P1-02-GW-05NS	11/5/01							0.80	3.30
P1-02GW05R2NS	2/8/02	7.10	4.55	270.00	54.00	6.11	8.69		
P1-02-GW-06NS	11/6/01							0.80	3.30
P1-02GW06R2NS	2/6/02			500.00					
P1-02-GW-07NS	11/8/01							0.18	3.30

Table 2: Field Parameters

Sample ID	Date	pH	Conductivity (ms/cm) *	Turbidity (NTUs)	Redox (mV)	Dissolved O2 (mg/l)	Temp (C)	Sulfide (mg/l)	Ferrous Iron (mg/l)
P1-03-GW-01	4/20/01	5.90	867.00	12.00	122.00	8.57	8.4	0.00	1.42
P1-03-GW-02	4/20/01	5.67	1097.00	6.57	89.90	1.53	10.2	0.01	0.41
P1-03-GW-03	4/26/01	6.21	751.00	13.00	18.70	0.48	11.6	0.02	3.30
P1-03-GW-04	4/26/01	6.51	1253.00	19.00	-82.60	0.19	12.1	0.00	3.30
P1-03-GW-05NS	5/16/01	6.39	966.00	>1000	-149.50	2.12	11.7	0.12	3.30
P1-03-GW-06NS	11/12/01							0.80	3.30
P1-04-GW-01	4/20/01	5.45	256.00	9.50	89.00	6.16	9.7	0.04	2.88
P1-04-GW-02	4/20/01	5.92	704.00	28.00	5.80	2.63	11.7	0.15	3.06
P1-04-GW-03	4/24/01	5.80	769.00	9.60	58.20	3.86	13.78	0.00	0.86
P1-04-GW-04	4/24/01	5.84	760.00	30.00	14.40	0.84	13.7	0.02	0.83
P1-05-GW-01	4/19/01	6.16	849.00	10.34	106.10	0.07	10.1	0.06	3.30
P1-05-GW-02	4/19/01	6.11	642.00	1.64	86.70	9.99	11.7	0.00	3.30
P1-05-GW-03	4/25/01	5.76	717.00	3.09	-36.50	0.40	11.1	0.13	3.30
P1-05-GW-04NS	4/26/01	---	---	---	---	---	---	0.80	3.30
P1-05-GW-05	4/30/01	6.24	1152.00	27.00	-109.20	0.12	14.28	0.10	2.00
P1-06-GW-01	4/13/01	5.93	3732.00	0.61	124.70	10.11	6.7	0.02	0.43
P1-06-GW-02	4/13/01	6.27	337.00	10.74	0.60	1.50	11.4	0.01	0.25
P1-06-GW-03	4/13/01		296.00	1.55	159.30	0.06	13.3	0.02	0.27
P1-06-GW-04	4/13/01	5.29	931.00	1.21	147.60	0.04	13.3	0.00	0.23
P1-07-GW-01	4/18/01	6.32	675.00	1.92	183.70	17.18	8.5	0.00	0.42
P1-07-GW-02	4/30/01	---	---	---	---	---	---	0.01	0.24
P1-07-GW-03NS	4/30/01	---	---	---	---	---	---		
P1-07-GW-04									
CB1-04-GW-01NS	7/30/01								
CB1-04-GW-01NS	7/31/01								
CB1-04-GW-01NS	8/1/01								
CB1-04-GW-01NS	8/2/01								
CB1-04-GW-01NS	8/3/01								
CB1-04-GW-01NS	8/15/01							0.00	3.30
CB1-04-GW-01NS	11/7/01								
CB2-05-GW-02	8/17/01	5.95	1624.00	140.00	-279.10	0.95	15.5	0.12	3.30
CB2-05-GW-03R	8/17/01	6.63	1859.00	29.00	-74.30	0.62	15.9	0.08	3.30
CB2-06-GW-01NS	8/17/01								
CB3-02-GW-01NS	7/9/01	7.55	2110.00	167.00	-69.80	12.63	23.17	0.08	2.70
CB3-02-GW-01NS	7/20/01								
CB3-02-GW-03	7/9/01	6.81	2785.00	6.34	-154.70	8.37	12.7	0.03	2.03
CB3-03-GW-03	7/16/01	6.25	1260.00	19.20	-196.40	0.06	17.0	0.74	3.30

Table 2: Field Parameters

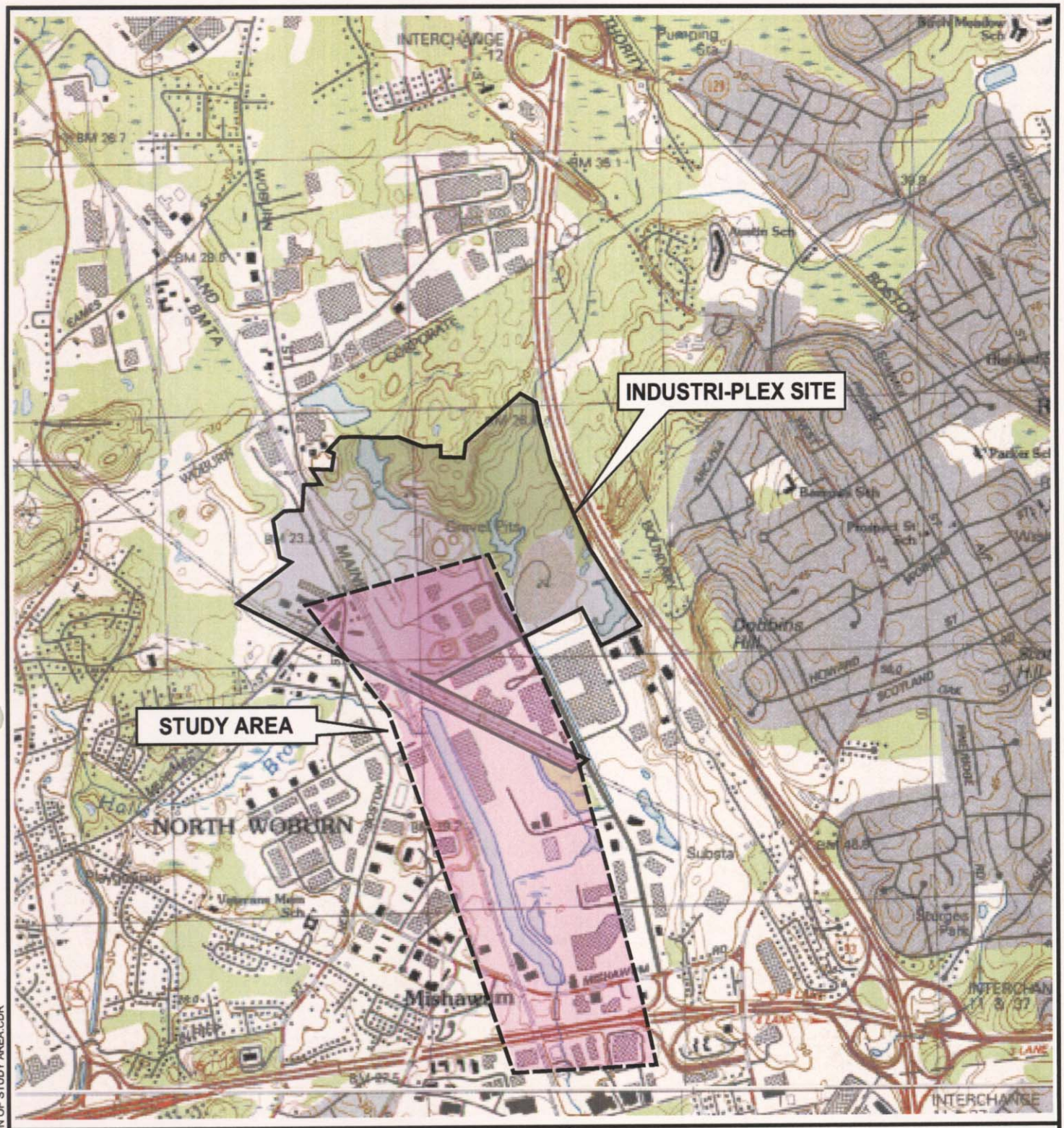
Sample ID	Date	pH	Conductivity (ms/cm) *	Turbidity (NTUs)	Redox (mV)	Dissolved O2 (mg/l)	Temp (C)	Sulfide (mg/l)	Ferrous Iron (mg/l)
CB4-03-GW-03	7/10/01	6.78	1985.00	3.20	88.90	-0.01	15.7	0.02	1.54
CB4-04-GW-01NS	8/16/01								
CB4-04-GW-02NS	8/16/01								
CB4-05-GW-03NS	8/31/01								
CB5-01-GW-01	7/16/01	6.30	2535.00	22.40	-213.60	0.04	16.4	0.44	3.30
CB5-02-GW-02	7/9/01	7.36	4585.00	70.00	-135.20	0.48	16.6	0.12	0.37
CB5-02-GW-03	7/9/01	6.70	2421.00	13.80	-183.90	-0.02	14.3	0.07	3.30
CB5-03-GW-03	8/16/01	7.69	19526.00	14.00	-75.40	0.44	12.5	0.48	1.15
CB6-03-GW-01	7/18/01	7.50	3452.00	18.00	-285.30	6.93	16.7	0.80	0.31
CB6-03-GW-02	7/19/01	7.66	13468.00	35.00	-455.80	0.29	17.9	0.23	0.16
CB6-03-GW-03	7/31/01	7.79	6150.00	5.30	-318.70	0.43	16.4	0.10	0.09
CB7-01-GW-01	7/17/01	6.58	1452.00	15.00	-207.00	0.02	16.8	0.08	3.30
CB7-01-GW-03	7/17/01	5.35	477.00	13.00	-3.30	0.05	13.6	0.12	2.48
CB7-02-GW-01NS	7/16/01	6.02	2943.00	6.49	-131.20	0.04	13.6	0.01	3.30
CB7-02-GW-02	7/16/01	5.61	1215.00	7.00	-63.30	0.04	13.1	0.05	3.30
CB7-03-GW-01	7/25/01	7.17	2571.00	26.70	-234.90	7.19	15.2	0.80	0.21
CB7-03-GW-02R	7/25/01	6.98	3518.00	17.00	-300.10	0.57	13.9	0.80	0.01
CB7-03-GW-03	7/25/01	7.33	9769.00	29.10	-195.70	1.53	14.0	0.18	1.14
CB8-01-GW-01	7/17/01	5.76	892.00	4.22	-61.30	0.45	13.5	0.80	3.30
CB8-01-GW-03	7/17/01	6.06	3279.00	3.02	-129.70	0.37	13.8	0.01	3.30
CB8-04-GW-02NS	7/24/01	7.32	14732.00	178.00	-119.20	0.26	14.7	0.17	1.03
CB9-01-GW-01	7/10/01	6.93	1595.00	3.02	-251.60	8.93	16.2	0.80	1.08
CB9-01-GW-03	7/10/01	7.29	5250.00	8.42	-181.20	18.26	14.9		
CB9-02-GW-02	7/10/01	6.04	6757.00	9.33	-118.30	-0.04	16.2	0.27	3.30
CB9-04-GW-01	7/23/01	5.93	408.00	1.00	-51.80	2.22	19.6	0.02	3.30
CB9-05-GW-01	7/23/01	5.73	477.00	1.40	-49.40	2.57	19.4	0.04	3.30
CW5-03-GW-01	7/13/01	6.01	928.00	9.71	-96.10	0.46	13.7	0.04	3.30
CW5-03-GW-02R	7/13/01	6.16	4201.00	6.61	-156.00	0.01	13.1	0.07	3.30
CW5-03-GW-03NS	7/23/01								
CW5-05-GW-02R	7/13/01	7.41	18462.00	4.20	-311.90	0.01	12.8	0.46	2.13
CW5-05-GW-03	7/13/01	6.77	10519.00	4.20	-187.40	0.00	14.9	0.24	3.30
CW5-08-GW-01NS	7/30/01	5.58	217.00	7.10	41.60	13.63	17.9	0.10	3.30
CE4-02-GW-01NS	7/19/01	6.20	2354.00	10.50	-182.50	2.44	16.3	0.80	3.30
CE4-03-GW-01NS	7/23/01	saa	saa	saa	saa	saa	saa	saa	saa
CE4-03-GW-01NS	7/24/01	saa	saa	saa	saa	saa	saa	saa	saa
CE4-03-GW-01NS	7/25/01	saa	saa	saa	saa	saa	saa	saa	saa
CE4-03-GW-03	7/19/01	5.65	951.00	9.00	-133.50	0.00	12.5	0.04	3.30
CE3-02-GW-03	7/25/01	5.81	793.00	0.55	-4.40	0.03	12.7	0.14	3.30
CH1-04-GW-04NS	7/18/01	6.87	450.00	508.00	-228.30	0.02	15.4	0.80	3.30
CH1-04-GW-05R	7/18/01	6.73	1199.00	18.80	-183.40	0.00	15.1	0.07	1.47

Table 2: Field Parameters

Sample ID	Date	pH	Conductivity (ms/cm) *	Turbidity (NTUs)	Redox (mV)	Dissolved O2 (mg/l)	Temp (C)	Sulfide (mg/l)	Ferrous Iron (mg/l)
CH2-02-GW-02	7/12/01	5.96	415.00	54.70	-393.00	0.59	12.8	0.52	3.30
CH2-02-GW-05	7/12/01	6.04	1546.00	4.50	-81.50	0.46	12.2	0.01	2.04
CH2-04-GW-05	7/12/01	6.14	679.00	11.30	-335.90	0.73	14.7	0.00	3.30
CH2-04-GW-06NS	7/12/01	6.69	1224.00	13.00	-203.70	1.21	14.4	0.01	3.30
CL2-03-GW-01NS	7/11/01	5.63	1223.00	8.13	9.10	5.98	17.7	0.02	1.50
CL2-03-GW-02NS	7/11/01	5.41	1041.00	21.00	-74.60	2.24	14.9	0.04	1.54
CL2-05-GW-01NS	7/11/01	6.14	1699.00	45.00	-122.70	6.55	17.4	0.03	3.30
CL2-05-GW-03	7/11/01	5.94	2206.00	2.24	-97.20	0.45	13.7	0.10	3.14

Note: *Field conductivity parameters collected in 2000 are in ms/cm
*Field conductivity parameters collected in 2001-2002 are in us/cm
'NS = Not Stable
saa = same as above
C next to date indicate sample was cancelled
*Maximum detection limit for Ferrous Iron is 3.30 mg/L

FIGURES



QUADRANGLE LOCATION

N

SOURCE:
USGS; 1987, READING, MA
7.5 Minute Topographic Quadrangle

Title:

LOCATION OF STUDY AREA

Originals in color.

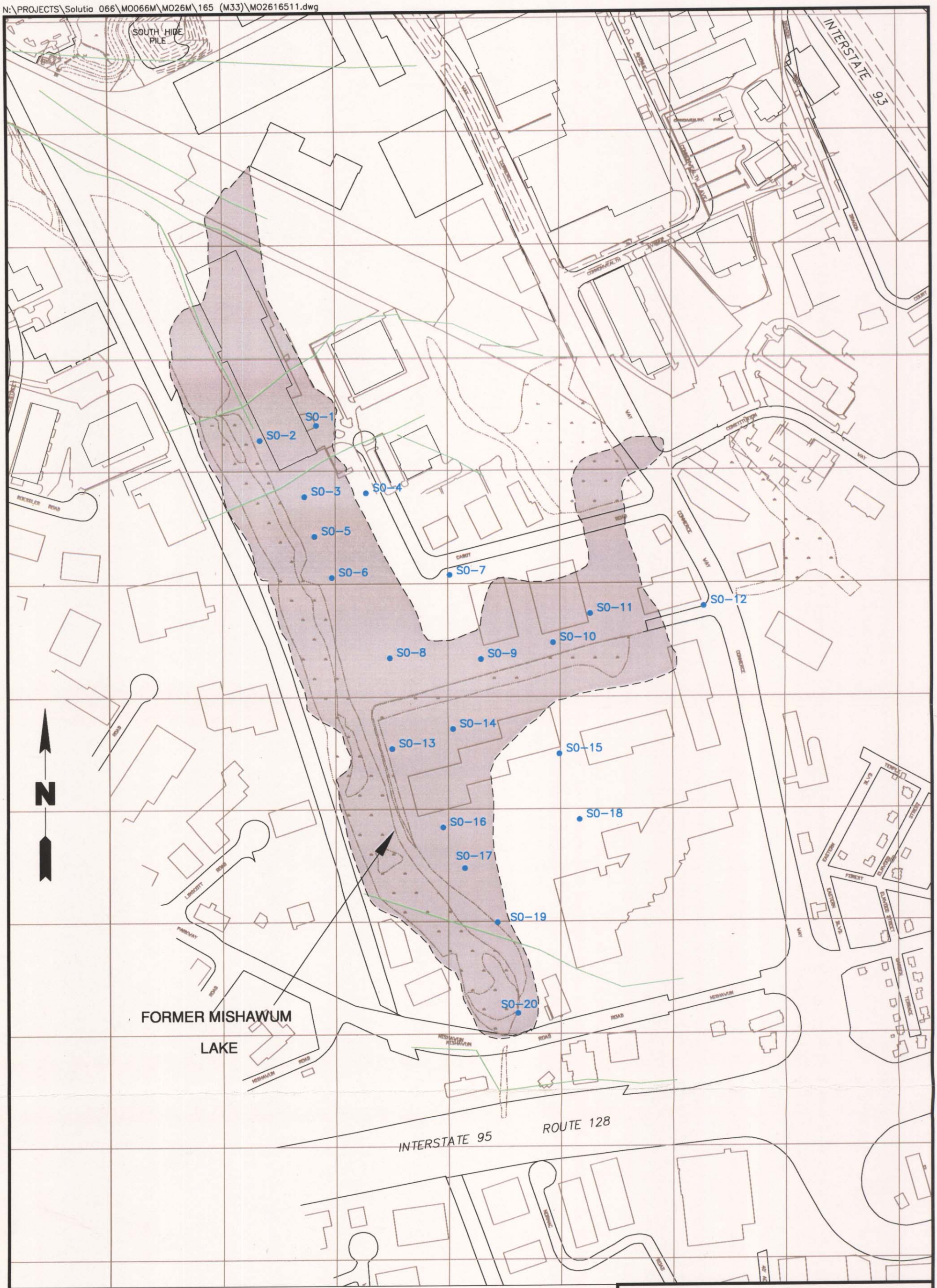
Prepared for:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES, INC. *Environmental Consulting & Management*	Compiled by: LC	Date: 3/19/02	FIGURE 1
	Prepared by: RF	Scale: 1"=2000'	
	Project Mgr.: LM	Office: MA	
	File No.: Location of study area	Project No.: 06626M33	

N:\PROJECTS\Solutia 06626M\MO26M165 (M33)\LOCATION OF STUDY AREA.CDR

N:\PROJECTS\Solutia 066\MO066M\MO26M\165 (M33)\MO2616511.dwg



LEGEND

S0-17 LOCATION AND DESIGNATION OF SOIL BORING

Original includes color coding.

400' 0 400'

Title:

SOIL BORING LOCATIONS

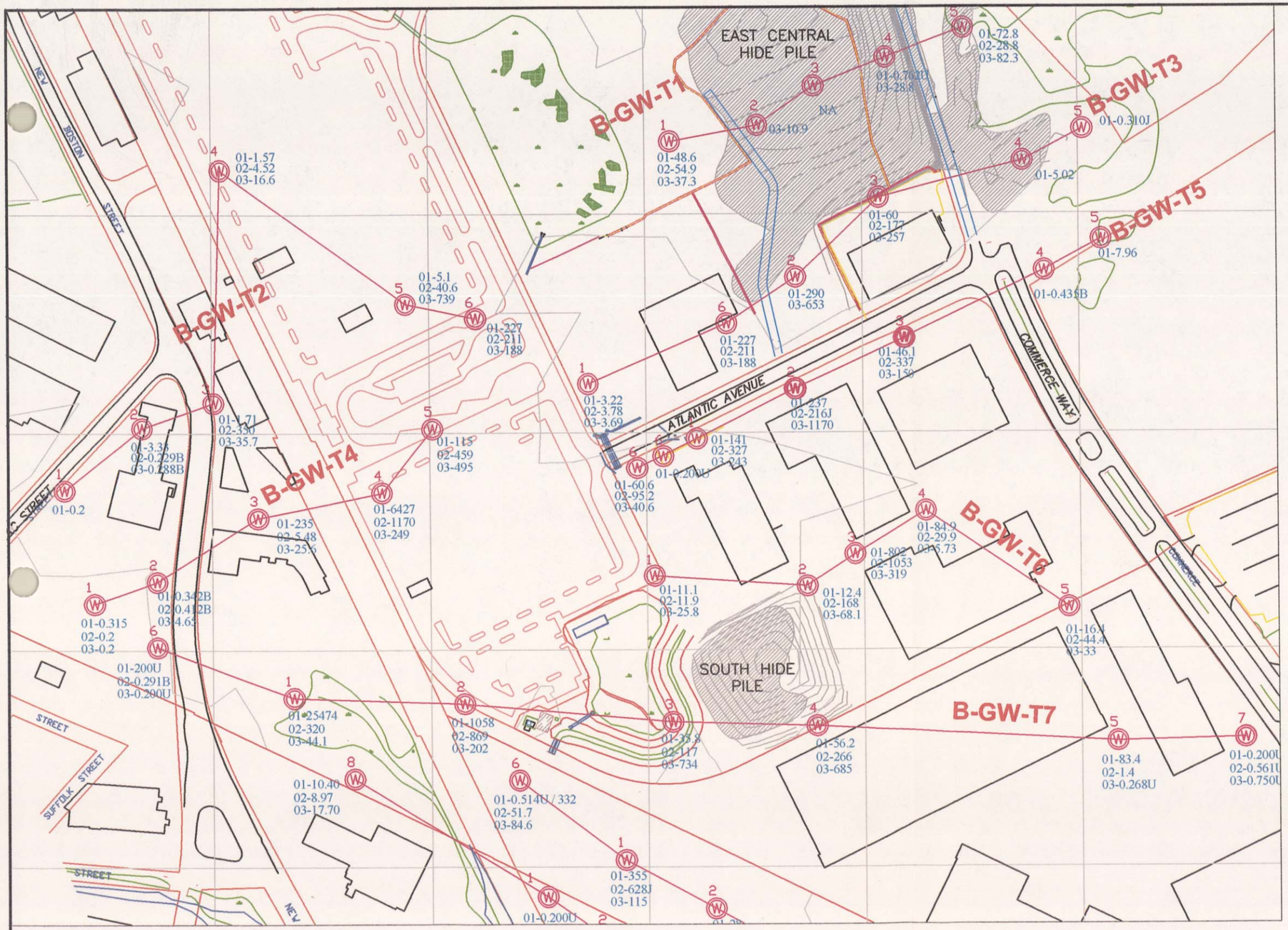
Prepared For:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: LC	Date: 4/5/02	FIGURE
Prepared by: RF/CRS	Scale: AS SHOWN	2
Project Mgr: LM	Office: MA	
File No: MO2616511	Project: 06626M33	



LEGEND

GSIP Water Sample Locations

GSIP Water Re-Sample Locations

Benzene Concentrations (ppb) 01-1,200

NOTES

1.) GSIP sample locations were surveyed by Maverick Construction Management Services, Inc. using a Trimble 4700 GPS system.
2.)

Original includes color coding.

FIGURE 3A

DRAFT

PREPARED FOR:
SOLUTIA INC.
ST. LOUIS, MO

DESIGNED BY:
MAVERICK Construction Management Services, Inc.

DISSOLVED ARSENIC CONCENTRATIONS

GSIP GROUND WATER INVESTIGATION
INDUSTRI-PLEX SITE

INDUSTRI-PLEX SITE REMEDIAL TRUST
WOBURN, MASSACHUSETTS

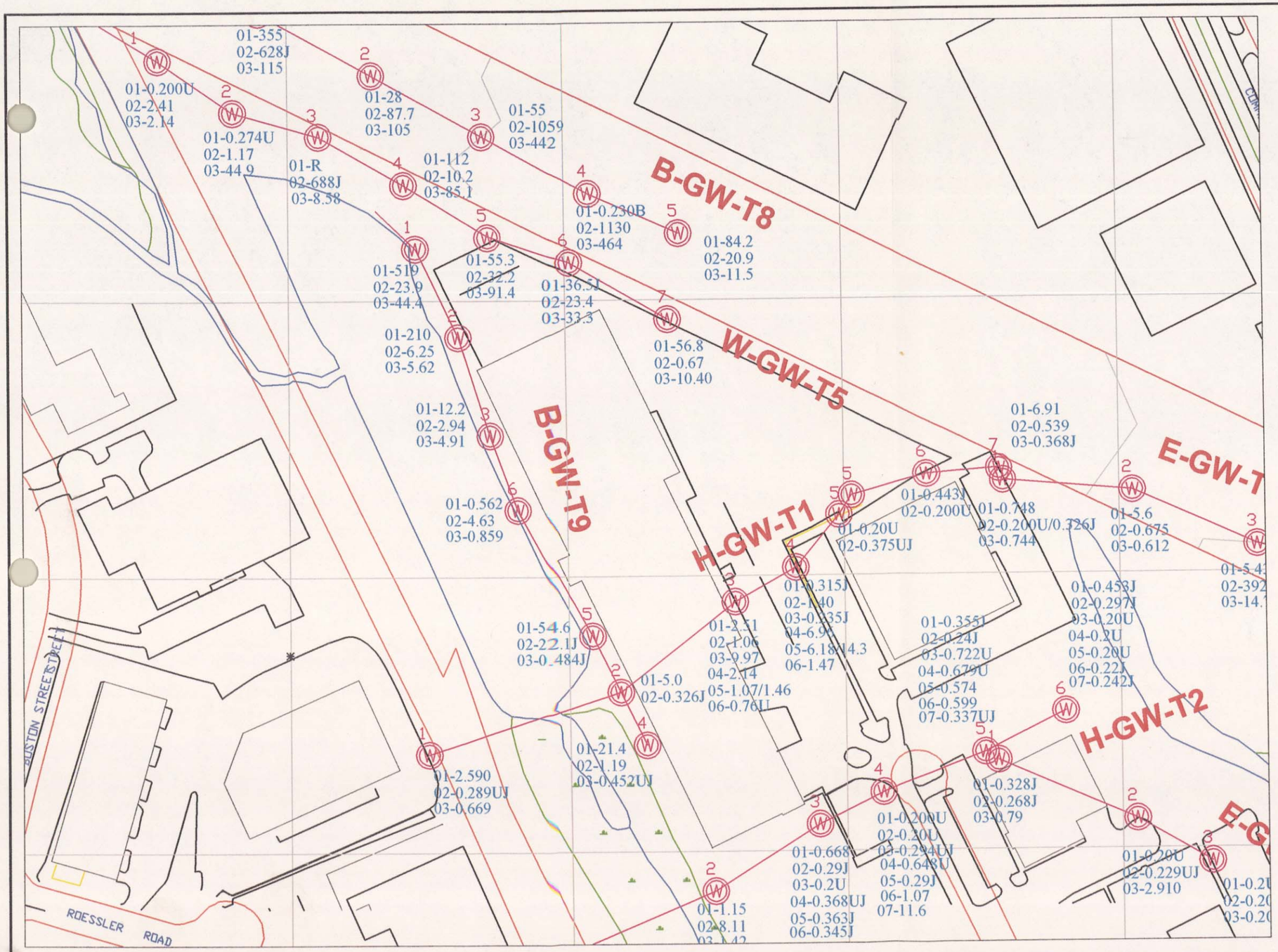
SCALE: 1" = 250'

April 3, 2002

DESIGNED BY: JG
DRAFTED BY: AAT
FILE: Basemap.Dwg

SHEET NO. 1

SHEET 1 OF 3



LEGEND

GSIP Water Sample Locations

GSIP Water Re-Sample Locations

Toluene Concentrations (ppb) 01-1,200

NOTES

1.) GSIP sample locations were surveyed by Maverick Construction Management Services, Inc. using a Trimble 4700 GPS system.
2.)

Original includes color coding.

FIGURE 3B

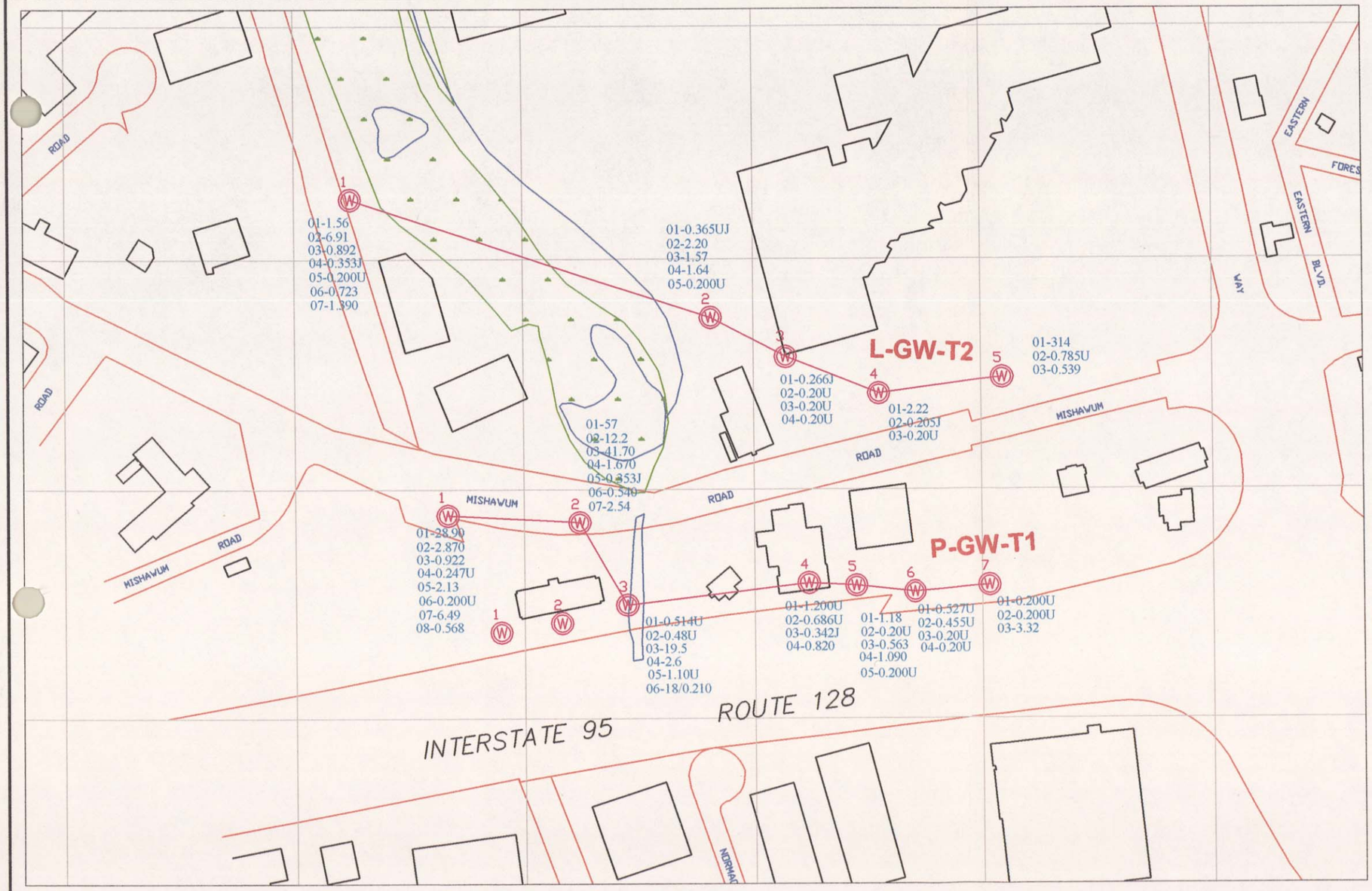
DRAFT

PREPARED FOR:
SOLUTIA INC.
ST. LOUIS, MO

DESIGNED BY:
MAVERICK Construction Management Services, Inc.

DISSOLVED ARSENIC CONCENTRATIONS
GSIP GROUND WATER INVESTIGATION
INDUSTRI-PLEX SITE
INDUSTRI-PLEX SITE REMEDIAL TRUST
WOBURN, MASSACHUSETTS
SCALE: 1" = 250'
April 3, 2002

DESIGNED BY: JG
DRAFTED BY: AAT
FILE: Beamap.dwg
SHEET NO. 2
SHEET 2 OF 3



N

LEGEND

GSIP Water Sample Locations

GSIP Water Re-Sample Locations

Toluene Concentrations (ppb) 01-1,200

NOTES

1.) GSIP sample locations were surveyed by Maverick Construction Management Services, Inc. using a Trimble 4700 GPS system.
2.)

Original includes color coding.

FIGURE 3C

DRAFT

PREPARED FOR:
SOLUTIA INC.
ST. LOUIS, MO

DESIGNED BY:
MAVERICK Construction Management Services, Inc.

DISSOLVED ARSENIC CONCENTRATIONS

GSIP GROUND WATER INVESTIGATION
INDUSTRI-PLEX SITE

INDUSTRI-PLEX SITE REMEDIAL TRUST
WOBURN, MASSACHUSETTS

SCALE: 1" = 250'

April 3, 2002

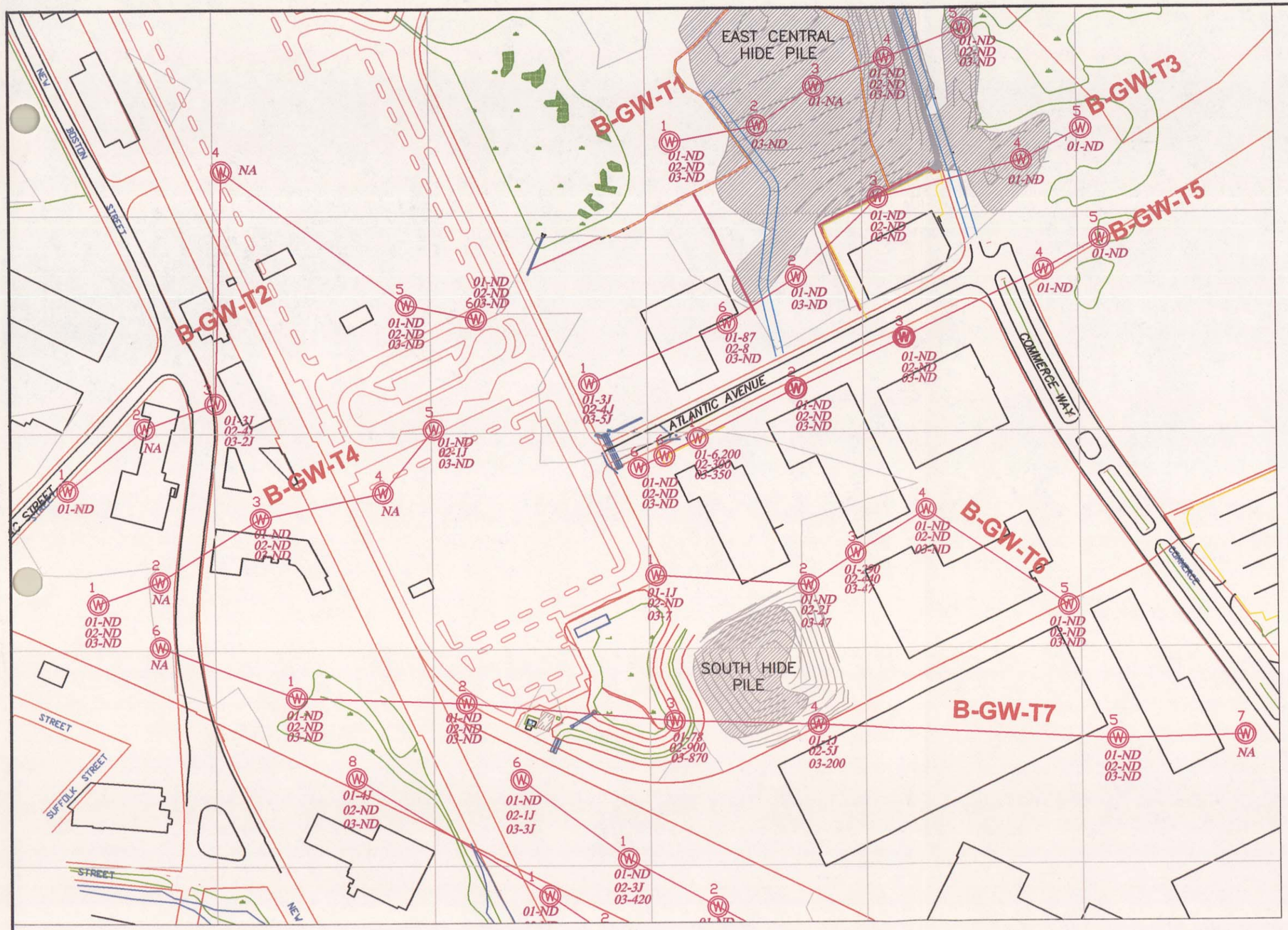
DESIGNED BY: JG

DRAFTED BY: AAT

FILE: Basemap.dwg

3
SHEET NO.

SHEET 3 OF 3



LEGEND

GSIP Water Sample Locations

GSIP Water Re-Sample Locations

Benzene Concentrations (ppb) 01-1,200

NOTES

1.) GSIP sample locations were surveyed by Maverick Construction Management Services, Inc. using a Trimble 4700 GPS system.
2.)

Original includes color coding.

FIGURE 4A

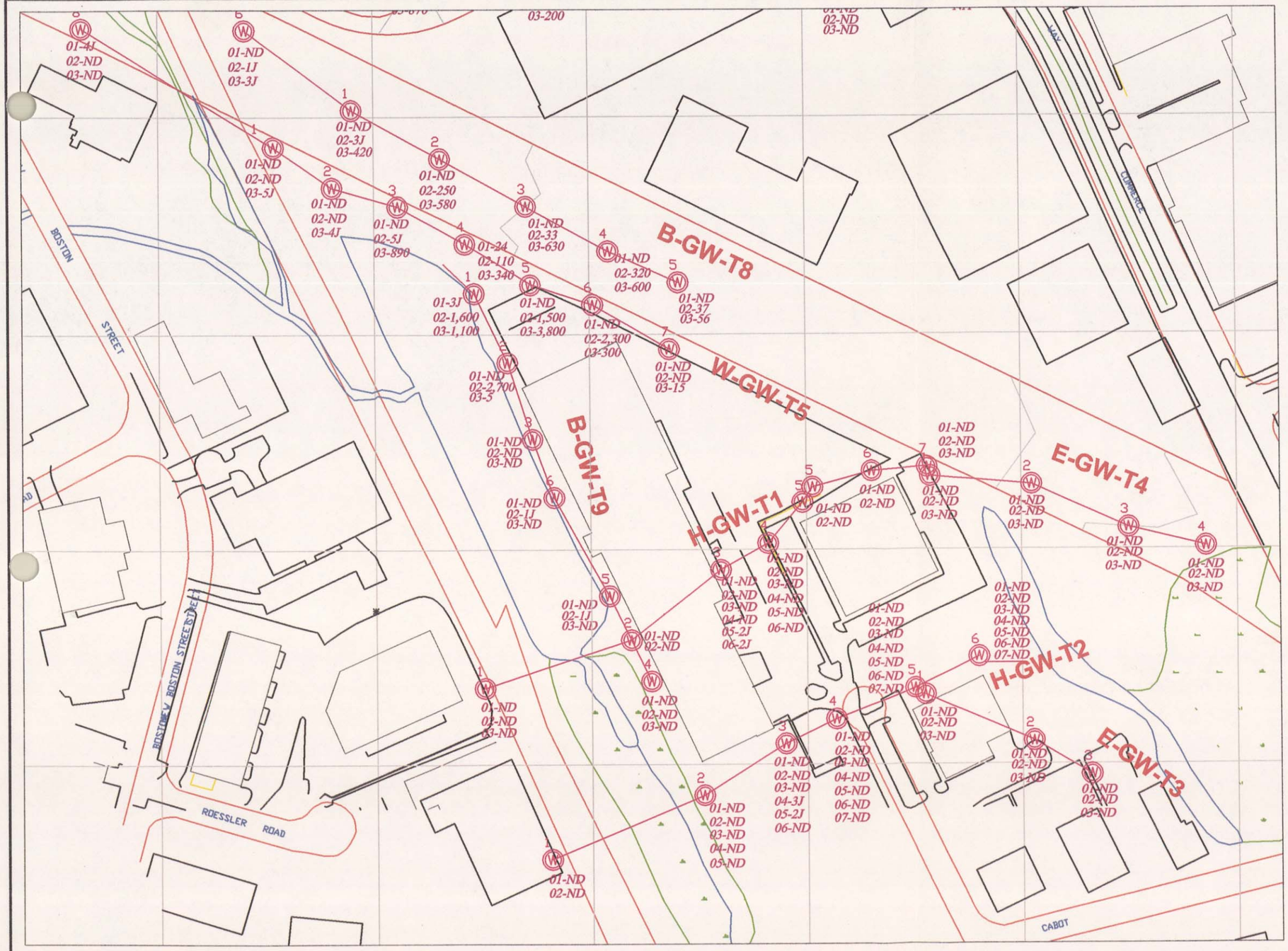
DRAFT

PREPARED FOR:
SOLUTIA INC.
ST. LOUIS, MO

DESIGNED BY:
MAVERICK Construction Management Services, Inc.

BENZENE CONCENTRATIONS
GSIP GROUND WATER INVESTIGATION
INDUSTRI-PLEX SITE
INDUSTRI-PLEX SITE REMEDIAL TRUST
WOBURN, MASSACHUSETTS
April 2002
SCALE: 1" = 250'

DESIGNED BY: JG
DRAFTED BY: AAT
FILE: Bzsurvsp.Dwg
SHEET NO. 1
SHEET 1 OF 3



LEGEND

GSIP Water Sample Locations

GSIP Water Re-Sample Locations

Benzene Concentrations (ppb) 01-1,200

NOTES

1.) GSIP sample locations were surveyed by Maverick Construction Management Services, Inc. using a Trimble 4700 GPS system.
2.)

Original includes color coding.

FIGURE 4B

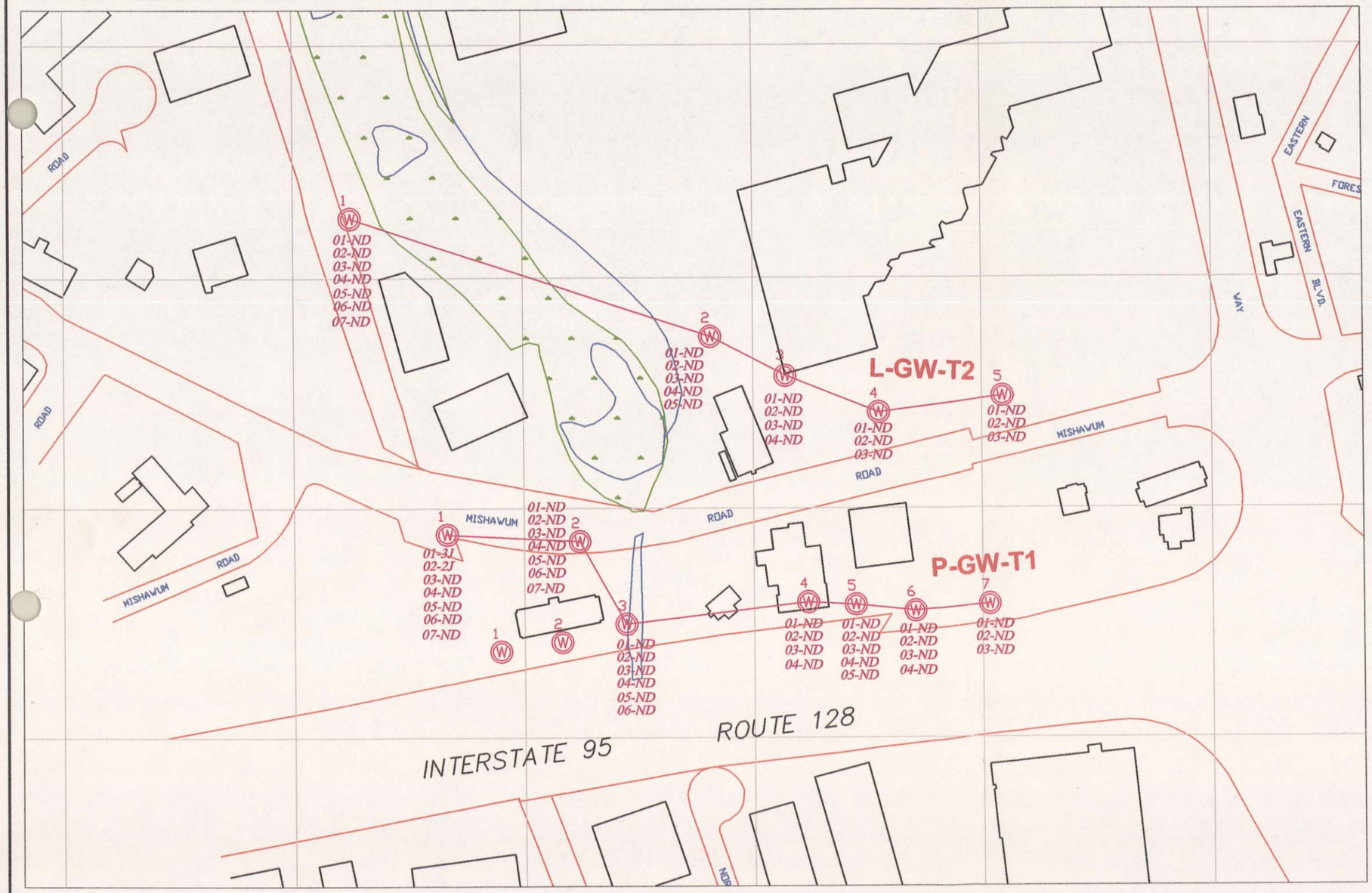
DRAFT

PREPARED FOR:
SOLUTIA INC.
ST. LOUIS, MO

DESIGNED BY:
MAVERICK Construction Management Services, Inc.

BENZENE CONCENTRATIONS
GSIP GROUND WATER INVESTIGATION
INDUSTRI-PLEX SITE
INDUSTRI-PLEX SITE REMEDIAL TRUST
WOBURN, MASSACHUSETTS
SCALE: 1" = 250'
April 3, 2002

DESIGNED BY: JG
DRAFTED BY: AAT
FILE: Basemap.dwg
SHEET NO. 2
SHEET 2 OF 3



N

LEGEND

GSIP Water Sample Locations

GSIP Water Re-Sample Locations

Benzene Concentrations (ppb) 01-1,200

NOTES

1.) GSIP sample locations were surveyed by Maverick Construction Management Services, Inc. using a Trimble 4700 GPS system.
2.)

Original includes color coding.

FIGURE 4C

DRAFT

PREPARED FOR:
SOLUTIA INC.
ST. LOUIS, MO

DESIGNED BY:
MAVERICK Construction Management Services, Inc.

BENZENE CONCENTRATIONS

GSIP GROUND WATER INVESTIGATION
INDUSTRI-PLEX SITE

INDUSTRI-PLEX SITE REMEDIAL TRUST
WOBURN, MASSACHUSETTS

SCALE: 1" = 250'

April 3, 2002

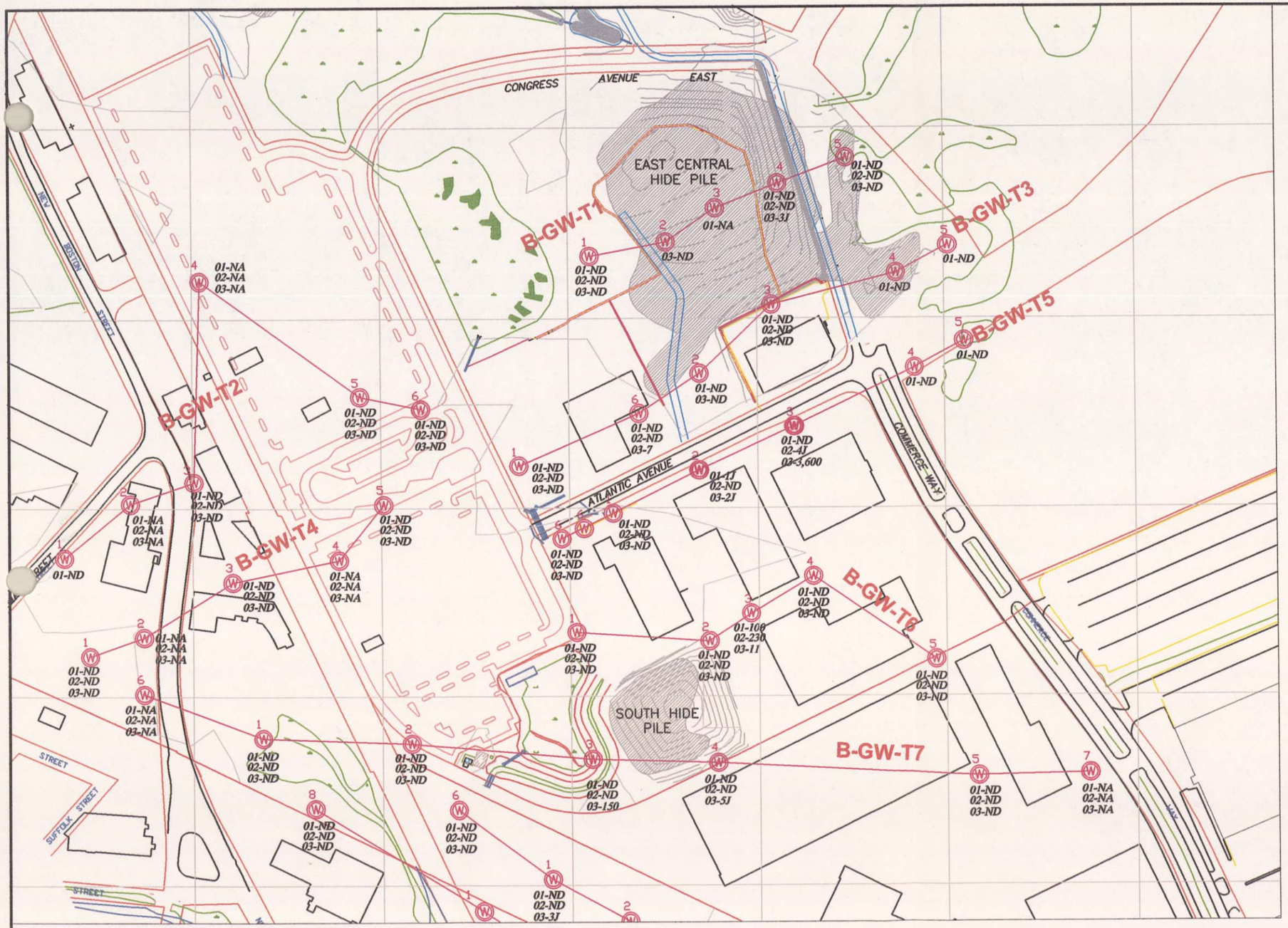
DESIGNED BY: JG

DRAFTED BY: AAT

FILE: Basemap.dwg

3
SHEET NO.

SHEET 3 OF 3



LEGEND

GSIP Water Sample Locations

GSIP Water Re-Sample Locations

Toluene Concentrations (ppb) 01-1,200

NOTES

1.) GSIP sample locations were surveyed by Maverick Construction Management Services, Inc. using a Trimble 4700 GPS system.
2.)

Original includes color coding.

FIGURE 5A

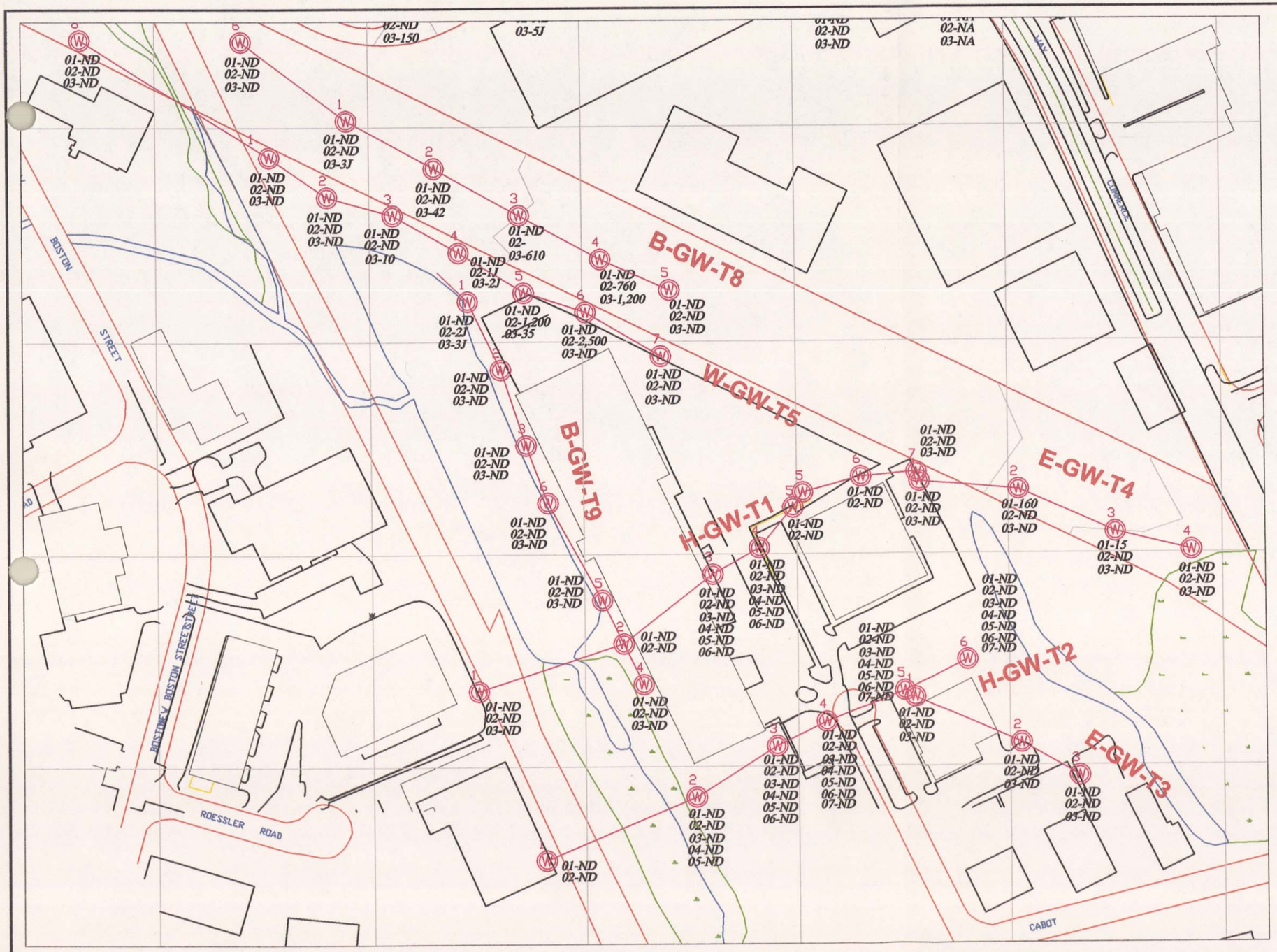
DRAFT

PREPARED FOR:
SOLUTIA INC.
ST. LOUIS, MO

DESIGNED BY:
MAVERICK Construction Management Services, Inc.

TOLUENE CONCENTRATIONS
GSIP GROUND WATER INVESTIGATION
INDUSTRI-PLEX SITE
INDUSTRI-PLEX SITE REMEDIAL TRUST
WOBURN, MASSACHUSETTS
SCALE: 1" = 250'
April 3, 2002

DESIGNED BY: JG
DRAFTED BY: AAT
FILE: Beemap.Dwg
SHEET NO. 1
SHEET 1 OF 3



LEGEND

GSIP Water Sample Locations

GSIP Water Re-Sample Locations

Toluene Concentrations (ppb) 01-1,200

NOTES

1.) GSIP sample locations were surveyed by Maverick Construction Management Services, Inc. using a Trimble 4700 GPS system.
2.)

Original includes color coding.

FIGURE 5B

DRAFT

PREPARED FOR:
SOLUTIA INC.
ST. LOUIS, MO

DESIGNED BY:
MAVERICK Construction Management Services, Inc.

TOLUENE CONCENTRATIONS

GSIP GROUND WATER INVESTIGATION
INDUSTRI-PLEX SITE

INDUSTRI-PLEX SITE REMEDIAL TRUST
WOBURN, MASSACHUSETTS

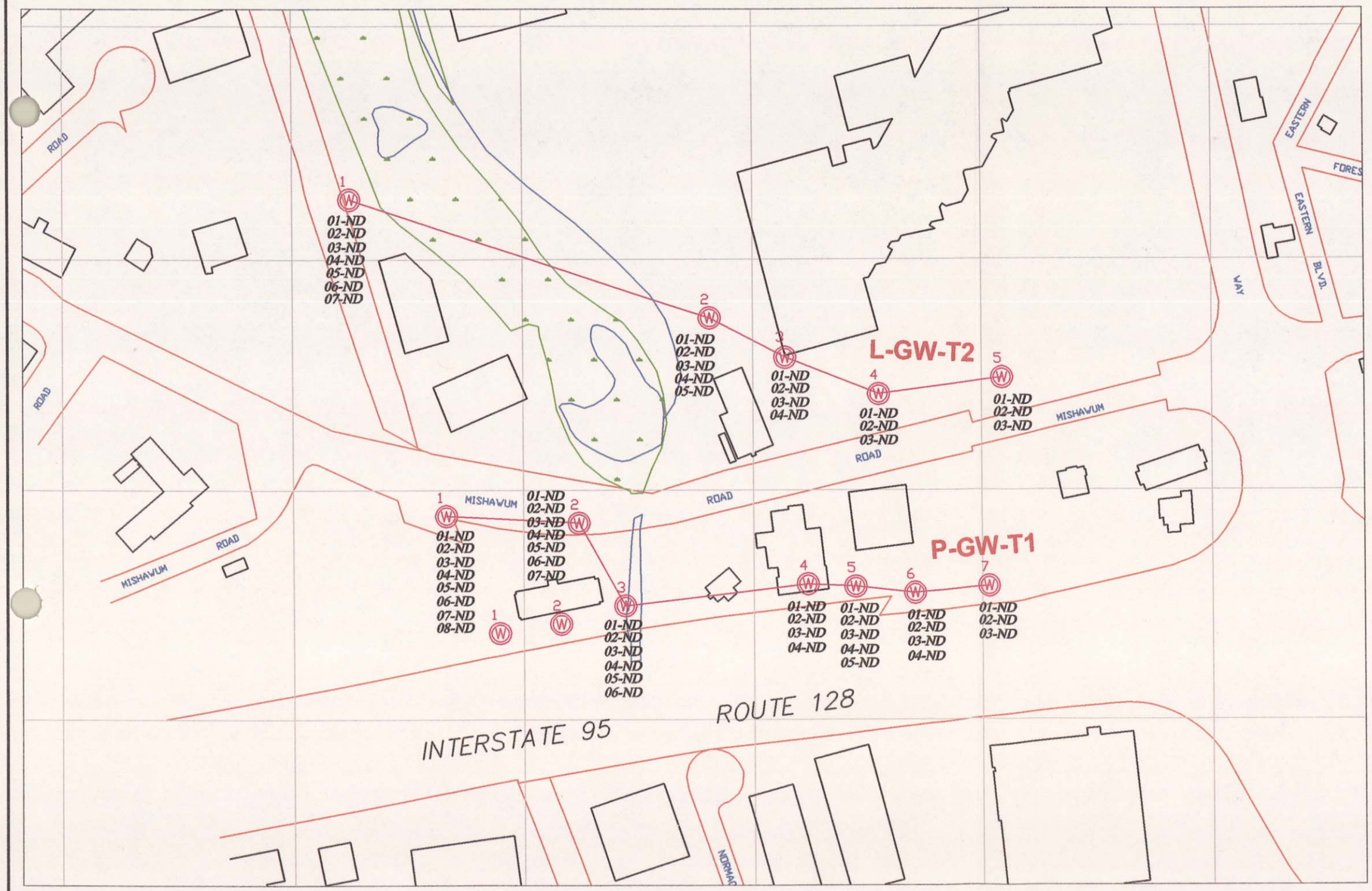
SCALE: 1" = 250'

April 3, 2002

DESIGNED BY: JG
DRAFTED BY: AAT
FILE: Basemap.dwg

SHEET NO. 2

SHEET 2 OF 3



LEGEND

GSIP Water Sample Locations

GSIP Water Re-Sample Locations

Toluene Concentrations (ppb) 01-1,200

NOTES

1.) GSIP sample locations were surveyed by Maverick Construction Management Services, Inc. using a Trimble 4700 GPS system.
2.)

Original includes color coding.

FIGURE 5C

DRAFT

PREPARED FOR:
SOLUTIA INC.
ST. LOUIS, MO

DESIGNED BY:
MAVERICK Construction Management Services, Inc.

TOLUENE CONCENTRATIONS

GSIP GROUND WATER INVESTIGATION
INDUSTRI-PLEX SITE

INDUSTRI-PLEX SITE REMEDIAL TRUST
WOBURN, MASSACHUSETTS

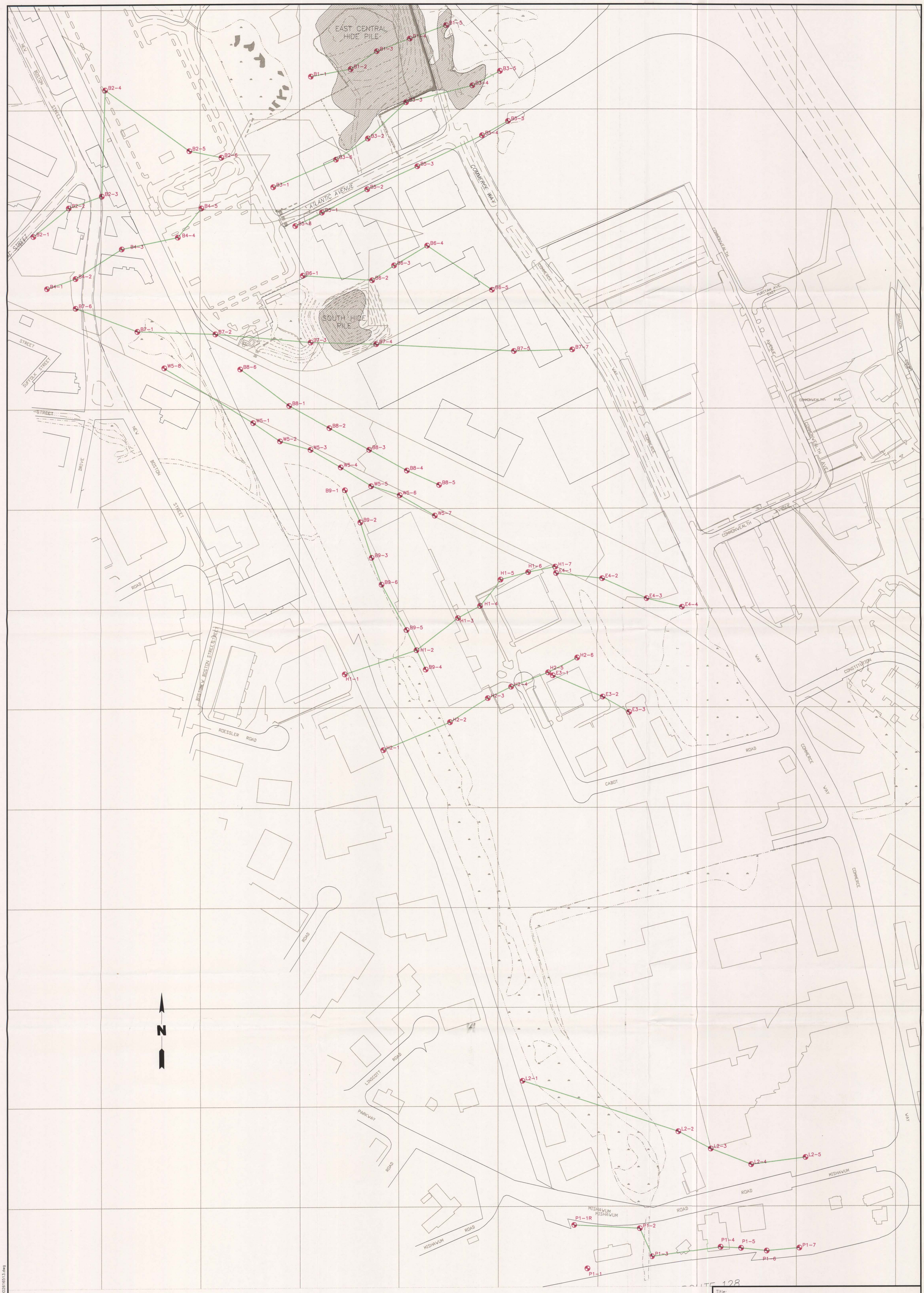
SCALE: 1" = 250'

April 3, 2002

DESIGNED BY: JG
DRAFTED BY: AAT
FILE: Basemap.dwg

SHEET NO. 3
SHEET 3 OF 3

PLATES



LEGEND

L2-1 LOCATION AND DESIGNATION OF PLUME DELINEATION GROUNDWATER SAMPLING POINT

200' 0 200'

Title:

PLUME DELINEATION GROUNDWATER SAMPLING POINTS

Prepared For:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: LC	Date: 4/5/02	PLATE
Prepared by: RF/CRS	Scale: AS SHOWN	1
Project Mgr: LM	Office: MA	
File No: M02616513	Project: 06626M33	

N:\PROJECTS\Solutia 066\M0066M\M026M\165 (M33)\M02616513.dwg

LEGEND

CB9-1 — LOCATION AND DESIGNATION OF PLUME GEOCHEMISTRY SAMPLING POINT

B1 — LOCATION AND DESIGNATION OF PLUME DELINEATION TRANSECT

200' 0 200'

Title:

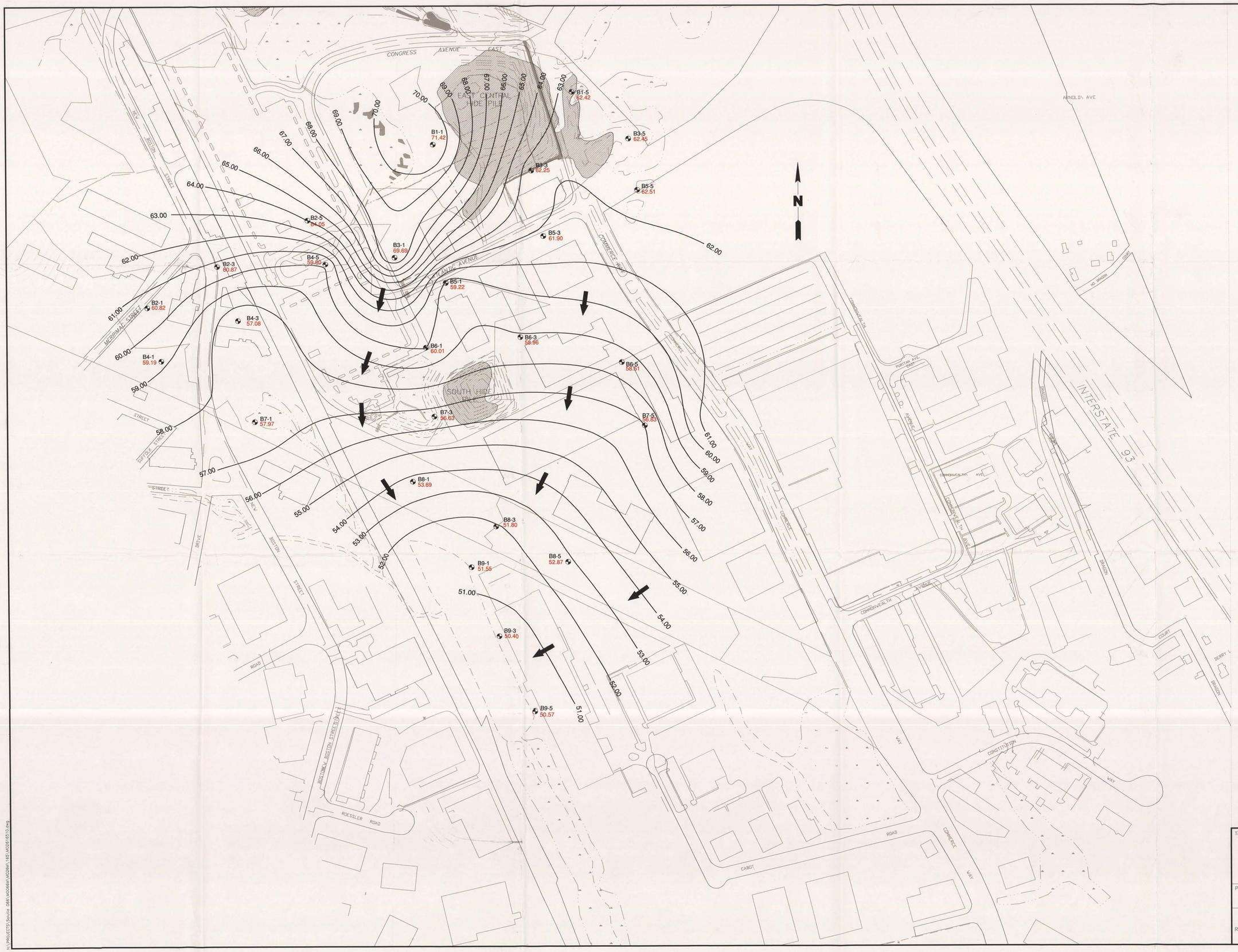
PLUME GEOCHEMISTRY GROUNDWATER SAMPLING POINTS

Prepared For:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES, INC. *Environmental Consulting & Management*	Compiled by: LC	Date: 4/5/02	PLATE
	Prepared by: RF/CRS	Scale: AS SHOWN	2
	Project Mgr: LM	Office: MA	
	File No: M02616512	Project: 06626M33	

N:\PROJECTS\Solutia 066\M0066M\M026M\165 (M33)\M02616512.dwg



NOTE
WATER-TABLE ELEVATIONS SHOWN WERE MEASURED OVER A 5-WEEK TIMEFRAME, BETWEEN EARLY SEPTEMBER AND MID-OCTOBER 2000

Title:

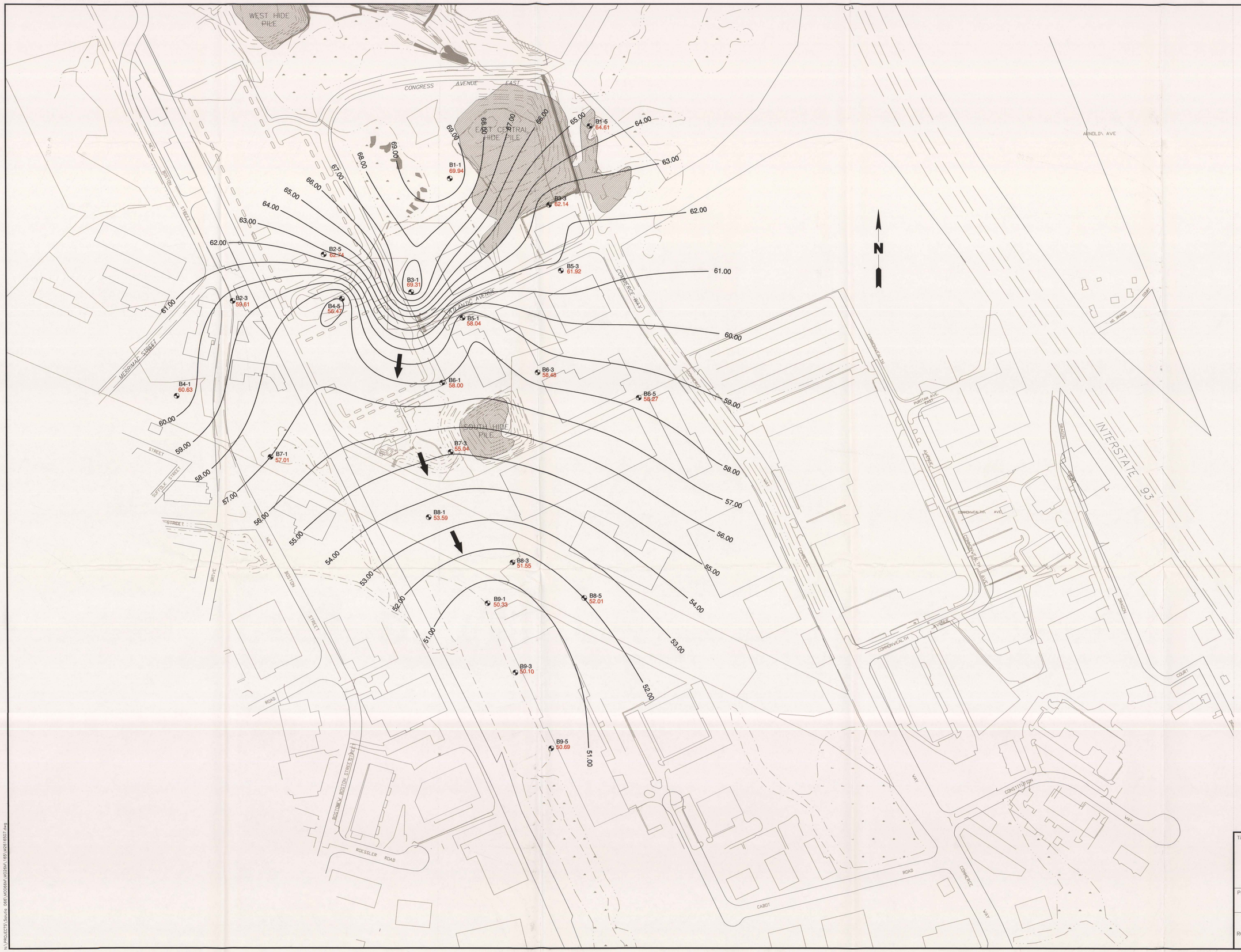
WATER-TABLE CONTOUR MAP

Prepared For:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES, INC. Environmental Consulting & Management	Compiled by: LC	Date: 4/5/02	PLATE
	Prepared by: CRS	Scale: AS SHOWN	3
	Project Mgr: LM	Office: MA	
	File No: MO2616510	Project: 06626M.33	

N:\PROJECTS\Source GWS\MO0664A\MO2664A\1ES\MO2616510.dwg



NOTE
POTENTIOMETRIC-SURFACE ELEVATIONS SHOWN WERE MEASURED OVER A 5-WEEK TIMEFRAME, BETWEEN EARLY SEPTEMBER AND MID-OCTOBER 2000

Title:

POTENTIOMETRIC-SURFACE CONTOUR MAP INTERMEDIATE OVERBURDEN

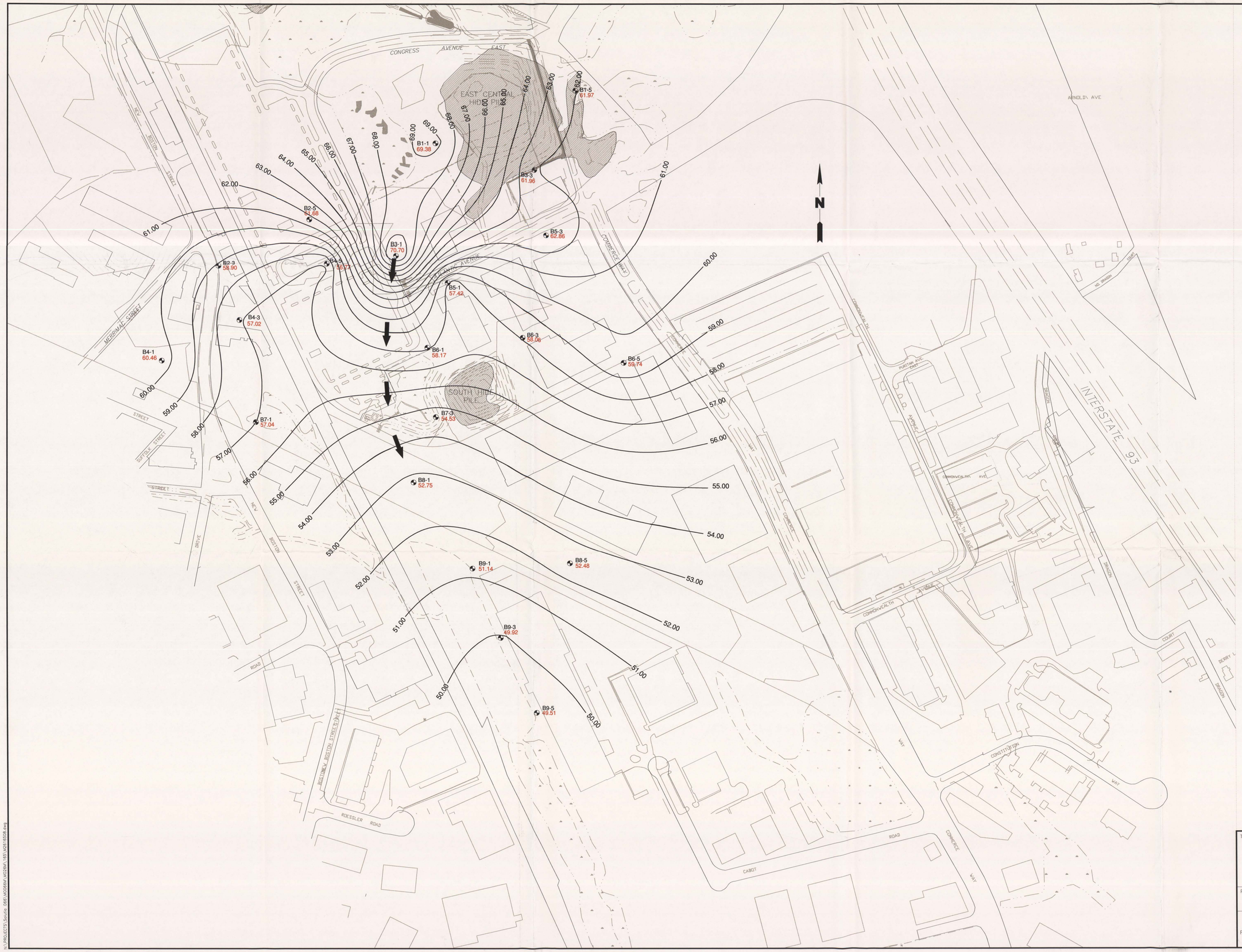
Prepared For:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: LC	Date: 4/5/02	PLATE
Prepared by: CRS	Scale: AS SHOWN	4
Project Mgr: LM	Office: MA	
File No: M2616509	Project: 06626M33	

\\1\PROJECTS\Source DBE\WORKA\M2616\163\M2616507.dwg



NOTE
POTENTIOMETRIC-SURFACE ELEVATIONS SHOWN WERE MEASURED OVER A 5-WEEK TIMEFRAME, BETWEEN EARLY SEPTEMBER AND MID-OCTOBER 2000

Title:

POTENTIOMETRIC-SURFACE CONTOUR MAP DEEP OVERBURDEN

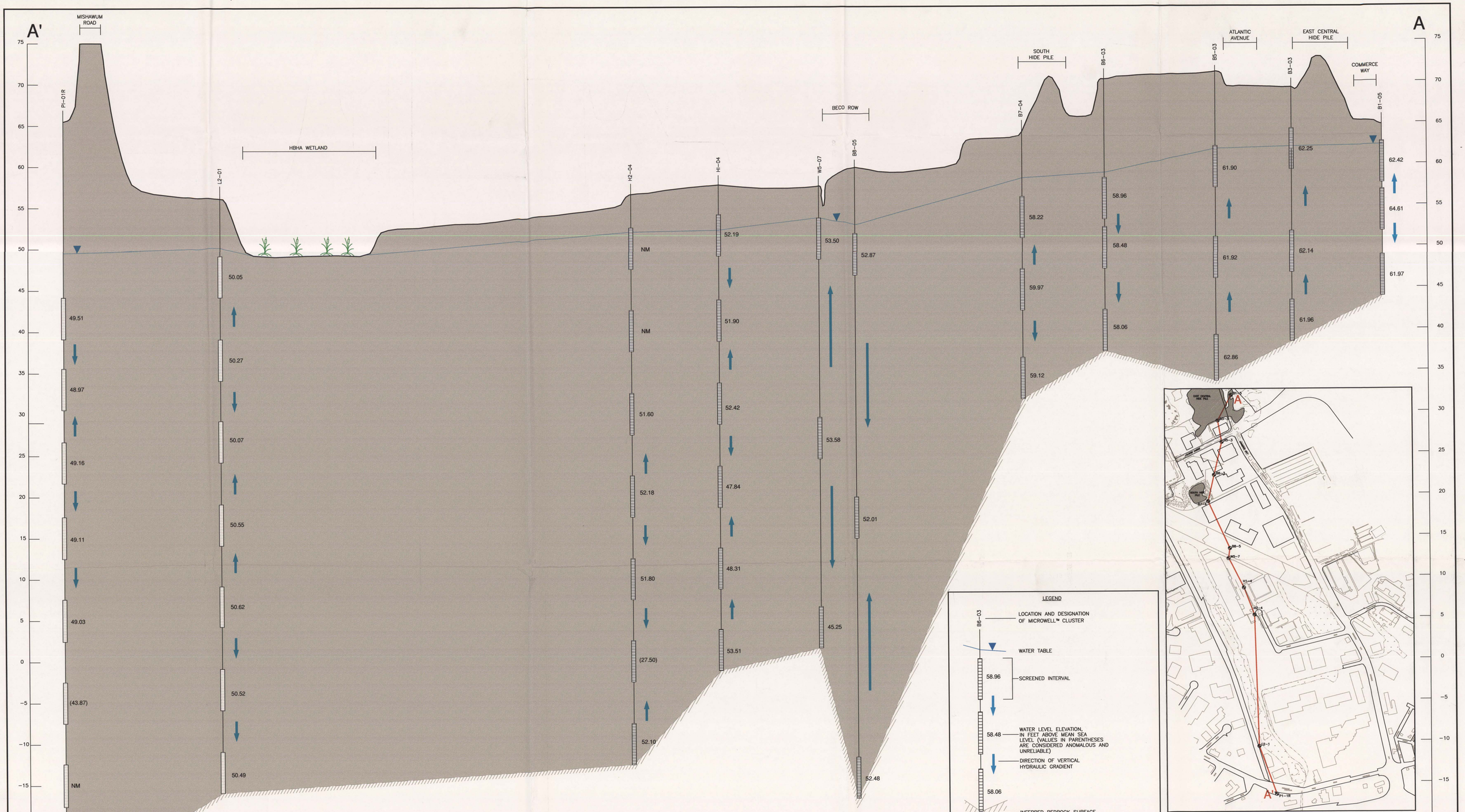
Prepared For:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: LC	Date: 4/5/02	PLATE
Prepared by: RF/CRS	Scale: AS SHOWN	5
Project Mgr: LM	Office: MA	
File No: M02616508.	Project: 06626M33	

N:\PROJECTS\Scuba 06626\M02616\163\M2616508.dwg



LEGEND

B6-03 — LOCATION AND DESIGNATION OF MICROWELL™ CLUSTER

WATER TABLE

58.96 — SCREENED INTERVAL

58.48 — WATER LEVEL ELEVATION, IN FEET ABOVE MEAN SEA LEVEL (VALUES IN PARENTHESES ARE CONSIDERED ANOMALOUS AND UNRELIABLE)

DIRECTION OF VERTICAL HYDRAULIC GRADIENT

58.06 — INFERRED BEDROCK SURFACE

NM = NOT MEASURED

5 — 200

SCALE
(VERTICAL EXAGGERATION = 40X)

LINE OF SECTION A-A' (NOT TO SCALE)

Title:

CROSS-SECTION A-A'

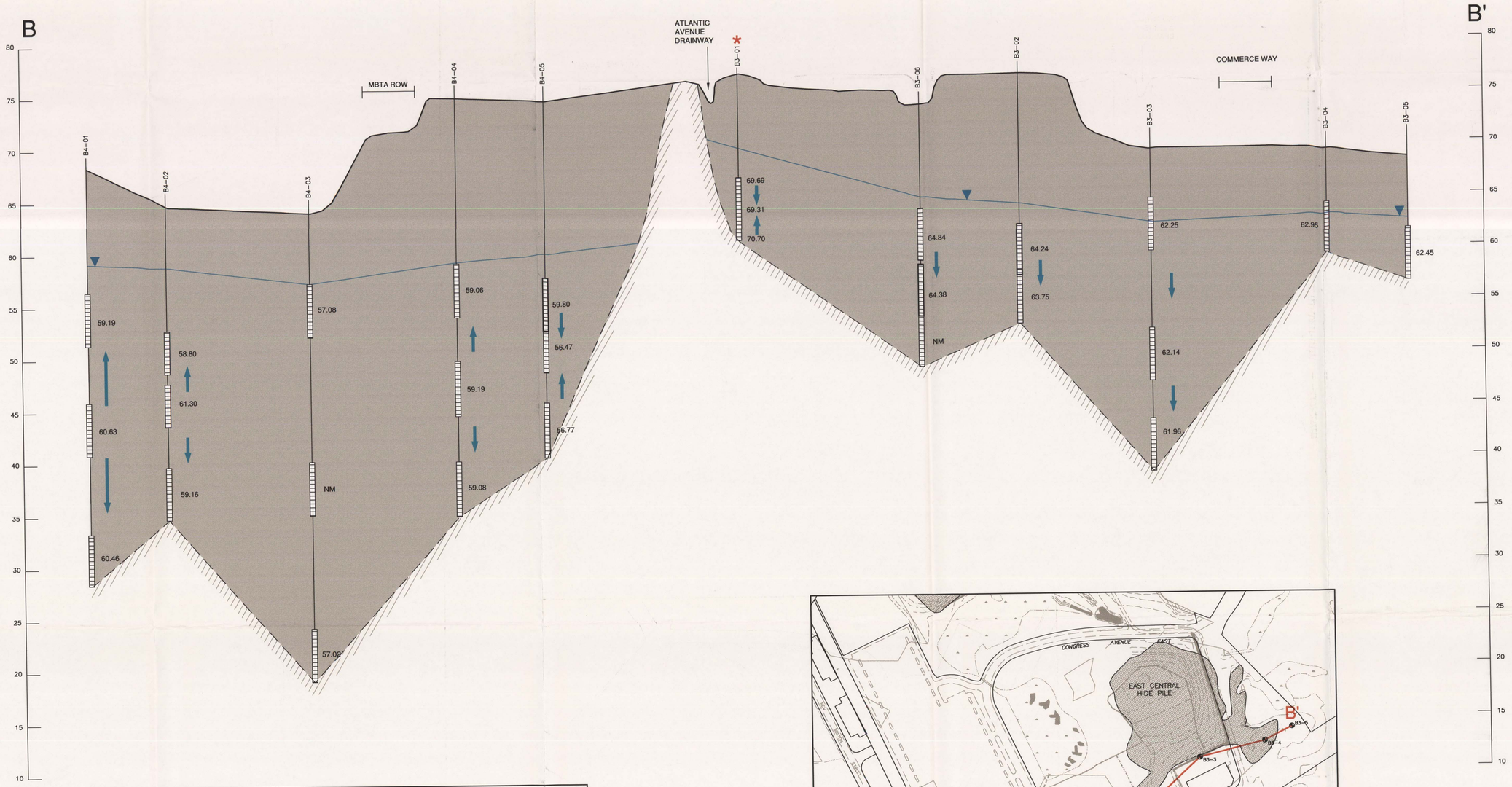
Prepared For:

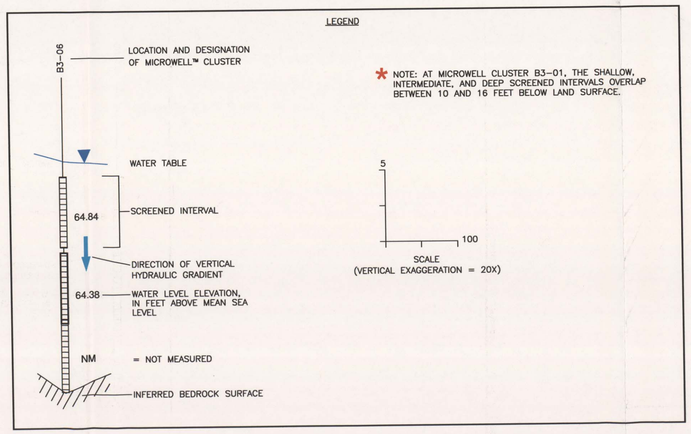
INDUSTRI-PLEX SITE REMEDIAL TRUST

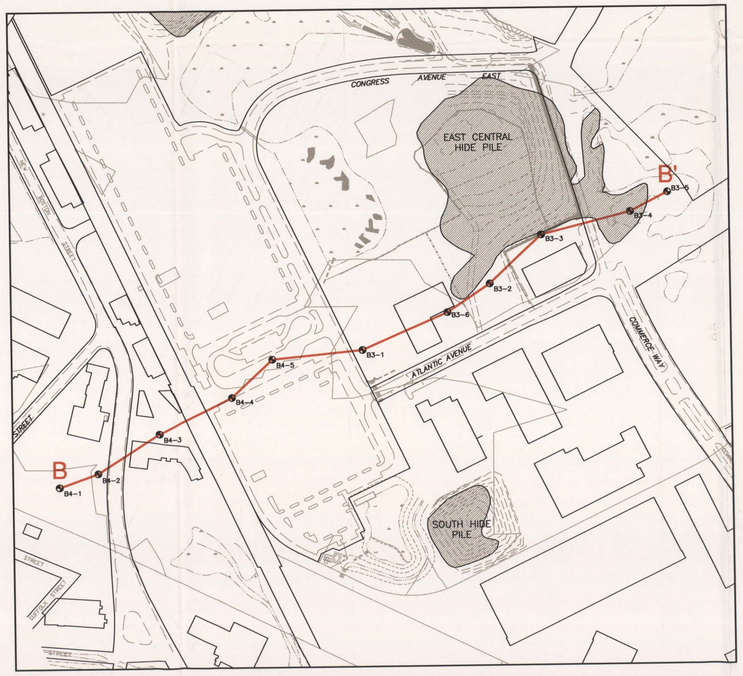
ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: LC	Date: 4/5/02	PLATE
Prepared by: RF	Scale: AS SHOWN	6
Project Mgr: LM	Office: MA	
File No: MO2616505	Project: 06626M33	

N:\PROJECTS\Saucle 06B\MO06BA\MO28A\185 (A33)\MO2616505.dwg







LINE OF SECTION B-B' (NOT TO SCALE)

Title:

CROSS-SECTION B-B'

Prepared For:

INDUSTRI-PLEX SITE REMEDIAL TRUST

ROUX ASSOCIATES, INC. *Environmental Consulting & Management*	Compiled by: LC	Date: 4/5/02	PLATE
	Prepared by: RF	Scale: AS SHOWN	7
	Project Mgr: LM	Office: MA	
	File No: M02616503	Project: 06626M33	

N:\PROJECTS\Solutia 06R\M06626A\M02616\182 (A33)\M02616503.dwg

APPENDICES

APPENDIX A

Groundwater Sampling Forms

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well BI-01GW01 Date 6 Sept 00

Screen Setting 16-11 Measuring Point Description TOC Casing Diameter (inches) 1"

Static Water Level ~~14.00~~ 10.21 Measured Width Well Materials PVC ✓ ~~SS~~. Steel

Total depth ~~18.15~~ 16.8 Pump On: 2555 Pump Rate: below

Stickup ~~1.87~~ 2.04

Purge Method Pump Off: 1620 Volumes Purged

Centrifugal ✓ Sample Time: 16:15 Weather: sun 50's

Submersible Sampled

Other DUP / MS / MSD By:

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
1148		<100	17.25		8.08	0.73	990	-108	6.66	21.9	0.27	3.30
New Loc.												
~~259~~		<100			6.97	0.67	✓	-226	3.09	17.2		
1505 ~~305~~		200			6.92	0.67	O/R	-199	1.82	16.8		
~~1510~~		200			6.95	0.67	69.1	-195	1.60	16.7		
1515 ~~315~~					6.95	0.67	98.1	-187	0.80	16.5		
~~320~~					6.96	0.67	12.2	-182	0.32	16.4		
1525 ~~325~~					6.96	0.67	6.28	-181	0.29	16.4		
~~330~~					6.96	0.67	5.12	-180	0.29	16.3		
~~335~~		300			6.97	0.67	3.20	-180	0.26	16.4		
1540 ~~240~~					6.89	0.67	3.03	-176	1.22	16.4		
245					6.92	0.67	2.44	-176	1.40	16.3		
250					6.95	0.67	2.22	-180	0.26	16.3		
255					6.95	0.67	3.78	-182	0.26	16.2		
1600 300					6.96	0.67	2.67	-183	0.25	16.1		
~~1635~~ ~~1435~~					6.98	0.67	5.32	-178	5.28	16.5		
1635												
Note: Ph solution: 4.0												
Ph reading: 4.16												
well purges dry at 1 well volume.												

Constituents Sampled	Container Description	Number	Preservative
metals tot	plas	1	HNO_3 ice
metals dissolved	plas	1	HNO_3
Benzene, Toluene	VOA	3	HCl
TSS	plas	2	NONE
Arsenic Tot	plas	1	NONE
Arsenic spec	plas	1	NONE

Sampling Personnel DM, AR, SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

O/R out of range

Refusal at 17' bls

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 / 1

Project/No. MA000646.0001.00002 Well B1-01-GW-02 Date 09/07/00

Screen Setting 18-13 Measuring Point Description ToC Casing Diameter (inches) 1"

Static Water Level 12.51' Measured Width Well Materials PVC ✓ ST. Steel

Total depth 19.50' Pump On: 11:28 Pump Rate: 300

stickup 2.86 Purge Method Pump Off: 1257 Volumes Purged

Centrifugal • Sample Time: 1220 Weather: Sunny 60's

Submersible Other Peristaltic DUP / MS / MSD Sampled By: DM, AR

Time	Minutes Elapsed	Rate (gpm) (ml)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
1140	12	320			7.07	0.64	out of RANGE	-204	0.35	18.2		
1145	17	↓			7.00	0.66	1058	-171	0.41	17.0		
1150	22				7.00	0.66	25.4	-160	0.40	16.4		
1157	29	↓			7.00	0.67	12.1	-158	0.39	16.3		
1202	34	300			6.95	0.67	7.7	-155	0.45	16.3		
1207	39	↓			6.99	0.67	9.71	-158	0.39	16.2		
1212	44	↓			6.99	0.67	6.29	-159	0.38	16.2		
1214	47	↓			7.00	0.67	6.62	-159	0.38	16.2		
1237	70	↓			7.01	0.67	8.16	-161	0.36	17.1		
											0.20	3.30

Constituents Sampled	Container Description	Number	Preservative
Benzene, Toluene	VOA	3	HCl Ice
Metals (Total)	plastic	1	HNO_3
Metals (Dissolved)	plastic	1	HNO_3
TSS	plastic	2	NONE
Arsenic (total)	plastic	1	NONE
Arsenic (Dissolved)	plastic	1	NONE

Sampling Personnel pH ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 2

Project/No. MA000646.0001.00002 Well B1-01GW03 Date 7 Sept 2000

Screen Setting 22-17 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 12.09 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 22.95 Pump On: 1400 Pump Rate: N/A

Stickup 1.88

Purge Method Pump Off: Volumes Purged

Centrifugal ✓ Sample Time: N/A Weather:

Submersible Sampled By: DM, AR

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1305	5	300			7.04	0.49	out of range	-205	0.38	21.2		
1310												
1315												
1320	well silted up + stopped recovery											
Restart 1325												
1327	well pumps dry											
1334	restart				7.07	0.50	O/R	-232	0.21	23.2		
1336	goes dry											
1355	restart											
1400	dry - let recover											

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	none HNO3
D Metals	"	1	"
T Arsenic	"	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

2 2

Project/No. MA000646.0001.00002 Well B101GW03NS Date 8 Sept 00

Screen Setting 22-17 Measuring Point Description Top of Casing Casing Diameter (inches) 1

Static Water Level Measured Width Well Materials PVC ✓ ST. Steel

Total depth Pump On: Pump Rate:

Purge Method Pump Off: Volumes Purged Ø

Centrifugal ✓ Sample Time: 930 Weather:

Submersible Sampled By: Diane Mosher

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
930	0											
No recovery. Sampled as "NS" on Labels and												
COC as well												
Attempt #3												
Sampling time = 1.5 hours												

Constituents Sampled	Container Description	Number	Preservative
Benzene toluene	VOA	3	HCL + Ice
Total Metals	Plas	1	HNO3 Ice
Diss Metals	Plas	1	HNO3 Ice
Arsenic Tot	Plas	1	Ice
arsenic Dis	Plas	1	Ice
TSS	Plas	2	Ice

Sampling Personnel DMosher

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

NS

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample BI-02GW03 Page 1 of 1 Field Staff: HAT/LC

Date Sampled 4/17/01
Stick-up Height 1 feet
Depth to Water 22.06 feet below top of casing
Total Depth 27.6' feet below top of casing
Depth of Tubing (sample interval) 26.5 feet below top of casing

sulfide = 0.06 mg/L
ferrous iron = 0.3 mg/L

Start ~~purge~~ sample 1210
Start parameters
End ~~purge~~ 1310
Total purge time: 1 hours, ____ minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
<50 mL/min, collect condensed sample w/ peristaltic pump

B1-046W01NS

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample ~~B4-01GW01~~ Page 1 of 1 Field Staff: HAT

Date Sampled 3/29/01, 4/16/01, 4/17/01, 4/18/01
Stick-up Height 1.8 feet
Depth to Water 8.51 feet below top of casing
Total Depth 13 feet below top of casing
Depth of Tubing (sample interval) 12 feet below top of casing

Sulfide = 0.80 mg/L
Iron = 3.30 mg/L

Start purge 1300, 1040, 1045, 1240
Start parameters
End purge 1500, 1445, 1130, 1315
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
Black water w/very ~~pug~~ pungent/nauseating odor
Collected 2 VOC vials.
(1 As/As Spec. bottle, 4/16/01), 1/2 Metals bottle for Tot. Met. analysis (4/17)
1/2 bottle Dis. Met, 1/2 bottle TSS on 4/18/01

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample (B)-04GW01NS Page 1 of 1 Field Staff: LC/HT

Date Sampled 11/7/01, 11/6/01
Stick-up Height 0.4 feet
Depth to Water 14.0 feet below top of casing
Total Depth 18.0 feet below top of casing
Depth of Tubing (sample interval) 16.0 feet below top of casing

Sampling time: 0.5 hr.

Start purge 1500
Start parameters
End purge 1530
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? ____

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
Sampled w/ check valve

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample BI-04GW02NS Page 1 of 1 Field Staff: HAT/LC

Date Sampled 4/16/01
Stick-up Height 1.9 feet
Depth to Water — feet below top of casing
Total Depth 18 feet below top of casing
Depth of Tubing (sample interval) 17 feet below top of casing

Start ~~purge~~ sample 1230
Start parameters
End ~~purge~~ sample 1445
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

4/16/01 → collect 2-VOCs only / no H_2O → very slow recovery in well

JC ~~4/18/01 — collect 1 Tss bottle, 1 Dis. Met. bottle~~

~~4/17/01 — collect 1 Total metals~~

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B1-04GW03NS Page 1 of 1 Field Staff: HAT/LC

Date Sampled 4/16/01
Stick-up Height 1 feet
Depth to Water – feet below top of casing
Total Depth 22 feet below top of casing
Depth of Tubing (sample interval) 21 feet below top of casing

Sulfide: 0.80 mg/L
ferrous iron: 3.30 mg/L

Start ~~purge~~ sample 1040
Start parameters
End ~~purge~~ sample 1230
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
collected condensed suite w/ pump.

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well BH05GW001 Date 6 Sept 2000

Screen Setting 6-1 ~~10~~ Measuring Point Description Top of well Casing Diameter (inches) 1"

Static Water Level 4.78 Measured Width Well Materials PVC ~~St. Steel~~

Total depth 8.75 Pump On: 12:45 Pump Rate: 350mL min

stickup ~~2.50~~ 2.50 Purge Method Pump Off: 1410 Volumes Purged

Centrifugal ✓ Sample Time: 1400 Weather: Sunny

Submersible Other DUP / MS / MSD Sampled By: DM AR

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1246		350			6.63	72	88	-134	1.12	18.3	0.80	3.30 mg/L
1250					6.59	72	58	-141	1.12	18.1		
1255					6.54	71	43	-150	4.32	18.1		
1300					6.51	71	46	-148	4.23	18.1		
1305					6.50	71	39	-147	4.03	18.0		
1310					6.48	71	37	-149	3.84	18.1		
1315		350			6.46	71	34	-149	3.27	18.1		
1320					6.46	71	5.91*	-149	1.78	18.0		
1325					6.46	71	4.29	-149	3.67	17.9		
1330					6.44	70	3.93	-150	3.75	17.8		
1335					6.43	70	4.99	-152	3.24	17.9		
1340					6.46	70	3.73	-153	2.70	18.0		
1345					6.49	70	2.70	-154	2.67	18.0		
1350					6.46	70	2.30	-153	2.52	18.0		
1428					6.43	70	6.38	-137	3.10	18.6		

Constituents Sampled	Container Description	Number	Preservative
metals tot	plas	1	HNO3 Ice
metals dissolved	plas	1	HNO3
Benzene Toluene	VOA	3	HCL
TSS	Plas	2	None
Nitrogen Total	Plas	1	None
Arsenic spec	Plas	1	None

Sampling Personnel DM AR SD pH ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

* Changed to Lamotte Meter

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well BI-05GW02 Date 9/6/00 1 1

Screen Setting 12-7 Measuring Point Description Top of pipe Casing Diameter (inches) 1

Static Water Level 222 Measured Width Well Materials PVC ___ ST. Steel

Total depth 14.00 Pump On: 1700 Pump Rate: 320

Stickup 2.13

Purge Method Pump Off: 1805 Volumes Purged

Centrifugal ✓ Sample Time: 1800 Weather:

Submersible Sampled By: DM AR

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ~~mc/cm~~ S/m	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron mg/L
1710	0	320			6.89	0.10	out of range	-252	0.56	16.60	0.30	0.56
1715	5				7.05	0.09	out of range	-227	0.48	15.60	Limit	
1720	10				7.28	0.09	197	-206	0.57	15.3		
1725	15				7.28	0.09	48.5	-204	0.63	15.1		
1730					7.31	0.09	21.2	-206	0.64	15.0		
1735		320			7.33	0.09	19.1	-205	0.61	15.1		
1740					7.36	0.09	13.9	-205	0.58	14.8		
745					7.36	0.09	13.0	-215	0.59	14.8		
1750					7.37	0.09	12.5	-203	0.60	14.7		
1755					7.37	0.09	12.4	-217	0.52	14.7		
					7.42	92	—	-185	1.02	14.7		

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
Benzen, Toluene	VOA	3	HCL
TSS	Plas	2	none
T Arsenic	"	1	"
D Arsenic	"	1	"

Sampling Personnel DM, AR, SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

oundwater Sampling Form

Project/No. MA000646.0001.00002 Well BH-05GW03 Date 9/7/00 1 1

Screen Setting 20-15 Measuring Point Description Top of Pipe Casing Diameter (inches) 1

Static Water Level 4.53 Measured Width Well Materials PVC ___ ST. Steel

Total depth 20.70 Pump On: 1035 Pump Rate: 340 mL

stickup 1.80

Purge Method Pump Off: 1235 **Volumes Purged** ___

Centrifugal ✓ **Sample Time:** 1200 Weather: ___

Submersible ___ Sampled By: SD

Other ___ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1035	0	340			7.73	0.14	out of range	-318	0.00	15.4	0.24	0.85
1040	5				7.64	0.16	out of range	-302	0.00	14.6		
1045	10				7.62	0.16	535	-282	0.00	14.6		
1050	15				7.60	0.16	174	-273	0.00	14.5		
1055	20				7.59	0.16	78.4	-290	0.00	14.7		
1100	25				7.59	0.16	57.7	-308	0.00	14.9		
1105	30	320		*	7.60	0.15	45.2	-344	0.00	14.7		
1110	35				7.61	0.16	36.0	-303	0.47	14.5		
1115	40				7.61	0.16	31.6	-278	1.41	14.6		
1120	45	290			7.62	0.16	23.9	-311	2.03	14.5		
1125	50				7.62	0.15	25.1	-255	3.31	14.1		
1130	55				7.62	0.15	19.5	-297	3.09	14.7		
1135	60				7.62	0.15	14.8	-379	2.74	15.0		
1140	65				7.63	0.15	12.1	-301	2.63	14.9		
1145	70				7.62	0.15	10.93	-240	2.54	15.0		
1150	75				7.62	0.15	8.38	-257	2.35	14.9		
1155	80				7.62	0.15	8.05	-256	2.16	15.1		
1200	85				7.62	0.15	8.22	-256	2.04	15.2		
1215					7.65	0.15	8.61	-274	1.78	15.6		
					Horiba #2							

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	"	1	none
D Arsenic	"	1	"
Benzen Toluene	VOA	3	HCl
TSS	plas	2	none

Sampling Personnel SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

Project/No. MA000646.0001.00002 Well B201GW01 Date 9/21/00

Screen Setting 17-12 Measuring Point Description To C Casing Diameter (inches) 1

Static Water Level 14.35 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 18.5 Pump On: 1430 Pump Rate: 100

stickup 2.15

Purge Method Pump Off: 1640 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 1535 Weather:

Submersible Sampled

Other DUP / MS / MSD By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
	pump not able to pull water											
1455	water to surface - recovering very slowly											
1505		100			6.04	63	395	-79	2.21	22.5		
1510					6.07	61	303	-72	2.17	22.6		
1515					6.08	59	271	-63	2.11	23.1		
1520					6.08	59	217	-63	2.07	23.3		
1525					6.08	59	40.8	-59	2.12	23.4		
1530					6.06	58	36.4	-57	2.14	23.4	0.00	3.30 limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	plas amber	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH -4.05 tubing 2' from bottom

Refused

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B2-016W02 Date 25 Sept 00

Screen Setting _____ Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 15.00 Measured Width _____ Well Materials PVC ✓ ~~ST.~~ Steel

Total depth 15.00 Pump On: well obstructed Pump Rate: _____

stickup 2'

Purge Method Pump Off: N/S **Volumes Purged** _____

Centrifugal _____ **Sample Time:** _____ Weather: _____

Submersible _____ Sampled By: Diane Mosher

Other ✓ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
		well bent at ≈ 13'										

Constituents Sampled	Container Description	Number	Preservative

Sampling Personnel Diane Mosher

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B2-02GW01NS Page 1 of 1 Field Staff: HT

Date Sampled 3/20/01
Stick-up Height 2.3 feet
Depth to Water 11.76 feet below top of casing
Total Depth 15.0 feet below top of casing
Depth of Tubing (sample interval) – feet below top of casing

sulfide = 0.80mg/L
iron = 0.47mg/L

Start purge 1200
Start ~~parameters~~
End purge 1235
Total purge time: ___ hours, 35 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
Very low recharge (<40mL/min). Sample w/ check valve, collect condensed suite (1 bottle Total As | As Spec., 1 Total Metals | Dis. Met, 1 TSS)

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B2-02GW02NS Page 1 of 1 Field Staff: LC

Date Sampled 4/9/01
Stick-up Height 1.9 feet
Depth to Water 9.89 feet below top of casing
Total Depth 19.5 feet below top of casing
Depth of Tubing (sample interval) 19.0 feet below top of casing

sulfide - 0.18 mg/L
ferrous iron: 3.30 mg/L

Start purge 0915
Start parameters
End purge 1045
Total purge time: 1 hours, 30 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
Very low purge rate (<50mL/min); collect complete suite of samples w/ pump

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B2-02GW03 Page 1 of 1 Field Staff: LC

Date Sampled 3/20/01
Stick-up Height 1.5 feet
Depth to Water 2.71 feet below top of casing
Total Depth 22.5 feet below top of casing
Depth of Tubing (sample interval) 22.0 feet below top of casing

sulfide = 0.00mg/L
iron = 0.96mg/L

Start purge 1115
Start parameters 1215
End purge 1245
Total purge time: 1 hours, 30 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1215		400		13.12	512	5.56	122.3	2.21	149
1220	5	400		13.04	511	5.03	122.9	1.48	84.3
1225	10	400		13.03	511	5.02	122.8	1.46	36.0
1230	15	400		13.03	512	5.01	122.8	1.45	36.3
1235	20	400		13.04	512	4.99	123.1	1.43	29.8
1240	25	400		12.96	512	4.98	123.5	1.41	29.6
1245	30	400		12.92	512	4.96	124.6	1.46	28.5

Comments

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

Project/No. MA000646.0001.00002 Well B2-03-GW-01 Date 9/19/00

Screen Setting 13-8 Measuring Point Description TOC Casing Diameter (inches) 1"

Static Water Level 8.78 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 13.35 Pump On: 1145 Pump Rate: 100

St.ickup = 1.95

Purge Method Pump Off: 1318 Volumes Purged 5 GAL

Centrifugal Sample Time: 1225 Weather: Sunny 60

Submersible Sampled By: AR

Other Peristaltic DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
1155		150			4.5	0.10	17.2	231	5.87	21.5		
1200		↓			4.51	0.10	12.5	229	4.64	21.5		
1205					4.52	0.10	10.1	227	4.91	21.6		
1210		↓			4.54	0.10	5.98	225	4.87	22.1		
1215		100ml			4.55	0.10	3.77	224	4.90	22.4		
1300												0.41
1308					4.52	0.10	2.58	224	5.38	24.6		
1310			8.79	5GAL							0.02	

Constituents Sampled	Container Description	Number	Preservative
Benzene Toluene	glass	3	HCl ICE
Metals - Total	plastic	1	HNO_3
Metals - Dissolved	plastic	1	HNO_3
Arsenic Total	Amber	1	None
Arsenic Dissolved	Amber	1	None
TSS	plastic	1	None

Sampling Personnel pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

Tubing 2ft Above Bottom of Screen

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B2-03-GW-02 Date 09/20/00

Screen Setting 27-22 Measuring Point Description ToC Casing Diameter (inches) 1"

Static Water Level 10.10 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 28.00 Pump On: 1025 Pump Rate: 100 ml/min

Stick = 2.01

Purge Method Pump Off: 1210 Volumes Purged

Centrifugal Sample Time: 1135 Weather: 70's cloudy

Submersible Sampled By: AR

Other Peristaltic DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
1040		250		2.5	6.85	0.37	289	-116	1.79	17.3		
1045		200			6.70	0.38	104.9	-112	1.45	17.5		
1050		150			6.70	0.39	92.6	-111	1.39	17.8		
1055		125			6.71	0.39	85.5	-110	1.42	18.1		
1100					6.72	0.39	67.1	-110	1.46	18.5		
1105					6.72	0.39	72.6	-109	1.47	18.7		
1110		100			6.73	0.39	23.4	-106	1.66	18.8		
1115					6.74	0.39	35.3	-104	2.26	19.6		
1120					6.75	0.39	34.4	704	2.25	19.7		
1125					6.75	0.39	43.9	-99	2.10	20.1		
1150												3.3 l.m.f
1155											0.06	

Constituents Sampled	Container Description	Number	Preservative
Benzene Toluene	GLASS	3	HCl ~ ICE 4°C
Total Metals	plastic	1	HNO_3
Dissolved Metals	plastic	1	HNO_3
TSS	plastic	1	none
Total Arsenic	Amber	1	none
Dissolved Arsenic	Amber	1	none

Sampling Personnel

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

Ph=4.05 Tubing 2' from bottom of Boring

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B2-03-fw03-NS Date 9/21/00

Screen Setting 42-37 Measuring Point Description ToC Casing Diameter (inches) 1"

Static Water Level 10.55 Measured Width Well Materials PVC / ✓ ST. Steel

Total depth 43.41 Pump On: 1355 Pump Rate: 100 ml/min

Purge Method Stick 1.75 Pump Off: 1825 Volumes Purged

Centrifugal Submersible Other Peristaltic Sample Time: 1755 Weather: Sunny 70's

DUP / MS / MSD Sampled By: AR

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
1430		.100					OR					
1440							OR					
1500							OR					
1530				2.5			OR					
1545							OR					
1550							OR					
1640					5.74	0.32	OR	-42	9.02	25.3		
1650					5.99	0.24	OR	-72	2.27	24.6		
1705							OR					
1710					5.80	0.24	OR	-35	2.14	20.8		
1720					5.98	0.24	OR	-47	2.93	20.7		
1730					5.92	0.24	OR	-27	2.54	20.2		
1735					6.25	.24	OR	-52	2.73	19.6		
1755												3.28
1605											0.80 limit	

Constituents Sampled	Container Description	Number	Preservative
Benzene, Toluene	GLASS	3	HCl Ice 4°C
Total Metals	Plastic	1	HNO_3
Dissolved Metals	Plastic	1	HNO_3
TSS	Plastic	1	none
Total Arsenic	plastic Amber	1	none
Dissolved Arsenic	plastic Amber	1	none

Sampling Personnel pH ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

Tubing 2" from BOB

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B2-04GW01 Page 1 of 2 Field Staff: HAT

Date Sampled 4/5/01
Stick-up Height 1' feet
Depth to Water 13.96 feet below top of casing
Total Depth 20 feet below top of casing
Depth of Tubing (sample interval) 19 feet below top of casing

sulfide = 0.50mg/L
ferrous iron = 2.70

Start purge 0845
Start parameters 0910
End purge 1050
Total purge time: 2 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0910	0	400		9.75	582	4.08	123.7	0.57	686
0915	5			9.72	581	3.96	112.7	0.45	353
0920	10			9.66	581	3.86	103.9	0.40	472
0925	15			9.67	580	3.84	100.8	0.36	578
0930	20			9.69	580	3.84	97.2	0.33	485
0935	25			9.70	581	3.83	97.0	0.33	430
0940	30			9.74	579	3.80	97.0	0.31	359
0945	35			9.76	577	3.79	97.5	0.30	262
~~1000~~ 0950	40			9.77	578	3.79	98.8	0.30	187
0955	45			9.81	574	3.77	100.9	0.30	376
1000	50			9.80	575	3.77	102.4	0.30	280
1005	55			9.80	575	3.73	105.7	0.30	250
1010	60			9.86	573	3.73	108.5	0.30	330
1015	65			9.84	574	3.74	110.4	0.30	380
1020	70			9.88	575	3.71	116.5	* ~~0.27~~	230
1025	75			9.85	575	3.70	118.1	0.28	210
1030	80			9.84	574	3.70	120.5	0.28	240
1035	85			9.87	576	3.66	127.6	0.29	110
1040	90	✓		9.85	576	3.66	128.7	0.30 HAT	130

HAT 0.27*

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B2-04GW01 Page 2 of 2 Field Staff: HAT

Date Sampled 4/5/01
Stick-up Height 1' feet
Depth to Water 13.96 ~~feet~~ below top of casing
Total Depth 20 feet below top of casing
Depth of Tubing (sample interval) 19 feet below top of casing

Start purge 0845
Start parameters 910
End purge ~~100~~ 1050 HAT
Total purge time: 2 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1045	95	400		9.86	576	3.65	131.2	0.30	130
1050	100	↓		9.81	576	3.65	133.5	0.30	130

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B2-04GW-02 Page 1 of 1 Field Staff: MH

Date Sampled 4/6/01
Stick-up Height 1.0' feet
Depth to Water UNKNOWN feet below top of casing
Total Depth 24.1' feet below top of casing
Depth of Tubing (sample interval) 23' feet below top of casing

SULFIDE: 0.00 mg/L
FERROUS IRON: 1.46 mg/L

Start purge 910
Start parameters 935
End purge 1110
Total purge time: _____ hours, _____ minutes
Parameters Stabilized? _____

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
940		400		10.41	261	4.55	197.8	1.03	65
945				10.29	260	4.46	220.1	4.37	75
950				10.53	263	4.46	239.4	5.32	31
955				10.64	266	4.34	275.6	5.24	21
1000				10.68	267	4.35	264	5.19	21
1005				10.70	268	4.32	269	4.15	31
1010				10.74	269	4.28	282.8	2.76	45
1015				10.73	269	4.27	282.6	1.79	140
1020				10.57	267	4.23	286.1	1.65	140
1025				10.67	265	4.32	262.6	.98	100
1030				10.70	267	4.26	265.7	.78	55
1035				10.72	266	4.26	266.4	0.86	200
1040				10.73	267	4.26	265.8	0.78	45
1045				10.73	267	4.23	271.9	0.76	40
1050				10.76	267	4.20	278.5	0.78	21
1055				10.81	268	4.20	285.3	0.78	21
1100				10.87	270	4.19	290.3	0.80	23
1105				10.83	270	4.17	295.8	0.79	21
1110				10.85	270	4.1	292.8	0.81	23

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B2-04GW03 Page 1 of 1 Field Staff: LC

Date Sampled 4/5/01
Stick-up Height 1.0 feet
Depth to Water ≈15' feet below top of casing
Total Depth 29.5' feet below top of casing
Depth of Tubing (sample interval) 29.0 feet below top of casing

Sulfide = 0.01mg/L
ferrous iron = 3.30mg/L

Start purge 0845
Start parameters 0950
End purge 1105
Total purge time: 2 hours, 20 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0950		200		11.47	1234	5.23	155.0	10.55	95
0955	5	200		11.23	1231	5.19	166.7	10.57	55
1000	10	200		11.22	1231	5.16	168.7	10.54	50
1005	15	200		11.20	1226	5.12	177.9	10.43	70
1010	20	200		11.23	1225	5.11	181.0	10.82	60
1015	25	200		11.36	1217	5.03	194.3	10.80	23
1020	30	200		11.32	1217	5.02	194.8	10.61	23
1025	35	200		11.26	1215	5.00	196.3	10.64	20
1030	40	200		11.34	1213	4.98	201.6	10.35	26
1035	45	200		11.33	1212	4.95	202.8	10.43	31
1040	50	200		11.35	1211	4.95	204.6	10.42	26
1045	55	200		11.31	1208	4.94	205.5	10.72	21
1050	60	200		11.22	1208	4.93	208.1	10.34	17
1055	65	200		11.18	1204	4.88	212.1	10.24	11
1100	70	200		11.15	1200	4.85	215.4	10.27	11
1105	75	200		11.21	1200	4.86	215.4	10.30	12

Comments

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well B2-05-GW-01 Date 09/07/00

Screen Setting 15-10 Measuring Point Description ToC Casing Diameter (inches) 1"

Static Water Level 12.53 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 17.30 Pump On: 0930 Pump Rate: below

stickup 2.00

Purge Method Pump Off: 1105 Volumes Purged 7 GAL

Centrifugal ✓ Sample Time: 1035 Weather: 50's, Sunny

Submersible Sampled By: DM, AR

Other Peristaltic DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
0935		300			6.71	0.21	out of Range	-187	6.23	17.4		
0940		↓			6.62	0.20	out of Range	-164	6.99	16.9		
0945					6.59	0.20	295	-142	6.33	16.6		
0950					6.56	0.20	29.9	-129	7.01	16.4		
0955					6.59	0.20	10.56	-127	6.37	16.5		
1000					6.59	0.20	OOR	-134	0.84	16.6	* tubing	Starting to silt up
1005		320			6.60	0.20	64.6	-132	0.56	16.6		
1010		↓			6.60	0.20	26.7	-129	0.87	16.8		
1015					6.60	0.20	9.65	-129	0.83	16.7		
1018					6.60	0.20	13.4	-128	0.64	16.7		
1026					6.60	0.20	16.5	-127	0.68	16.8		
1034					6.61	0.20	8.73	-126	0.70	16.8		
1055		↓			6.60	0.20	18.4	-124	0.87	17.7		
											0.04	3.30

Constituents Sampled	Container Description	Number	Preservative
Benzene, Toluene	40ml voa	3	HCl Ice
metals (total)	500ml plastic	1	HNO_3
Metals (dissolved)	500ml plastic	1	HNO_3
TSS	500ml plastic	1	NONE
Arsenic (total)	500ml plastic	1	None
Arsenic (Dissolved)	500ml plastic	1	none

Sampling Personnel pH ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

* out of Range = OOR

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B2-05-GW02 Date 09/08/00

Screen Setting 22-17 Measuring Point Description top of casing Casing Diameter (inches) 1"

Static Water Level 13.53 Measured Width Well Materials PVC / ✓ ST. Steel

Total depth 23.74 Pump On: 1120 Pump Rate: varied

Purge Method stick - 1.69 Pump Off: 1450 Volumes Purged

Centrifugal Submersible Other Peristaltic Sample Time: 1405 B2-05-GW02DP (DUP) / MS / MSD Weather: Sampled By: AR

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1140		225		1	6.84	0.14	out of Range	-256	0.0	20.0		
1147					6.70	0.14	out of Range	-153	0.10	19.2		
1152					6.63	0.14	860	-117	0.22	18.9		
1157					6.51	0.14	952	-95	0.24	18.8		
1202					6.52	0.14	out of Range	-107	0.07	18.6		
1207		200		3	6.46	0.14	369	-82	0.30	18.4		
1212					6.46	0.14	244	-79	0.32	18.3		
1217					6.46	0.14	120	-76	0.33	18.3		
1222					6.47	0.14	163	-75	0.32	18.3		
1227					6.46	0.14	150	-72	0.41	18.3		
1232		100			6.46	0.14	141	-72	0.42	18.6		
1235					6.46	0.14	235	-74	0.23	19.0		
1245		50			6.46	0.14	227	-74	0.24	19.8		
1300					6.46	0.15	264	-70	0.57	21.4		
1305					6.46	0.15	260	-71	0.61	22.5		
1315					6.44	0.14	404	-72	0.22	20.5		
1325		[redacted]			6.46	0.14	290	-71	0.25	21.1		
1330		130			6.46	0.15	out of range	-95	0.00	20.2		
1335					6.47	0.15	out of range	-91	0.00	20.5		
1340		250			6.49	0.15	140	-79	0.37	18.0		

Constituents Sampled	Container Description	Number	Preservative
Benzene, Toluene	GLASS VOA	3	HCl, ICE 4°C
Metals (Dissolved)	plastic	1	HNO3
Metals (Total)	plastic	1	HNO3
TSS	plastic	2	None
Arsenic (Total)	plastic	1	None
Arsenic (Dissolved)	plastic	1	None

Sampling Personnel

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

2 of 2

Project/No. MA000646.0001.00002 Well BZ-05GW02 Date 9/8/00

Screen Setting 22-17 Measuring Point Description top of pipe Casing Diameter (inches) 1

Static Water Level _____ Measured Width _____ Well Materials PVC ___ ST. Steel

Total depth _____ Pump On: 1120 Pump Rate: _____

Purge Method Pump Off: 1450 **Volumes Purged** _____

Centrifugal _____ **Sample Time:** _____ Weather: _____

Submersible _____ Sampled By: AR

Other _____ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1340					6.49	0.14	171	-73	0.30	17.9		
1350					6.48	0.14	46.0	-73	0.00	17.6		
1355					6.48	0.14	53.2	-72	0.00	17.7		
1400					6.49	0.14	28.4	-71	0.00	17.7		
1405												
1420											0.07	3.3 mg/L
1445					6.47	0.14	35.6	-70	0.66	21.7		

Constituents Sampled	Container Description	Number	Preservative

Sampling Personnel pH ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

Project/No. MA000646.0001.00002 Well B2-056W03NS Date 11 Sept 00

Screen Setting 31-26 Measuring Point Description ToC Casing Diameter (inches) 1"

Static Water Level 14.7 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 27.8 Pump On: 1000 Pump Rate: 120 mL min

Stickup 1.80 Purge Method Pump Off: Volumes Purged

Centrifugal Submersible Other ✓ Sample Time: 1150 Weather: Sun 60s

DUP / MS / MSD Sampled By: Diane Mosher

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1005	0	120			6.59	0.19	O/R	-118	1.42	18.0		
1010	5				6.46	0.19	O/R	-123	0.93	18.2		
1015					6.47	0.19	O/R	-130	0.33	18.6		
1020					6.55	0.19	O/R	-147	0.27	19.6		
1025												
1030				well	Dry-							
1035					6.62	0.19	O/R	-161	026	20.1		
1040				well	Dry	let	recover					
1045		1st attempt		sampled	as	'NS'	- DRY					
1610		2nd attempt - obtained ≈ 300mL - dried up										
		insufficient for sampling										
9/12/00												
850	3rd attempt to sample - collected ≈ 1200mL											
	dried up - will return											
1200	4th attempt - collected ≈ ~~[illegible]~~ 900mL dried up											
1320	5th "			obtained	full	sample						

Constituents Sampled	Container Description	Number	Preservative
Benzene Toluene	VOA	3	HCL Ice
TSS	PLAS	1	Ice
Total Metals	↓	1	HNO3 Ice
DISS Metals	↓	1	HNO3 Ice
As DIS. spec	Amber	1	Ice
As Tot. Spec	↓	1	Ice

Sampling Personnel Diane Mosher

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

B2OS-

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Resample

Project/No. MA000646.0001.00002 Well B2-05GW03 Date 9/14/00 1 1

Screen Setting 31-26 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 14.7 Measured Width Well Materials PVC ✓ ST. Steel

Total depth ~~26.6~~ measured (34.3) tubing length Pump On: 1540 Pump Rate: 180

Purge Method stickup 1.80 Pump Off: 1710 Volumes Purged

Centrifugal ✓ Sample Time: 1640 Weather:

Submersible Sampled

Other DUP / MS / MSD By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
~~1555~~	~~15~~											
1600	20	180			6.46	0.15	OR	-70	2.62	17.6		
1605	25				6.45	0.15	556	-68	2.44	17.5		
1615	35				6.45	0.15	200	-66	2.34	17.2		
1625	45				6.43	0.15	39.7	-64	1.97	16.9		
1630	50				6.43	0.15	29.4	-64	1.88	16.9		
1633	53				6.42	0.15	25.5	-63	1.81	16.9		
1637	57				6.41	0.15	23.6	-63	1.77	16.9	0.07	3.30 Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO3
D Metals	"	1	"
T Arsenic	amber	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B2-06GW01NS Page 1 of 1 Field Staff: LC

Date Sampled 3/29/20
Stick-up Height 1.7 feet
Depth to Water 5.72 feet below top of casing
Total Depth 9.5 feet below top of casing
Depth of Tubing (sample interval) 9.0 feet below top of casing

sulfide: 0.80 mg/L
ferrous iron: 3.30 mg/L

Start purge 0915
Start parameters
End purge 1100
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
Very low purge rate (<20 mL/min), collect condensed suite w/ pump

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B2-06GW02 Page 1 of 1 Field Staff: LC

Date Sampled 4/6/01
Stick-up Height 2.0' feet
Depth to Water 12.12' feet below top of casing
Total Depth 16.0' feet below top of casing
Depth of Tubing (sample interval) 15.0' feet below top of casing

sulfide 0.00 mg/L
ferrous iron: 3.30 mg/L

Start purge 0920
Start parameters 0950
End purge 1100
Total purge time: 1 hours, 40 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0950		400		7.92	1597	5.92	32.0	4.35	67.7
0955	5	400		8.02	1597	5.95	14.2	4.24	39.6
1000	10	400		8.07	1593	6.04	-9.9	4.53	35.1
1005	15	400		8.06	1591	6.07	-12.0	4.61	32.9
1010	20	400		7.99	1582	6.11	-15.7	4.60	22.9
1015	25	400		7.97	1580	6.12	-16.3	4.78	18.1
1020	30	400		8.05	1585	6.17	-18.4	4.41	15.9
1025	35	400		8.05	1594	6.17	-18.2	4.41	13.6
1030	40	400		8.06	1592	6.17	-18.3	4.38	15.4
1035	45	400		8.53	1589	6.20	-21.8	4.64	13.3
1040	50	400		8.49	1600	6.20	-21.8	4.58	15.3
1045	55	400		8.46	1598	6.21	-21.8	4.60	16.6
1050	60	400		8.47	1601	6.21	-21.4	4.58	13.7
1055	65	400		8.49	1603	6.21	-21.4	4.52	14.6
1100	70	400		8.47	1598	6.24	-21.6	4.49	14.8

Comments

Collect sample and duplicate, B2-06GW0299

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B2-06GW03 Page 1 of 1 Field Staff: HAT

Date Sampled 3/29/01
Stick-up Height 0.9 feet
Depth to Water — feet below top of casing
Total Depth 17.5 feet below top of casing
Depth of Tubing (sample interval) 16.5 feet below top of casing

sulfide = ~~2.30~~ 0.23 HAT mg/L
ferrous iron = 3.30 mg/L

Start purge 0850
Start parameters 0925
End purge 1040
Total purge time: 1 hours, 50 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0925	0	400		7.95	1733	6.66	-12.0	3.76	263
0930	5			7.96	1728	6.58	-14.8	3.47	502
0935	10			8.05	1724	6.54	-16.4	3.38	503
0940	15			8.06	1723	6.52	-17.0	3.34	498
0945	20			8.10	1723	6.52	-16.7	3.30	533
0950	25			8.02	1723	6.51	-17.7	2.91	515
0955	30			8.06	1723	6.52	-18.7	2.83	~~503~~ 532 HAT
1000	35			8.05	1722	6.52	-18.9	2.83	484
1005	40			8.17	1723	6.52	-18.6	2.81	552
1010	45			8.08	1720	6.52	-18.7	2.77	400
1015	50			8.10	1718	6.52	-18.5	2.70	450
1020	55			8.32	1717	6.52	-18.8	2.76	370
1025	60			8.23	1716	6.58	-19.7	2.66	370
1030	65			8.17	1720	6.53	-18.4	2.89	260
1035	70			8.30	1711	6.53	-18.1	2.86	250
1040	75			8.17	1709	6.53	-18.1	2.95	250
HAT ~~1045~~	~~80~~								

Comments
water is a very dark brown.

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well B3-01GW01 Date 7 Sept 00

Screen Setting 9-4 Measuring Point Description Top of casing Casing Diameter (inches)

Static Water Level 9.90 Measured Width Well Materials 1" ~~pvc~~ ← ~~ST.~~ Steel

Total depth 16.60 Pump On: 15:25 Pump Rate: 150

2.02

Purge Method Pump Off: 1700 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 1645 Weather: Sun 60's

Submersible

Other DUP / MS / MSD Sampled By: DM

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1533	0	150			6.70	0.17	O/R	-138	1.30	21.4	0.12	3.30
1538	5				6.64	0.16	O/R	-124	0.66	20.4		
1543	10				6.62	0.16	253	-115	0.59	20.2		
1548	15				6.61	0.16	255	-113	2.59	20.5		
1553	20				6.61	0.16	245	-111	1.81	20.6		
1558	25	150			6.63	0.16	181	-108	1.19	20.4		
1603	30				6.60	0.16	220	-108	1.19	20.4		
1608	35				6.60	0.16	206	-108	1.22	20.3		
1613	40				6.60	0.16	162	-107	1.14	20.4		
1618	45				6.60	0.16	105.9	-107	1.18	20.2		
1623					6.60	0.16	29.2	-106	0.97	20.1		
1628					6.60	0.16	24.0	-106	0.91	20.1		
1633					6.60	0.16	17.9	-105	0.89	20.0		
1638					6.60	0.16	18.7	-105	0.94	20.0		
1700												
					6.6	0.16	24.8	-104	1.31	21.3		

Constituents Sampled	Container Description	Number	Preservative
As total Spec	500mL Plas	1	Ice
As Diss Spec	500mL Plas	1	Ice
Metals Tot	500 "	1	HNO3
Metals Diss	" "	1	HNO3
TSS	" "	2	Ice
Benzene toluene	VOA	3	HCL

Sampling Personnel

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

PH Check 4.01

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

Project/No. MA000646.0001.00002 Well B3-016W02 Date 14 Sept 00

Screen Setting 9.5-14.5 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 9.51 Measured Width Well Materials PVC ~~St. Steel~~

Total depth 16.82 Pump On: 1425 Pump Rate:

Purge Method s/u 1.25 Pump Off: 1557 **Volumes Purged**

Centrifugal Submersible Other ✓ **Sample Time:** 15:25 - Weather: Sun 70's

DUP / MS / MSD Sampled By: DMosher

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1435	10				6.52	0.15	O/R	-128	1.57	25.9		
1445	20				6.61	0.14	26.9	-135	1.64	25.3		
1455	30				6.61	0.15	63.5	-114	2.04	24.7		
1505	40				6.59	0.15	35.7	-108	1.84	24.4		
1510	45	100			6.59	0.15	15.9	-101	2.16	24.2		
1515	50	120			6.58	0.15	10.56	-97	2.26	24.0		
1520	55	120			6.58	0.15	6.81	-96	2.31	24.0		
					~~6.58~~	~~.15~~	~~15.1~~					
1555					6.53	.15	12.1	-81	2.75	24.5	0.17	3.30

Constituents Sampled	Container Description	Number	Preservative
Benz. Toluene	VOA	3	HCL/Ice
TSS	Plas	1	Ice
As Tot Spec		1	↓
As Dis Spec		1	
Metals Tot		1	HNO3 Ice
Metals Diss		1	↓

Sampling Personnel DMosher

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH ✓ 4.17

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

PG 1 of 2

Project/No. MA000646.0001.00002 Well B3-016W03 Date 8 Sept 00

Screen Setting 15-10 Measuring Point Description Top of PVC Casing Diameter (inches) 1

Static Water Level 8.87 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 16.3 Pump On: 1045 Pump Rate: 225 ML/min

Stickup = 2.0

Purge Method Pump Off: 1320 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 1300 Weather: Sun 60's

Submersible Sampled By: DMosker

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate ~~(gpm)~~ (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1100	0	200			6.56	0.15	O/R	-175	0.74	21.9		
1105	5				6.55	0.14	O/R	-146	0.87	20.8		
1110	10				6.44	0.15	O/R	-135	0.64	19.8		
1115	15	225			6.45	0.15	447	~~[illegible]~~	0.64	19.2	ORP = -129	
1120	20				6.45	0.15	98.2	-123	0.65	19.0		
1125	25				6.45	0.15	71.3	-122	0.72	18.9		
1130	30				6.46	0.15	69.9	-120	1.51	19.3		
1135	35		Battery		Change		out		N/M			
1140	40				6.47	0.15	199	-105	0.67	18.9		
1145	45				6.60	0.15	147	-105	1.83	18.6		
1150	50				6.44	0.15	60.9	-105	4.91	18.5		
1155	55				6.45	0.15	122	-107	4.69	18.5		
1200	60	225			6.44	0.15	47.1	-106	4.33	18.3		
1205	65				6.45	0.15	44.9	-107	0.64	18.3		
1210	70				6.46	0.15	20.1	-107	0.82	18.4		
1215	75				6.46	0.15	16.8	-107	2.13	18.4		
1220	80				6.46	0.15	101	-113	3.92	18.7		
1225	85				6.61	0.14	189	-147	0.34	19.1		
1230	90				6.50	0.14	O/R	-117	~~[illegible]~~	19.6		
1235	95				6.49	0.14	152	-114	0.75	19.8		

Constituents Sampled	Container Description	Number	Preservative
Benzene Toluene	VOA	3	HCL Ice
TSS	Plas	2	Ice
Arsenic TOT		1	Ice
Arsenic Diss		1	Ice
Metals tot		1	HNO3 Ice
Metals Diss		1	HNO3 Ice

Sampling Personnel Diane Masker

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH cal = ✓

O/R = out of range

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

Project/No. MA000646.0001.00002 Well B3-GGW03 Date 8 Sept 2000

Screen Setting _____ Measuring Point Description Top of Casing Casing Diameter (inches) _____

Static Water Level _____ Measured Width _____ Well Materials PVC ___ ST. Steel

Total depth _____ Pump On: ~~1220~~ Pump Rate: 250mL/min

Purge Method Pump Off: _____ **Volumes Purged** _____

Centrifugal ✓ **Sample Time:** 1300 Weather: _____

Submersible _____ Sampled By: DMosker

Other _____ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1240					6.49	0.15	549	-114	5.78	18.9		3.30
1245					6.49	0.15	46.4	-114	5.07	18.9	0.20	Limit
1250					6.48	0.15	23.3	-111	4.75	18.8		
1255					6.48	0.15	38.6	-110	4.63	18.9		
						~~0.14~~						
1310					6.49	0.15	69.4	-108	0.77	19.7		

Constituents Sampled	Container Description	Number	Preservative

Sampling Personnel _____

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample BS-02GW01 Page 1 of 1 Field Staff: LC

Date Sampled 3/15/01
Stick-up Height 1.9 feet
Depth to Water 15.23 feet below top of casing
Total Depth 19.5 feet below top of casing
Depth of Tubing (sample interval) 18.5 feet below top of casing

sulfide: 0.80 mg/L
ferrous iron: 3.26 mg/L

Start purge 1145
Start parameters 1200
End purge 1230
Total purge time: ____ hours, 45 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1200		400		10.34	2583	6.70	-108.8	1.19	1.43
1205	5	400		10.25	2572	6.58	-105.9	0.72	1.24
1210	10	400		10.25	2577	6.58	-104.2	0.63	1.60
1215	15	400		10.26	2579	6.59	-102.9	0.62	1.14
1220	20	400		10.33	2586	6.58	-103.5	0.59	1.00
1225	25	400		10.31	2591	6.60	-103.8	0.62	1.26
1230	30	400		10.29	2595	6.58	-106.3	0.60	1.37

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample BS-026WQ3 Page 1 of 1 Field Staff: LC

Date Sampled 3/15/01
Stick-up Height 0.9' feet
Depth to Water 14.72 feet below top of casing
Total Depth 23.5 feet below top of casing
Depth of Tubing (sample interval) 22.5 feet below top of casing

sulfide: 0.21 mg/L
ferrous iron: 2.44 mg/L

Start purge 0930
Start parameters 1010
End purge 1040
Total purge time: 1 hours, 10 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1010		400		10.61	3032	6.79	-96.1	0.93	4.16
1015	5	400		10.75	3030	6.80	-98.6	0.87	2.15
1020	10	400		10.71	3029	6.80	-99.6	0.85	1.60
1025	15	400		10.75	3026	6.80	-99.7	0.82	2.09
1030	20	400		10.69	3029	6.80	-101.7	0.93	3.02
1035	25	400		10.69	3033	6.81	-101.4	0.93	2.38
1040	30	400		10.69	3026	6.80	-101.7	0.89	1.39

Comments

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well B3-03-GW-01 Date 09/08/00

Screen Setting 9-4 | Measuring Point Description Top of casing | Casing Diameter (inches) 1"

Static Water Level 8.08 | Measured Width | Well Materials PVC ✓ ST. Steel

Total depth 11.61 | Pump On: 0911 | Pump Rate: 300

Stickup 0.8 | Pump Off: 1053 | Volumes Purged 5 GAL

Purge Method | Sample Time: 1020 | Weather: Sunny 60's

Centrifugal | Submersible | Other Peristaltic | DUP / MS / MSD | Sampled By: AR

Time	Minutes Elapsed	Rate (gpm) (MD)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
0930			8.15	0.75	6.48	0.10	—	-162	0.0	21.2		
0945		300			6.51	0.10	885	-133	0.26	21.4		
0950					6.47	0.09	189	-172	0.32	21.2		
0955					6.47	0.09	55.5	-140	0.34	21.2		
1000				2.5	6.47	0.09	23.6	-140	0.32	21.3		
1005					6.40	0.09	11.6	-142	0.35	21.2		
1010					6.43	0.09	6.74	-137	0.33	21.2		
1015					6.44	0.09	4.72	-134	0.31	21.2		
1040											0.32	3.3 limit
1045				5	6.49	0.09	9.26	-122	0.66	22.2		

Constituents Sampled	Container Description	Number	Preservative
Benzene, Toluene	glass VOA	3	HCl, ICE
Metals (Total)	plastic	1	HNO_3
Metals (Dissolved)	plastic	1	HNO_3
TSS	plastic	2	None
Arsenic (Total)	plastic	1	None
Arsenic (Dissolved)	plastic	1	None

Sampling Personnel pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

CADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 of 1

Project/No. MA000646.0001.00002 Well B3-03-GW-02 Date 09/08/00

Screen Setting 15.5-10.5 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 8.1 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 13.57 Pump On: 1525 Pump Rate: 60ml

Purge Method st.ck 0.8 Pump Off: 1725 Volumes Purged

Centrifugal Sample Time: 1645 Weather: Sunny 70s

Submersible Sampled By: AR

Other peristaltic DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (mL)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1545		125	12.50									
1555					7.09	0.66	out of range	-176	8.85	24.8		
1600					7.18	0.19	923	-143	3.22	25.0		
1605					7.26	0.19	292	-127	4.76	24.9		
1610					7.26	0.20	214	-123	4.70	24.9		
615					7.25	0.20	280	-121	4.26	24.9		
1618					7.18	0.20	138	-131	4.10	24.2		
1622					7.10	0.20	75.5	-140	3.50	23.6		
1627					7.09	0.20	47.1	-142	2.80	24.1		
1632					7.04	0.20	44.3	-141	2.26	24.1		
1635					7.05	0.21	47.0	-144	2.17	24.1		
1638					7.06	0.21	46.8	-144	2.26	24.4	0.08	0.97

Constituents Sampled	Container Description	Number	Preservative
Benzene Toluene	glass voa	3	HCl Ice
Dissolved metals	plastic	1	HNO_3
Total Metals	plastic	1	HNO_3
Total Arsenic	plastic	1	None
Dissolved Arsenic	plastic	1	None
TSS	plastic	1	None

Sampling Personnel pH ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

·oundwater Sampling Form

Project/No. MA000646.0001.00002 Well B3-03-GW-02R Date 9/20/00

Screen Setting 21.5-16.3 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 8.69 Measured Width Well Materials PVC / ✓ ST. Steel

Total depth N/A Bent in pipe @ 13.4' Pump On: 1415 Pump Rate: 100 ml

Purge Method Stick: 1.3' Pump Off: 1625 Volumes Purged 4.0

Centrifugal Sample Time: 1545 Weather: Sunny 70's

Submersible Sampled By: AR

Other Peristaltic DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
1430				0.5								
1505				1.5	6.60	0.17	69.5	-120	2.03	24.0		
1510					6.44	0.14	16.6	-124	0.43	22.5		
1515		110			6.44	0.14	10.25	-128	0.26	22.0		
1520					6.44	0.13	4.94	-129	0.24	21.9		
1525					6.43	0.13	6.55	-129	0.24	21.9		
1530		100			6.39	0.13	4.50	-127	0.26	22.0		
1620												8-30 Lab.
1630											0.09	

Constituents Sampled	Container Description	Number	Preservative
Benzene Toluene	GLASS	3	HCl - Ice 4°C
Total Metals	plastic	1	HNO_3 -
Dissolved Metals	plastic	1	HNO_3
TSS	plastic	1	NONE
Total Arsenic	plastic amber	1	NONE
Dissolved Arsenic	plastic Amber	1	NONE

Sampling Personnel DH-V

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

Tubing 2' from bottom of Boring

ARCADIS GERAGHTY & MILLER

oundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well B3-036W03 Date Sept 12 00

Screen Setting 30-25 Measuring Point Description T.o.C Casing Diameter (inches) 1"

Static Water Level 8.33 Measured Width Well Materials PVC ~~ST~~ Steel

Total depth 20.20 Pump On: 1630 Pump Rate: 170 ml/m

S/4 0.76

Purge Method Pump Off: 1755 Volumes Purged

Centrifugal Sample Time: 1730-1755 Weather:

Submersible Sampled

Other ✓ DUP / MS / MSD By: Mosher

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1635	5	170			6.84	0.28	800	-168	2.50	24.2		
1640	10				6.79	0.25	425	-155	1.62	22.5		
1645					6.60	0.16	420	-125	1.67	21.2		
1650	20				6.64	0.15	280	-113	2.59	21.1		
1655					6.46	0.14	250	-96	2.40	20.7		
1700	30				6.45	0.13	150	-92	2.88	20.3		
1705					6.46	0.14	120	-91	4.92	20.1		
1710	40				6.48	0.14	55	-91	4.92	20.3		
1715					6.48	0.13	47	-89	5.05	20.5		
1720					6.47	0.13	37	-88	5.05	20.5		
1725					6.47	0.13	32	-89	5.20	20.6		
1755					6.50	0.13	[illegible]	-91	4.43	22.3	0.14	3.30

Constituents Sampled	Container Description	Number	Preservative
Benzene Toluene	VOA	3	HCL Ice
TSS	Plas	1	Ice
As TOT SPEC	Plas	1	Ice
As DISS SPEC	Plas	1	Ice
Total Metals	↓	1	HNO3 Ice
DISS Metals	↓	1	HNO3 Ice

Sampling Personnel pH ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B3-046W01NS Page 1 of 1 Field Staff: LC

Date Sampled 3/26/01, 4/17/01, 4/18/01, 4/19/01 sulfide:
Stick-up Height 1.1 feet
Depth to Water 7.33 feet below top of casing ferrous iron:
Total Depth 11.0 feet below top of casing
Depth of Tubing (sample interval) 10.0 feet below top of casing

Start ~~purge~~ sample 1200, 0800 (4/17), 1215
Start parameters
End ~~purge~~ sample 1235, 0900 (4/17), 1245
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

very low recharge, 50mL/hr → collect 2 VOC's on 3/26 (condensed suite)
collect 1 As Spec/Total As on 4/17/01
collect 1 Total/Dis. Met. Bottle on 4/18/01
collect 1 TSS bottle on 4/19/01

ARCADIS GERAGHTY & MILLER

oundwater Sampling Form

1 3

Project/No. MA000646.0001.00002 Well B3056W01 Date 7 Sept 00

Screen Setting 11-6 Measuring Point Description ToC Casing Diameter (inches)

Static Water Level 10.54 Measured Width Well Materials 1" PVC ST. Steel

Total depth 13.30 Pump On: 13:18 Pump Rate:

Stickup 4.05

Purge Method Pump Off: **Volumes Purged**

Centrifugal ✓ **Sample Time:** Weather: Sun 60's

Submersible Sampled

Other DUP / MS / MSD By:

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
13.35			12.60									
			well not recovering									

Constituents Sampled	Container Description	Number	Preservative

Sampling Personnel No Recovery

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

2 3

Project/No. MA000646.0001.00002 Well BZ-05-GW-01 Date 09/07/00

Screen Setting 11-6 Measuring Point Description ToC Casing Diameter (inches) 1"

Static Water Level 8.36 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 11.50 Pump On: 1540 Pump Rate: /

stickup 2.03

Purge Method Pump Off: 1621 **Volumes Purged** /

Centrifugal Submersible Other peristaltic **Sample Time:** / Weather: Sampled By: AR

DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1601			7.95									
		* well not recharging										

Constituents Sampled	Container Description	Number	Preservative

g Personnel

'000\forms\LOWFLO646.xls

0

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

3 3

Project/No. MA000646.0001.00002 Well B305GW01 Date 9/11/00

Screen Setting 9-4 Measuring Point Description Top of pipe Casing Diameter (inches) 1

Static Water Level 9.11 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 11.35 Pump On: 935 Pump Rate: 125

stickup 1.91

Purge Method Pump Off: ~~1110~~ 1130 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 1105 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
940	50	125			6.01	38	out of range	-58	0.53	17.4		
945	10				5.53	26	out of range	21	0.36	16.7		
950	15				5.81	21	out of range	-1	0.85	17.1		
955	20				5.84	28	out of range	-10	1.56	17.3		
1000	25				5.88	28	OR	-16	1.73	17.4		
1005	30				5.90	27	OR	-19	1.71	17.6		
1010	35				5.95	25	OR	-24	1.71	18.1		
1015					5.97	25	OR	-26	1.88	18.1		
1020	40				5.92	24	224	-14	1.86	18.7		
1025	45				5.91	24	120	2	1.85	19.1		
1030					5.61	23	167	72	1.87	19.5		
1035					5.51	23	97.4	77	2.03	19.8		
1040					5.37	23	136	91	2.08	20.1		
1045					5.40	23	114	95	2.04	20.2		
1050					5.36	23	111	94	2.02	20.6		
1055					5.35	23	92.2	94	2.01	20.9		
1100					5.33	23	33.0	97	1.97	21.1		
1105					5.34	23	38.6	96	1.97	21.4	0.80	3.30

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO3
D Metals	"	1	"
T Arsenic	amber	1	none
D Arsenic	"	1	"
Benzene, Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B3-066W01 Page 1 of 1 Field Staff: LC

Date Sampled 3/19/01
Stick-up Height 2.4' feet
Depth to Water 11.14 feet below top of casing
Total Depth 15.5 feet below top of casing
Depth of Tubing (sample interval) 14.5 feet below top of casing

Sulfide: 0.2 mg/L
ferrous iron: 3.30 mg/L

Start purge 0840
Start parameters 0935
End purge 1005
Total purge time: 1 hours, 25 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0935		400		11.26	1808	6.85	-72.1	1.05	2.06
0940	5	400		11.35	1800	6.87	-74.3	1.10	2.35
0945	10	400		11.56	1804	6.88	-74.0	1.16	1.99
0950	15	400		11.57	1795	6.88	-74.8	1.10	1.73
0955	20	400		11.50	1803	6.87	-74.6	1.16	1.75
1000	25	400		11.34	1801	6.88	-74.6	1.14	1.51
1005	30	400		11.24	1795	6.89	-73.5	1.15	2.08

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B3-06GW02 Page 1 of 1 Field Staff: HAT

Date Sampled 3/26/01
Stick-up Height 1.4 feet
Depth to Water 10.90 feet below top of casing
Total Depth 23 feet below top of casing
Depth of Tubing (sample interval) 22.5 feet below top of casing

Sulfide = 0.34 mg/L
ferrous iron = 1.82 mg/L

Start purge 1130
Start parameters 1200
End purge 1230
Total purge time: 1 hours, 0 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1200	0	400		11.81	2126	6.74	-7.5	7.22	7.33
1205	5	↓		11.56	2121	6.87	-26.9	6.92	8.89
1210	10	↓		11.51	2130	6.90	-30.6	6.75	5.84
1215	15	↓		11.55	2123	6.91	-30.9	6.69	5.87
1220	20	↓		11.52	2126	6.92	-31.9	6.61	5.33
1225	25	↓		11.50	2124	6.93	-32.4	6.52	5.11
1230	30	↓		11.48	2123	6.93	-32.0	6.51	5.28

Comments

Collected MS/MSD (VOCs only) @ B3-06GW02

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B3-06GW03 Page 1 of 1 Field Staff: HT

Date Sampled 3/19/01
Stick-up Height 0.9 feet
Depth to Water — feet below top of casing
Total Depth 23.5 feet below top of casing
Depth of Tubing (sample interval) 22.5 feet below top of casing

sulfide = 0.03 mg/L
iron = 0.37 mg/L

Start purge 840
Start parameters 1000
End purge 1030
Total purge time: 1 hours, 50 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time HT (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1000	0	200		15.64	1104	7.76	-73.7	8.01	36
1005	5	↓		14.88	2106	7.78	-89.3	12.76	40
1010	10			13.57	2108	7.63	-80.9	11.32	40
1015	15			13.02	2107	7.60	-88.1	11.76	39
1020	20			12.85	2114	7.59	-86.6	12.98	40
1025	25			12.65	2118	7.62	-86.6	13.20	38.4
1030	30			12.59	2119	7.62	-89.5	13.02	36.4

Comments

ARCADIS GERAGHTY & MILLER

·oundwater Sampling Form

Project/No. MA000646.0001.00002 Well B401GW01 Date 12 Sept 2000

Screen Setting 16-11 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 10.59 Measured Width w/c Meter Well Materials PVC ✓ SS. Steel

Total depth 16.35 Pump On: 910 Pump Rate: 175 mL/min

Stickup 1.48

Purge Method Pump Off: 1100 Volumes Purged

Centrifugal Sample Time: 1010 - 1055 Weather: Sun 60's

Submersible Sampled By: Mosher

Other ✓ DUP MS / MSD

Time	Minutes Elapsed	Rate ~~(gpm)~~ (mL)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
915	0	175			6.12	65	O/R	-69	2.56	17.9		
920	5				5.97	59	1100	-43	1.83	16.2		
925	10				5.87	57	706	-18	3.00	16.0		
930					5.81	55	110	-3	4.19	16.0		
935	20				5.78	54	28	6	4.21	16.0		
940					5.74	52	5	27	4.69	16.1		
945	30	180			5.73	52	17	31	4.65	16.1		
950					5.72	52	12	40	4.70	16.2		
955					5.71	52	10	48	4.58	16.2		
1000					5.70	52	10	50	4.74	16.3		
1005					5.70	52	10	52	4.80	16.3		
											0.0	2.21
					5.73	52	13	61	6.04	18.6		

Constituents Sampled	Container Description	Number	Preservative
Benz. Toluene	VOA	3	HCL Ice
TSS	Plas	1	Ice
Metals Tot		1	HNO3 Ice
Metals Diss		1	↓
As. Diss Spec	Amber	1	Ice
As Tot Spec		1	↓

Sampling Personnel Diane Mosher pH - ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B4-01GW02 Date 14 Sept 00

Screen Setting 14-19 bls Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 11.15 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 18.2 Pump On: 9:25 Pump Rate: 100 mL/m

Purge Method S/U 2.14 Pump Off: 11:25 Volumes Purged 4 Gal

Centrifugal Submersible Other ✓ Sample Time: 1040-1120 Weather: Sun 60's

(DUP) / MS / MSD Sampled By: D Mosher

Time	Minutes Elapsed	Rate ~~(gpm)~~ (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
935	10	100			6.77	58	O/R	-137	3.09	17.5		
945	20				6.78	55	474	-138	2.66	17.2		
955	30				6.76	55	216	-137	3.08	16.8		
1005	40				6.76	56	162	-138	4.05	16.6		
1015	50				6.77	57	138	-139	4.67	16.5		
1025	60				6.81	55	49.4	-142	2.98	16.6		
1030					6.82	55	47.5	-143	2.84	16.6		
1035	70				6.82	54	49.3	-143	2.87	16.6		
1125					6.06	50	35.1	8	3.28	18.6	0.46	1.50
1320			17.70									

Constituents Sampled	Container Description	Number	Preservative
Benzene Toluene	VOA	3	HCL/Ice
TSS	Plas	1	Ice
As Diss Spec	↓	1	Ice
As Tot Spec		1	Ice
Metals Total		1	HNO3 Ice
Metals Diss		1	↓

Sampling Personnel Mosher

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH ✓ 4.05

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B401GW02R Date 9/20/00

Screen Setting 26.5-21.5 Measuring Point Description top of pipe Casing Diameter (inches) 1

Static Water Level 9.21 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 28.1 Pump On: 945 Pump Rate: 150

stickup 1.54 Purge Method Pump Off: 1133 Volumes Purged

Centrifugal ✓ Submersible Other Sample Time: 1105 Weather: Sampled By: SD

DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
		150										
very silty - will connect to flow through when less turbid												
1000							OR					
1005							OR					
1010							683					
1015	30				5.46	59	337	74	3.64	13.3		
1020					5.51	67	246	68	3.66	14.9		
1030					5.48	51	173	88	4.22	14.8		
1035					5.45	50	145	97	4.40	14.8		
1040					5.44	50	108.3	103	4.47	15.0		
1045					5.42	49	72.4	108	4.51	15.1		
1050					5.39	49	60.1	114	4.56	15.2		
1055					5.38	49	41.0	118	4.61	15.4		
1100					5.37	49	35.0	122	4.64	15.2		
1105					5.33	49	36.1	127	4.71	15.1	0.12	1.75

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	amber	1	none
D Arsenic	"	1	"
Benz Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH - 3.99

ARCADIS GERAGHTY & MILLER

oundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well B401GW03 Date 9/19/00

Screen Setting 34-39 Measuring Point Description Top of pipe Casing Diameter (inches) 1"

Static Water Level 10.48 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 41.8 Pump On: 1055 Pump Rate: 200

stickup 2.64

Purge Method Pump Off: 1300 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 1205 Weather:

Submersible Sampled By: SD

Other DUP / (MS) / (MSD)

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos mS/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1110	15	200			5.40	51	606	113	4.23	16.2		
1115					5.43	51	527	113	3.64	16.1		
1120					5.42	51	244	120	4.07	16.0		
1125					5.41	51	137	125	4.31	15.8		
1130					5.41	51	94.4	129	4.43	15.8		
1135					5.42	51	81.5	130	4.51	15.7		
1140					5.42	51	62.5	131	4.59	15.9		
1145					5.42	51	51.1	132	4.60	16.1		
1150					5.43	51	42.4	132	4.60	16.4		
1155	68				5.43	51	24.2	132	4.63	16.6		
1200					5.43	51	18.4	132	4.68	16.7		
1205					5.43	50	16.2	132	4.70	16.9		1.67

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	amber	1	none
D Arsenic	"	1	"
Benz Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH - 4.01

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B4-026-W01 Page 1 of 1 Field Staff: LC

Date Sampled 3/16/01
Stick-up Height 1.8' feet
Depth to Water 7.91' feet below top of casing
Total Depth 16.0' feet below top of casing
Depth of Tubing (sample interval) 15.0' feet below top of casing

sulfide: 0.00 mg/L
iron 2.11 mg/L

Start purge 1105
Start parameters 1145
End purge 1215
Total purge time: 1 hours, 10 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1145		400		10.86	345	5.77	-2.3	2.70	13.1
1150	5	400		10.45 ~~10.40~~	323	5.25	-9.9	1.89	12.5
1155	10	400		10.22	314	5.11	-27.8	1.68	12.1
1200	15	400		10.21	309	5.09	-48.8	1.65	12.3
1205	20	400		9.92	306	5.08	-63.0	1.71	11.7
1210	25	400		10.14	302	5.07	-61.6	1.74	12.3
1215	30	400		9.98	298	5.05	-68.6	1.80	11.3

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B4-02GW02 Page 1 of 1 Field Staff: HAT

Date Sampled 3/26/01
Stick-up Height 1.6 feet
Depth to Water 5.20 feet below top of casing
Total Depth 21.0 feet below top of casing
Depth of Tubing (sample interval) 20.0 feet below top of casing

Sulfide = 0.03 mg/L
iron = 0.70

Start purge HAT ~~0920~~ 0900
Start parameters HAT ~~0900~~ 0920
End purge 1000
Total purge time: 1 hours, 0 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0920	0	400		10.04	152	5.83	109.6	6.96	650
0925	5			9.88	143	5.53	112.3	7.76	200
0930	10			9.97	142	5.45	117.0	7.68	100
0935	15			9.89	141	5.34	129.2	7.60	50
0940	20			9.89	141	5.32	136.3	7.59	36
0945	25			10.01	141	5.24	146.8	7.54	20.1
0950	30			10.08	141	5.22	159.6	7.53	11.8
0955	35			10.11	141	5.20	160.6	7.49	10.6
1000	40	↓		10.10	141	5.19	164.0	7.52	11.7

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B4-02GW03 Page 1 of 1 Field Staff: HT

Date Sampled 3/16/01
Stick-up Height 0.8 ~~6.54~~ HT. feet
Depth to Water 6.54 feet below top of casing
Total Depth 29.5 feet below top of casing
Depth of Tubing (sample interval) 28.5 feet below top of casing

sulfide = 0.06mg/L
iron = 0.50mg/L

Start purge 1105
Start parameters 1115
End purge
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? ____

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1115	0	400		11.80	440	5.54	155.8	4.31	22
1120	5			11.56	444	5.30	164.4	3.60	8.6
1125	10			11.53	445	5.22	160.6	3.53	6.4
1130	15			11.44	444	5.21	173.9	3.68	5.39
1135	20			11.48	446	5.18	176.9	3.56	3.94
1140	25			11.59	445	5.16	180.7	3.52	3.09
1145	30			11.68	446	5.16	182.1	3.47	4.16

Comments

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B403GW01 Date 9/13/00

Screen Setting 11-6 Measuring Point Description top of pipe Casing Diameter (inches) 1

Static Water Level 8.45 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 14.10 Pump On: 1028 Pump Rate: 150

stickup 1.59

Purge Method Pump Off: 1145 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 1120 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1040	20	150			6.03	0.12	OR	-54	3.46	20.9		
1045					6.05	0.12	100.3	-50	3.51	21.2		
1050	30				6.01	0.12	52.1	-40	2.48	20.5		
1055					5.91	0.11	15.4	-14	2.17	19.5		
1100					5.88	0.11	24.6	-3	2.18	19.2		
1105					5.85	0.11	32.8	6	2.20	18.8		
1110					5.85	0.11	19.4	9	2.23	18.8		
1115					5.83	0.11	13.8	12	2.25	18.7		
1120					5.84	0.11	10.74	15	2.20	18.7		
1140					5.85	0.10	11.3	20	2.51	20.1		

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	amber	1	none
D Arsenic	"	1	none
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B4-036.U02 Date 14 Sept 00 (1 1)

Screen Setting 18-23 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 8.75 Measured Width W/C #3 Well Materials ✓ PVC ✓ ST. Steel

Total depth 26.70 Pump On: 1145 1225 Pump Rate: 110 ml/m

Purge Method S/A 1.75 Pump Off: Volumes Purged 5 gal

Centrifugal Submersible Other ✓ Sample Time: 1255-1325 Weather: Sun 70's

DUP / MS / MSD Sampled By: D. Mosher

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1150		110			6.88	88	O/R	-181	0.66	21.0		
1200					6.83	77	62.8	-194	1.32	20.8		
1205	20				6.86	76	45.0	-185	1.42	20.6		
1210					6.87	76	26.1	-149	1.45	20.5		
1215	30				6.82	76	13.8	-94	1.54	20.5		
1220					6.76	76	11.4	-49	1.55	20.6		
1225	40				6.69	76	6.49	-23	1.58	20.6		
1230		100			6.60	76	2.97	-5	1.62	20.6		
1235	50				6.58	75	11.4	1	1.63	20.6		
1240					6.43	76	9.6	10	1.64	20.8		
1243	58				6.38	76	4.51	15	1.62	20.9		
1246					6.31	75	4.57	22	1.57	21.0		
1249					6.30	75	4.08	24	1.57	21.1		
					5.98	76	40.5	52	2.02	21.0	0.46	1.50

Constituents Sampled	Container Description	Number	Preservative
Benz. Toluene	VOA	3	HCL Ice
TSS	Plas	1	Ice
As Tot Spec		1	↓
As. Dis Spec		1	↓
Metals Total		1	HNO3 Ice
Metals Diss		1	↓

Sampling Personnel D Mosher

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH ✓ 4.04

Resampled

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

Project/No. MA000646.0001.00002 Well B4-03-GW-02 Date 9/19/00

Screen Setting 28-23 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level / Measured Width Well Materials PVC / ✓ ST. Steel

Total depth / Pump On: 1355 Pump Rate: 100 ml

Purge Method Pump Off: 1710 **Volumes Purged**

Centrifugal Submersible **Sample Time:** 1630 Weather: Cloudy 60's

Other Peristaltic DUP MS / MSD Sampled By: AR

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1420		125										
1430		↓		~~3~~								
1505		→		3			933					
1510		100			5.60	0.13	763	69	0.71	21.0		
1515					5.59	0.13	702	77	0.49	20.4		
1520					5.58	0.46	349	83	0.46	20.0		
1525					5.58	0.14	247	85	0.42	19.9		
1530					5.59	0.14	178	87	0.44	19.9		
1540					5.54	0.14	103.5	92	0.41	19.6		
1545					5.53	0.14	77.9	93	0.40	19.6		
1550					5.51	0.14	67.2	95	0.38	19.5		
1555					5.51	0.14	61.1	95	0.39	19.6		
1600					5.50	0.14	43.8	96	0.41	19.5		
1605					5.52	0.14	40.9	95	0.42	19.5		
1610					5.54	0.14	35.1	94	0.42	19.4		
1700											0.16	1.16

Constituents Sampled	Container Description	Number	Preservative
Benzene, Toluene	Glass	3	HCl 4°C
Total Metals	Plastic	1	HNO_3
Dissolved Metals	Plastic	1	HNO_3
Total Arsenic	Plastic	1	NONE
Dissolved Arsenic	Plastic	1	NONE
TSS	Plastic	1	NONE

Sampling Personnel pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

oundwater Sampling Form

1 of 2

Project/No. MA000646.0001.00002 Well B4-03-GW-03 Date 09/18/00

Screen Setting 44-39 Measuring Point Description ToC Casing Diameter (inches) 1"

Static Water Level 8.69 Measured Width Well Materials PVC / ST. Steel

Total depth 46.23 Pump On: 1405 Pump Rate: 100

stickup 1.75 Purge Method Pump Off: 1830 Volumes Purged

Centrifugal Sample Time: 1805 Weather: 60's Sunny

Submersible Sampled

Other peristaltic DUP / MS / MSD By: AR

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1445		100		1	6.50	0.25	OR	-103	4.25	25.5		
1450					6.56	0.28	OR	-102	1.68	24.9		
1455					6.58	0.28	OR	-100	1.77	24.8		
1500					6.58	0.29	OR	-94	2.14	24.3		
1505					6.59	0.31	OR	-86	3.26	23.7		
1510					6.60	0.31	OR	-95	2.09	23.2		
515				2	6.55	0.31	OR	-87	2.46	22.6		
1525					6.60	0.32	OR	-80	3.16	21.7		
1530					6.61	0.32	OR	-78	3.58	21.5		
1535					6.65	0.33	OR	-83	3.58	21.5		
1540				2.5	6.64	0.33	OR	-81	3.61	21.5		
1600					6.64	0.33	OR	-76	4.32	21.2		
1610				3	6.62	0.33	631	-72	4.84	20.6		
1615					6.63	0.33	359	-71	4.67	20.5		
1620					6.64	0.33	227	-72	4.85	20.3		
1625					6.64	0.33	211	-72	4.93	20.3		
1635					6.66	0.33	146	-73	5.20	20.4		
1645					6.70	0.34	125	-75	5.34	21.1		
1650				4	6.71	0.34	169	-76	5.44	21.4		
1655					6.72	0.34	255	-77	5.60	21.6		

Constituents Sampled	Container Description	Number	Preservative
Benzene Toluene	GLASS	3	HCl Ice 4°
Total Metals	plastic	1	HNO_3
Dissolved Metals	plastic	1	HNO_3
Total Arsenic	Amber	1	NONE
Dissolved Arsenic	Amber	1	NONE
TSS	plastic	1	NONE

Sampling Personnel pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

Tubing 2ft above Bottom of Boring

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B4-03-GW-03 Date 09/18/00

Screen Setting _____ Measuring Point Description _____ Casing Diameter (inches) 1"

Static Water Level _____ Measured Width _____ Well Materials PVC / ✓ ST. Steel

Total depth _____ Pump On: _____ Pump Rate: _____

Purge Method Pump Off: _____ **Volumes Purged** _____

Centrifugal _____ **Sample Time:** 1805 Weather: _____

Submersible _____ Sampled By: _____

Other _____ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron mg/L
1710					6.75	0.34	138	-78	5.8	21.9		
1725					6.77	0.34	125	-78	5.87	22.1		
1730					6.76	0.34	301	-79	5.87	22.1		
1740					6.72	0.33	79.0	-77	5.50	21.9		
1745					6.71	0.34	44.1	-77	5.62	21.8		
1750					6.71	0.34	31.6	-78	5.68	21.7		
1755					6.71	0.34	36.2	-79	5.49	21.7		
~~1615~~												
1815												1.45
1820											0.80 limit	

Constituents Sampled	Container Description	Number	Preservative

Sampling Personnel _____

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B4-046W01 Page 1 of 1 Field Staff: LC

Date Sampled 3/9/01
Stick-up Height 1.8' feet
Depth to Water 17.45' feet below top of casing
Total Depth 22.0' feet below top of casing
Depth of Tubing (sample interval) 21.0' feet below top of casing

Sulfide: 0.09 mg/L
ferrous iron: 3.30 mg/L

Start purge 1345
Start parameters 1430
End purge 1530
Total purge time: 1 hours, 45 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1430		400		9.87	1233	4.29	177.0	5.90	40.8
1435	5	400		10.88	1230	4.15	179.0	4.93	20.7
1440	10	400		11.53	1235	3.89	189.4	4.84	8.81
1445	15	400		11.51	1236	3.86	189.9	4.86	7.65
1450	20	400		11.58	1237	3.82	192.5	4.10	9.64
1455	25	400		11.57	1239	3.79	194.2	3.90	6.86
1600	30	400		11.56	1240	3.78	195.2	3.56	6.37
1505	35	400		11.51	1239	3.78	197.0	3.16	5.38
1510	40	400		11.49	1238	3.77	197.3	3.05	5.38
1515	45	400		11.54	1239	3.77	198.3	2.65	4.96
1520	50	400		11.54	1239	3.76	199.0	2.16	4.83
1525	55	400		11.54	1238	3.76	199.2	2.19	4.65
1530	60	400		11.49	1238	3.76	199.8	2.03	4.68

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B4-046W02 Page 1 of 1 Field Staff: LC

Date Sampled 3/21/01
Stick-up Height 1.6 feet
Depth to Water 17.12 feet below top of casing
Total Depth 31.0 feet below top of casing
Depth of Tubing (sample interval) 30.5 feet below top of casing

Sulfide: 0.0mg/L
ferrous iron: 3.3mg/L

Start purge 0845
Start parameters 0905
End purge 1000
Total purge time: 1 hours, 15 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0905	0	400		12.58	1168	5.75	19.2	7.81	191
0910	5	400		12.34	1177	5.78	19.9	7.84	23.2
0915	10	400		12.26	1185	5.79	23.2	8.89	11.9
0920	15	400		12.25	1180	5.79	23.3	8.95	12.6
0925	20	400		12.33	1181	5.79	25.7	9.21	9.11
0930	25	400		12.32	1181	5.79	26.6	8.93	9.48
0935	30	400		12.28	1181	5.79	27.7	8.83	6.99
0940	35	400		12.25	1182	5.80	28.1	8.25	6.36
0945	40	400		12.23	1182	5.79	28.6	8.31	5.66
0950	45	400		12.22	1182	5.78	29.1	8.43	4.60
0955	50	400		12.23	1187	5.79	29.7	8.41	4.84
1000	55	400		12.17	1187	5.79	30.4	8.40	3.38

Comments

Collect sample and MS/MSD, no VOC's

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B4-04GW03 Page 1 of 1 Field Staff: HT/LC

Date Sampled 3/14/01
Stick-up Height 1.0 feet
Depth to Water 16.63 feet below top of casing
Total Depth 38.5 feet below top of casing
Depth of Tubing (sample interval) 37.5 feet below top of casing

sulfide = 0.04 mg/L
ferrous iron = 3.30 mg/L

Start purge 0915
Start parameters 1020
End purge 1105
Total purge time: 1 hours, 50 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1020	0	400		8.30	1214	6.78	20.5	31.8	170
1025	5	↓		12.03	1215	6.08	-10.0	1.11	23
1030	10			12.04	1214	6.04	-7.3	1.02	22
1035	15			12.10	1213	6.02	-6.8	0.88	17
1040	20			12.16	1217	6.01	-4.7	0.95	12
1045	25			12.15	1218	6.01	-1.9	0.79	12
1050	30			12.17	1216	6.01	-1.2	0.80	9.6
1055	35			12.19	1216	6.01	0.9	0.77	7.7
1100	40			12.14	1217	6.01	2.8	0.79	7.7
1105	45	↓		12.21	1215	6.01	4.0	0.80	7.0
HHT ~~1110~~									

Comments

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B4-05GW01 Date 8 Sept 00

Screen Setting 21-16 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 17.95 Measured Width Well Materials PVC 1" ST. Steel

Total depth 24.78 Pump On: 1420 Pump Rate: 150 mL/min

Stickup = 3.50

Purge Method Pump Off: 1720 Volumes Purged

Centrifugal ✓ Sample Time: 1615-1715 Weather: sun 60's

Submersible Sampled By: Diane Mosher

Other ✓ Peristaltic DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1430	0	150			6.20	0.09	O/R	-95	0.70	20.9		
1435					5.85	83 ms	O/R	-19	0.67	20.2		
1440	10				5.63	82	O/R	9	0.55	20.3		
1445					5.38	81	O/R	58	0.84	<0.5		
1450	20				5.14	81	632	111	1.21	20.4		
1455					5.04	80	338	126	1.35	20.2		
1500	30	150			5.03	79	101.6	127	2.09	20.3		
1505					5.06	79	92.8	136	3.80	20.8		
1510	40				5.07	79	269	135	4.27	21.3	Begins silting	
1515					5.70	82	416	[illegible]	.41	21.3	ORP Ø	
1520	50				5.61	82	360	19	.26	21.1		
1525					5.57	82	238	24	.29	21.1		
1530	60				5.56	82	222	27	.30	21.1		
1535					5.50	81	175	39	.35	21.2		
1540	70	150			5.40	81	143	60	.53	21.2		
1545					5.33	81	117	76	.84	21.1		
1550	80				5.30	80	65.1	82	.88	21.1		
1555					5.24	80	58.0	101	1.45	21.0		
1600	90				5.14	80	52.3	121	1.84	21.0		
1605					5.05	80	49.9	138	2.18	21.0		

Constituents Sampled	Container Description	Number	Preservative
Benzene toluene	VOA	3	HCL + Ice
TSS	Plas	2	Ice
Arsenic Tot		1	Ice
arsenic Diss		1	Ice
Metals Tot		1	HNO3 Ice
Metals Diss		1	HNO3 Ice

Sampling Personnel Diane Mosher pH - ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

O/R = out of range

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 2

Project/No. MA000646.0001.00002 Well BH-05GW02 Date 11 Sept 00

Screen Setting 25-20 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 20.64 Measured Width Well Materials PVC ✓ ~~SS~~ Steel

Total depth 28.3 Pump On: 1300 Pump Rate: 100 ml/m

Stickup 2.86

Purge Method Pump Off: 1540 Volumes Purged

Centrifugal Sample Time: Start 1410 / 1540 Weather: Sun 70's

Submersible Sampled By: DMosher

Other ✓ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1303	0				5.81	0.10	O/R	-31	1.26	25.1		
1308	5				5.76	0.10	O/R	-30	.40	25.1		
1313	10				5.72	0.10	732	-27	0.32	24.9		
1318	15				5.57	0.10	417	-8	0.99	25.2		
1323	20				5.52	0.10	386	-2	0.88	25.4		
1328	25				5.42	0.11	312	15	1.52	25.8		
1333	30				5.34	0.11	143	33	1.57	25.8		
1338	35	100			5.21	0.11	71.4	55	2.17	25.9		
1343	40				5.16	0.11	63.6	87	2.76	25.7		
1348					4.89	0.11	66.5	115	3.14	25.3		
1353	50				4.87	0.11	57.3	117	2.97	25.1		
1358					4.83	0.11	50	126	2.81	25.1		
1403	60				4.78	0.11	35	135	2.56	25.1		
1408					4.73	0.11	28	141	2.60	25.0		
											0.0	3.30
					4.43	0.12	40	208	6.49	24.1		

Constituents Sampled	Container Description	Number	Preservative
Benzene toluene	VOA	3	HCL Ice
TSS	Plas	1	Ice
Metals total	Plas	1	HNO3 Ice
Metals Diss	Plas	1	HNO3 Ice
As tot Spec	Amber	1	Ice
As dis Spec	Amber	1	Ice

Sampling Personnel Diane Mosher

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH Check 4.02

O/R out of range

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B405GW03 Date 9/12/00 1 1

Screen Setting 33-28 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 19.31 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 35.20 Pump On: 1400 Pump Rate: 130

stickup 1.83

Purge Method Pump Off: 1630 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 1543 Weather:

Submersible Sampled

Other ~~pp~~ DUP / MS / MSD By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1435	35	130			5.74	0.23	Dirty Pump	-128	0.00	25.5		
1440					5.73	0.23	OR	-135	0.00	25.1		
1445					5.71	0.23	OR	-136	0.00	24.7		
1450					5.67	0.23	942	-133	0.00	24.4		
1455					5.66	0.22	782	-142	1.36	24.0		
1500	60				5.67	0.23	418	-145	1.12	23.6		
1505	65				5.69	0.23	285	-75	0.43	22.9		
1510	70				5.50	0.23	169	-41	0.18	21.9		
1515	75				5.36	0.24	153	-24	0.33	21.1		
1520	80				5.32	0.24	130	-13	0.23	21.0		
1525					5.31	0.24	104.3	-3	0.30	20.6		
1530					5.28	0.24	89.7	18	0.38	20.0		
1535					5.29	0.24	75.1	24	0.48	19.6		
1540					5.28	0.25	87.6	30	0.33	19.0		
1545					5.26	0.25	47.1	36	0.36	18.9	~~0.23~~ 0.18	3.30 Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	amber	1	None
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B5-016W01 Date 11 Sept 00

Screen Setting 15-10 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 11.15 Measured Width Well Materials PVC / 1" ST. Steel

Total depth 17.60 Pump On: 900 Pump Rate: 140 mL/min

stickup 2'

Purge Method Pump Off: 1030 Volumes Purged

Centrifugal Sample Time: 1000 Weather: Fog 60's

Submersible Sampled By: Diane Mosher

Other ✓ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
915	0				6.38	0.30	326	-133	2.09	18.9		
920	5				6.34	0.30	228	-118	2.81	18.8		
925	10				6.28	0.29	145	-109	2.03	18.6		
930	15				6.26	0.29	152	-108	1.66	18.3		
935	20				6.24	0.29	131	-110	1.66	18.1		
940	25				6.25	0.29	74.0	-112	1.69	18.1		
945	30				6.25	0.29	44.4	-112	1.63	18.1		
950	35				6.26	0.29	39.1	-115	1.61	18.2		
955	40				6.26	0.29	35.2	-113	1.51	18.2		
											0.46	3.30
1027	72				6.30	0.29	19.5	-81	1.50	19.5		

Constituents Sampled	Container Description	Number	Preservative
Benz. Toluene	VOA	3	HCL Ice
TSS	Plas	1	Ice
Arsenic Dis Spec	Amber	1	Ice
Arsenic Total Spec	1	1	Ice
Metals total	Plas	1	HNO3 Ice
Metals Diss	1	1	HNO3 Ice

Sampling Personnel D Mosher pH-V

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

·oundwater Sampling Form

Project/No. MA000646.0001.00002 Well BG01GW02 Date 12 Sept 00

Screen Setting 19-14 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 11.56 Measured Width Well Materials PVC ✓ ~~SS~~ Steel

Total depth 21.36 Pump On: 1430 Pump Rate: 175

Sta 1.43

Purge Method Pump Off: 1610 Volumes Purged

Centrifugal Sample Time: 1535 - 1605 Weather: Sun 70

Submersible Sampled By: Diane Mosher

Other ✓ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1435	0	175			6.45	0.26	O/R	-164	1.21	25.2		
1440					6.48	0.27	O/R	-164	0.78	24.6		
1445	10				6.47	0.27	450	-148	1.99	23.7		
1450					6.47	0.28	450	-114	3.05	22.2		
1455	20				6.48	0.29	150	-103	3.12	21.0		
1500					6.50	0.29	140	-96	3.03	20.3		
1505	30				6.52	0.29	90	-93	2.93	19.8		
1510					6.54	0.29	240	-89	3.05	19.6		
1515	40				6.57	0.30	230	-91	3.10	20.3		
1520					6.59	0.30	28	-88	2.25	20.5		
1525	50				6.59	[illegible]	4	-86	2.98	20.3		
1530					6.60	[illegible]	2	-84	2.93	20.2		
											0.80	3.30
											↓	
					6.61	0.30	41	-85	2.39	20.4	Limit	

Constituents Sampled	Container Description	Number	Preservative
Benz Toluene	VOA	3	HCL + Ice
Total Metals	Plas	1	HNO3 + Ice
Diss Metals	/	1	↓
TSS	/	1	Ice
As Dis Spec	/	1	↓
As Tot Spec		1	↓

Sampling Personnel Diane Mosher pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

Resample

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B501GW02R Date 9/19/00

Screen Setting 26-21 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 12.55 Measured Width Well Materials PVC / ✓ ST. Steel

Total depth 29.00 Pump On: 1525 Pump Rate: 100

Stickup 2.02

Purge Method Pump Off: 1720 Volumes Purged

Centrifugal ✓ Sample Time: 1635 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1540		100			6.72	0.28	386	-130	1.84	23.1		
1545					6.76	0.28	347	-131	1.11	22.5		
1550					6.79	0.28	194	-129	0.79	22.1		
1555					6.80	0.28	143	-126	0.73	21.9		
1600					6.81	0.28	135	-125	0.72	21.8		
1605					6.82	0.28	158	-124	0.68	21.7		
1610					6.83	0.28	139	-123	0.68	21.5		
1615					6.85	0.28	126	-121	0.66	21.2		
1620					6.85	0.28	80.9	-120	0.69	21.3		
1625					6.85	0.28	50.6	-119	0.69	21.3		
1630					6.86	0.28	45.0	-117	0.69	21.4		
1635					6.87	0.28	39.4	-113	0.68	21.6	0.28	3.30
												Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	amber	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH ~ 4.12

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

Project/No. MA000646.0001.00002 Well B6016W03 Date 13 Sept 00

Screen Setting 39-34 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 13.00 Measured Width Well Materials PVC / St. Steel

Total depth 38.60 s/u 1.85 Pump On: 1305 Pump Rate: 220 mL/min

Purge Method Pump Off: 1550 **Volumes Purged**

Centrifugal Submersible Other ✓ **Sample Time:** 1515-1550 Weather: Sun 70's

DUP / MS / MSD Sampled By: DMosher

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1310	0	150			6.76	0.28	O/R	-202	0.57	23.0		
1315		↓			7.10	0.31	O/R	-236	0.30	21.1		
1320	10				7.09	0.31	O/R	-236	0.60	21.2		
1325		↓			7.10	0.32	O/R	-240	0.33	21.9		
1330	20	↓			Battery change out							
1335					↓			↓				
1340	30	220			7.12	0.32	O/R	-240	0.22	23.4		
1345		220			7.13	0.32	O/R	-234	0.21	23.2		
1350	40				7.10	0.32	O/R	-234	0.19	22.5		
1355					7.08	0.32	O/R	-210	0.25	21.7		
1400	50				7.12	0.33	↓	-200	0.38	21.8		
1405					7.11	0.33	↓	-183	0.52	21.8		
1410	60				7.16	0.33	990	-210	0.23	22.3		
1415					7.08	0.32	800	-213	0.33	22.8		
1420	70				7.10	0.32	710	-219	0.34	23.1		
1425					7.12	0.32	400	-219	0.34	23.0		
1430	80				7.13	0.34	370	-119	3.39	23.1		
1435					7.12	0.34	62	-118	3.41	23.2		
1440	90				7.13	0.34	51	-118	3.43	23.3		
1445					7.15	0.33	47	-118	3.59	23.8		

Constituents Sampled	Container Description	Number	Preservative
Benzene Toluene	VOA	3	HCL Ice
TSS	Plas	1	Ice
As Tot Spec	↓	1	↓
As Diss Spec	↓	1	↓
Total Metals	↓	1	HNO3 Ice
Diss Metals	↓	1	HNO3 Ice

Sampling Personnel DM

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

DH ✓ 3.98

ARCADIS GERAGHTY & MILLER

'roundwater Sampling Form

2 2

Project/No. MA000646.0001.00002 Well B5-01GW03 Date 13 ~~Oct~~ Sept 00

Screen Setting _____ Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level _____ Measured Width _____ Well Materials PVC ✓ ~~St. Steel~~

Total depth _____ Pump On: 13.05 Pump Rate: _____

Purge Method Pump Off: _____ **Volumes Purged** _____

Centrifugal _____ **Sample Time:** _____ Weather: Sun 70's

Submersible _____ Sampled By: DM

Other _____ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1450	100				7.16	0.32	49	-118	3.61	23.9		
1455					7.16	0.33	56.3	-118	3.65	24.1		
1500	110				7.17	0.33	47	-112	3.83	24.4		
1505					7.15	0.33	47.7	-113	3.99	24.5		
1510	120				7.17	0.33	43.9	-110	3.98	24.5		
	Well becomes silty during sampling										0.52	3.30
1550					7.15	0.34	36	-83	3.71	25.5		

Constituents Sampled	Container Description	Number	Preservative

Sampling Personnel D. Mosher

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample BS-02GW01 Page 1 of 1 Field Staff: HAT

Date Sampled 3/21/01
Stick-up Height 1.7 feet
Depth to Water 10.20 feet below top of casing
Total Depth 16.0 feet below top of casing
Depth of Tubing (sample interval) 15 feet below top of casing

Sulfide = 0.10 mg/L
iron = 3.30 mg/L

Start purge 1120
Start parameters 1155
End purge 1235
Total purge time: 1 hours, 15 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1155	0	400		9.47	1120	6.02	14.7	9.8	1.89
1200	~~HT~~ 5			9.44	1119	6.11	-7.4	0.72	1.89
1205	10			9.45	1127	6.15	-17.3	0.68	1.60
1210	15			9.45	1132	6.17	-22.8	0.65	2.08
1215	20			9.45	1132	6.18	-26.1	0.54	2.54
1220	25			9.46	1132	6.19	-30.5	0.63	2.58
1225	30			9.43	1133	6.20	-31.0	0.90	1.92
1230	35			9.46	1132	6.20	-31.7	0.89	1.83
1235	40			9.47	1132	6.20	-32.8	0.87	1.90

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B5-026W02 Page 1 of 1 Field Staff: LC

Date Sampled 4/9/01
Stick-up Height 2.0 feet
Depth to Water 9.93 feet below top of casing
Total Depth 23.0 feet below top of casing
Depth of Tubing (sample interval) 22.0 feet below top of casing

sulfide: 0.17mg/L
ferrous iron: 3.30mg/L

Start purge 1200
Start parameters 1220
End purge 1305
Total purge time: 1 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1200		400		11.38	2497	6.70	-56.9	15.79	520
1225	5	400		11.31	2537	6.76	-83.5	20.33	136
1230	10	400		11.31	2564	6.76	-93.9	24.97	81.3
1235	15	400		11.38	2593	6.77	-99.1	27.64	61.3
1240	20	400		11.36	2604	6.77	-98.9	26.96	52.3
1245	25	400		11.41	2623	6.75	-100.6	30.12	32.9
1250	30	400		11.43	2637	6.77	-102.8	32.24	26.9
1255	35	400		11.46	2643	6.76	-102.6	31.74	24.2
1300	40	400		11.43	2653	6.76	-102.8	30.17	23.9
1305	45	400		11.42	2658	6.76	-103.1	33.29	24.6

Comments
pungent odor

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B5-026W03 Page 1 of 1 Field Staff: LC

Date Sampled 3/21/01
Stick-up Height 0.7 feet
Depth to Water 9.93 feet below top of casing
Total Depth 30.0 feet below top of casing
Depth of Tubing (sample interval) 24.5 feet below top of casing

Sulfide: 0.37mg/L
ferrous iron: 1.77mg/L

Start purge 1120
Start parameters 1150
End purge 1320
Total purge time: 2 hours, - minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1150	0	400	LC ~~11.40~~	11.40	5207	7.16	-116.5	3.12	48.0
1155	5	400		11.40	5204	7.16	-115.8	3.07	42.3
1200	10	400		11.40	5199	7.14	-114.4	3.19	39.5
1205	15	400		11.38	5214	7.11	-114.8	3.11	214
1210	20	400		11.53	5214	7.10	-129.5	1.80	117
1215	25	400		11.44	5226	7.13	-127.3	2.12	60.0
1220	30	400		11.72	5265	7.15	-115.7	3.44	63.2
1225	35	400		11.68	5265	7.14	-116.0	3.26	42.5
1230	40	400		11.66	5246	7.14	-116.1	3.31	36.7
1235	45	400		11.65	5221	7.14	-115.3	3.29	87.1
1240	50	400		11.66	5222	7.14	-111.9	3.37	56.7
1245	55	400		11.65	5228	7.14	-112.5	3.42	117
1250	60	400		11.65	5213	7.12	-112.8	3.37	61.3
1255	65	400		11.75	5200	7.12	-118.6	2.79	65.5
1300	70	400		11.77	5208	7.12	-119.4	2.63	56.2
1305	75	400		11.46	5209	7.17	-112.3	3.46	75.9
LC ~~1311~~ 1310	80	400		11.36	5195	7.17	-107.0	5.39	41.2
1315	85	400		11.43	5206	7.16	-107.4	5.56	41.7
1320	90	400		11.39	5201	7.16	-105.4	5.30	43.1

Comments

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well BB-03GW01 5 Date 9/12/0 1 1

Screen Setting 13-8 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 11.31 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 13.35 Pump On: Pump Rate:

stickup 1.81 Purge Method Pump Off: Volumes Purged

Centrifugal ✓ Sample Time: Weather:

Submersible Sampled

Other DUP / MS / MSD By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1830	well not recovering - pumped dry											
9/12/00	2nd attempt											
1000	well still not recovering silted up											
1040	PqS cleared silt											
	new Total Depth - 15.05											
	3rd											
1100	well recovering very slowly											
1115	well dry											
	4th											
1645	water appears to have cleared up some recovering slowly											
1715	well dried up ≈ 1600 mL recovered insufficient to sample Arsenic											
	sampled as NS											
9/13/00	5th attempt											
850	obtained Arsenic sample											

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T arsenic	amber	1	none
D arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD pH ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

9/14/00

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B5-03GW02 Date 9/13/00 1 1

Screen Setting 24-19 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 11.37 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 25.91 Pump On: ~~1340~~ 1012 Pump Rate: 110

stickup 1.89 Purge Method Pump Off: 1150 Volumes Purged

Centrifugal ✓ Sample Time: 1110 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
		150										
	dried up after 2,000mL - still silty											
9/14/00												
900	developed a 2nd time dried up completely											
	twice											
935	water level at 13.61'											
1012	Pump on											
1020		110			7.13	0.22	OR	-178	2.37	14.1		
1025					7.06	0.22	568	-174	0.23	13.8		
1030					7.07	0.23	469	-171	0.12	13.8		
1035					7.05	0.23	432	-167	0.10	13.7		
1040					7.09	0.23	177	-166	0.07	13.7		
1045					7.15	0.23	112	-171	0.01	13.9		
1050					7.16	0.24	40.7	-169	0.00	14.0		
1055					7.17	0.24	33.8	-169	0.00	14.1		
1100					7.20	0.24	22.8	-167	0.00	14.3		
1105					7.23	0.24	21.2	-167	0.00	14.5		
1110					7.25	0.24	18.6	-167	0.00	14.8	0.09	3.30
~~1115~~ 1150	Pump off											Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	amber	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

656 2300

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

Project/No. MA000646.0001.00002 Well B503GW03 Date 9/18/00

Screen Setting 31.5-36.5 Measuring Point Description top of pipe Casing Diameter (inches) 1"

Static Water Level 10.55 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 38.64 Pump On: 925 ~~Pump Rate:~~ tubing 2.5' from bottom

stickup 2.01

Purge Method Pump Off: 1050 Volumes Purged

Centrifugal ✓ **Sample Time:** 1020 Weather:

Submersible Sampled

Other DUP / MS / MSD By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ~~mohm~~ S/m	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
935	10	175			7.78	1.8	532	-241	0.20	14.3		
940					7.74	1.8	516	-243	0.00	14.1		
945					7.70	1.8	346	-234	0.00	14.0		
950					7.68	1.8	208	-222	0.00	13.9		
955	30				7.65	1.8	113	-210	0.00	13.8		
1000					7.63	1.8	92.7	-201	0.00	13.8		
1005					7.61	1.8	60.5	-186	0.00	13.9		
1010					7.59	1.8	56.8	-186	0.00	13.9		
1015					7.59	1.8	48.4	-188	0.00	13.9		
1018					7.59	1.8	44.6	-188	0.00	13.9	0.25	3.15
1045					7.53	1.8	20.9	-177	0.00	14.8		

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	amber	1	none
D Arsenic	"	1	"
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample BS-04GW01 HAT Page 1 of 1 Field Staff: HAT

Date Sampled 4/9/01
Stick-up Height _____ feet
Depth to Water 2.96 feet below top of casing
Total Depth 10.1 feet below top of casing
Depth of Tubing (sample interval) 9.1 feet below top of casing

sulfide = 0.00 mg/L
ferrous iron = 2.32 mg/L

Start purge 1155
Start parameters 1205
End purge 1240
Total purge time: 0 hours, 45 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1205	0	400		8.76	8225	5.45	178	0.68	19
1210	5	↓		7.50	8316	5.56	170.1	0.13	15
1215	10			7.43	8330	5.58	165.4	0.09	14
1220	15			7.39	8344	5.60	159.2	0.05	12.5
1225	20			7.45	8344	5.61	155.4	0.04	14.9
1230	25			7.46	8357	5.62	151.7	0.03	13.9
1235	30			7.43	8356	5.63	148.7	0.03	14.7
1240	35	↓		7.41	8333	5.63	146.3	0.03	14.9

Comments

Sheen on H_2O

ARCADIS GERAGHTY & MILLER

'oundwater Sampling Form

Project/No. MA000646.0001.00002 Well B5-05GW01 Date 9/11/00 1 1

Screen Setting 6.5-1.5 Measuring Point Description top of pipe Casing Diameter (inches) 1

Static Water Level 5.59 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 8.00 Pump On: ~~##~~ 1430 Pump Rate: 200

stickup 2.80

Purge Method Pump Off: 1535 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 1510 Weather:

Submersible Sampled

Other DUP / MS / MSD By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1440		200			6.10	0.12	out of range	-92	0.83	23.0		
1445					6.09	0.12	407	-79	1.16	22.1		
1450					6.08	0.12	87.5	-72	1.27	21.7		
1455					6.08	0.12	44.1	-68	1.29	21.6		
~~##~~ 1500					6.07	0.12	12.0	-66	1.29	21.7		
1505					6.06	0.12	7.80	-63	1.29	21.5		
1510					6.03	0.12	10.16	-60	1.28	21.5		
1533					6.06	0.12		-49	1.47	22.3	0.02	3.30

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO3
D Metals	"	1	"
T Arsenic	amber	1	none
D "	"	1	"
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD pH - ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B5-06GW01R Page 1 of ___ Field Staff: HHT

Date Sampled 4/25/01
Stick-up Height 2' feet
Depth to Water ? NM feet below top of casing
Total Depth 16.5 feet below top of casing
Depth of Tubing (sample interval) 15.5 feet below top of casing

sulfide = 0.06 mg/L
ferrous iron = 3.30 mg/L

Start purge 0930
Start parameters 0955
End purge ~~1030~~ 1100 HHT
Total purge time: 1 hours, ~~30~~ 30 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0955	0	400		9.47	2355	7.41	76.1	2.32	220
1000	5			8.92	2347	6.89	40.4	0.98	190
1005	10			8.79	2324	6.59	-9.7	0.52	120
1010	15			8.79	2295	6.56	-34.6	0.42	65
1015	20			8.79	2296	6.56	-35.8	0.41	70
1020	25			8.80	2279	6.55	-48.6	0.34	38
1025	30			8.78	2260	6.57	-60.2	0.30	32
1030	35			8.79	2253	6.57	-62.3	0.30	30
1035	40			8.81	2237	6.57	-66.9	0.27	25
1040	45			8.80	2230	6.58	-70.2	0.26	21
1045	50			8.80	2230	6.58	-72.1	0.25	20
1050	55			8.83	2221	6.60	-77.2	0.25	18
1055	60			8.83	2219	6.60	-78.6	0.24	18
1100	65			8.85	2210	6.63	-82.4	0.25	19

Comments

NM → not measured; H_2O level indicator broken; H_2O has a sheen

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B5-06GW01NS Page 1 of 1 Field Staff: KC

Date Sampled 4/11/01
Stick-up Height 1.0' feet
Depth to Water 9.09' feet below top of casing
Total Depth 10.0' feet below top of casing
Depth of Tubing (sample interval) 9.5' feet below top of casing

Start purge 1200 (4/11).
~~Start parameters~~
End purge
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
Very low purge rate <10mL/min, collect 1 Total As/As Spec. bottle 4/11/01

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B5-06GW02 R Page 1 of 1 Field Staff: HAT

Date Sampled 4/27/01
Stick-up Height 2 feet
Depth to Water NM feet below top of casing
Total Depth 19.5 feet below top of casing
Depth of Tubing (sample interval) 18.5 feet below top of casing

Sulfide = 0.0 mg/L
ferrous iron = 3.30 mg/L

Start purge 1140
Start parameters 1150
End purge 1250
Total purge time: 1 hours, 10 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1150	0	400		10.95	1844	7.94	48.9	2.38	45
1155	5			10.31	1790	7.60	3.8	1.98	13
1200	10			10.17	1749	7.31	-27.8	1.85	11
1205	15			10.17	1739	7.25	-34.9	1.94	7.2
1210	20			10.15	1713	7.18	-48.3	1.79	5.7
1215	25			10.21	1691	7.16	-55.9	1.78	6.2
1220	30			10.22	1676	7.14	-60.4	1.78	5.7
1225	35			10.26	1663	7.15	-63.7	1.91	5.4
1230	40			10.21	1651	7.15	-66.2	1.97	4.8
1235	45			10.30	1635	7.14	-67.7	2.19	5.3
1240	50			10.27	1626	7.14	-67.6	2.36	5.5
1245	55			10.35	1611	7.14	-67.6	2.46	5.5
1250	60			10.34	1604	7.15	-66.7	2.57	5.7

HAT

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B5-066W03R Page 1 of 1 Field Staff: LC

Date Sampled 4/25/01
Stick-up Height 1.0' feet
Depth to Water — feet below top of casing
Total Depth 21.0' feet below top of casing
Depth of Tubing (sample interval) 20.0' feet below top of casing

Sulfide: 0.04mg/L
ferrous iron: 3.30mg/L

Start purge 0930
Start parameters 0955
End purge 1045
Total purge time: 1 hours, 15 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0955		400		10.77	1941	6.21	96.1	0.98	24.5
1000	5	400		10.66	1955	6.26	44.7	0.70	10.73
1005	10	400		10.60	1971	6.48	-84.3	0.51	3.47
1010	15	400		10.60	1968	6.54	-101.6	0.38	3.01
1015	20	400		10.59	1967	6.55	-103.3	0.35	2.48
1020	25	400		10.62	1966	6.57	-111.6	0.25	2.55
1025	30	400		10.60	1963	6.59	-120.7	0.16	2.88
1030	35	400		10.61	1962	6.59	-121.8	0.16	2.77
1035	40	400		10.65	1959	6.59	-125.7	0.11	2.66
1040	45	400		10.60	1957	6.59	-126.9	0.10	4.81
1045	50	400		10.62	1957	6.59	-128.6	0.10	2.41

Comments
Collect sample and MS/MSD

ARCADIS GERAGHTY & MILLER

oundwater Sampling Form

9/21/00

Project/No. MA000646.0001.00002 Well B6 01GW01 Date 9/19/00 1 1

Screen Setting 18-13 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 15.24 Measured Width Well Materials PVC ✓ ST. Steel

Total depth ~~20.85~~ 20.95 Pump On: 1435 815 Pump Rate: 100

stickup 1.95

Purge Method Pump Off: 1000 Volumes Purged

Centrifugal ✓ Sample Time: 9/21/00 915 Weather:

Submersible Sampled

Other DUP / MS / MSD By:

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond.. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1420	would not recover purged twice											
9/21/00												
815	pump on							-142	1.48			
825		<100			6.37	0.10	330	~~1.48~~	~~19.5~~	19.8		
830					6.34	84	251	-148	0.71	19.8		
835					6.42	0.10	197	-145	0.72	19.4		
				well not recovering								
841					6.42	0.09	101	-132	0.62	20.4		
848					6.43	0.10	91	-126	0.60	20.8		
851					6.45	0.10	77	-126	0.61	21.0		
856					6.43	0.10	62	-124	0.65	21.1		
900					6.43	0.10	54	-120	0.67	21.3		
905					6.43	0.10	46.4	-118	0.69	21.5		
910					6.42	0.10	42.2	-117	0.68	21.6	0.36	3.30
												Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO3
D Metals	"	1	"
T Arsenic	pbs amber	1	none
D Arsenic	" "	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

→ H-4.00 tubing 2' from bottom

~~Mike~~

missed 10% for middle zone

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form sample not sent in

Project/No. MA000646.0001.00002 Well B6 01GW02 Date 9/22/00

Screen Setting 24-19 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 16.39 Measured Width Well Materials PVC / ST. Steel

Total depth 25.45 Pump On: 820 Pump Rate: 100

stickup 1.97

Purge Method Pump Off: 1040 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 1025 Weather:

Submersible Sampled

Other DUP / MS / MSD By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
840		<100					640	well recovering very slowly				
850					6.23	0.18	620	-112	1.21	18.2		
855					6.20	0.18	363	-113	0.67	18.1		
900					6.23	0.19	313	-113	0.49	18.3		
905					6.26	0.19	351	-121	0.38	18.6		
910					6.26	0.19	502	-112	0.49	18.7		
915					6.25	0.19	428	-106	0.56	18.8		
920					6.24	0.19	327	-99	0.45	19.2		
930					6.23	0.20	344	-92	0.48	19.0		
935					6.20	0.19	225	-83	0.56	19.1		
940					6.19	0.19	171	-79	0.61	19.2		
945					6.19	0.19	124	-75	0.65	19.4		
950					6.18	0.19	101.0	-70	0.57	18.6		
955					6.17	0.19	96.0	-69	0.69	19.7		
1000					6.17	0.19	89.3	-67	0.69	19.8		
1005					6.16	0.19	77.3	-64	0.69	19.8		
1010					6.16	0.19	74.7	-62	0.69	19.8		
1015					6.15	0.19	33.9	-61	0.70	19.9	0.10	3.30 Limit
1020												

NO SAMPLE

Constituents Sampled	Container Description	Number	Preservative
T Metals	Plas	1	HNO_3
D Metals	"	1	"
T Arsenic	amber plas	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD well recovering very slowly

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH 3.98 tubing 0.5' from bottom

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B6-016W02R Date 27 Sept 00

Screen Setting 29.5-24.5 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 17.50 Measured Width W/L #3 Well Materials PVC ✓ SS. Steel

Total depth 31.5 Pump On: 1035 (purge to lower turbidity) Pump Rate: 100 mL/m

Stickup 2.20 Purge Method Pump Off: 1335 Volumes Purged

Centrifugal Sample Time: 1255-1325 Weather: Sun. 50's

Submersible Other ✓ DUP / MS / MSD Sampled By: Diane Mosher

Time	Minutes Elapsed	Rate (gpm) (mL)	DTW	Gallons Purged	pH	Cond. umhos (ms/cm)	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous iron mg/L
1115		100			6.62	0.13	O/R	-121	0.12	16.9		
1125					6.63	0.13	O/R	-114	0.05	16.6		
1135	60				6.62	0.12	O/R	-114	0.00	16.1		
1145					6.62	0.12	O/R	-115	0.00	16.0	Cleaned	Cell
1155					6.55	0.12	221	-87	0.00	16.2		
1205					6.57	0.12	154	-89	0.00	16.1		
1215					6.56	0.12	126	-90	0.00	16.2		
1225					6.55	0.12	114	-84	0.00	16.2		
1235	120				6.55	0.12	68.4	-82	0.00	16.2		
1240					6.54	0.12	47.4	-79	0.00	16.3		
1245					6.54	0.12	42.6	-78	0.00	16.3		
1250					6.54	0.12	38.6	-77	0.00	16.4		
											0.32	3.30
1335					6.55	0.13	54.2	-101	0.0	16.5		

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel Diane Mosher

F:\stds2000\forms\LOWFLO646.xls

pH ✓ 3.99 tubing -1.5

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 of 1

Project/No. MA000646.0001.00002 Well B601GW03 Date 9/22/00

Screen Setting 39.5-34.5 Measuring Point Description top of pipe Casing Diameter (inches) 1

Static Water Level 17.14 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 42.4 Pump On: 1325 Pump Rate: 100

stickup 2.01

Purge Method Pump Off: 1645 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 1615 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1345		160	160				OR					
1405		<100	100				OR					
1425							OR					
1435							OR					
1450		100					OR					
1456							956					
1500							756					
1510					6.57	0.14	532	-167	0.89	18.9		
1520					6.76	0.14	360	-178	0.47	18.7		
1525					6.84	0.14	247	-174	0.45	18.0		
1530					6.84	0.13	232	-174	0.44	18.2		
1535					6.87	0.13	234	-174	0.42	18.5		
1540					6.88	0.13	172	-171	0.42	18.6		
1545					6.90	0.13	170	-170	0.43	18.7		
1550					6.91	0.13	168	-166	0.45	18.6		
1555					6.94	0.12	135	-163	0.49	18.4		
1600					6.93	0.12	121	-161	0.46	18.4		
1605					6.93	0.12	106.5	-159	0.46	18.5		
1610					6.94	0.12	625	-155	0.50	18.5		limit
1615					6.95	0.12	483	-154	0.50	18.1	0.28	3.30

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	amber plas	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH 4.03 tubing 2.5' from bottom

BG-02GW01

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample ~~E402GW~~ HAT Page 1 of 1 Field Staff: HT/LC

Date Sampled 3/12/01
Stick-up Height snow feet
Depth to Water 11.80 feet below top of casing
Total Depth ~~HT~~ 16.0 feet below top of casing
Depth of Tubing (sample interval) 15.0 feet below top of casing

sulfide = 0.29 mg/L
Ferrous iron = 3.30 mg/L

Start purge 1310
Start parameters 1335
End purge 1435
Total purge time: 1 hours, 25 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)	
1335	0	400		8.58	394	6.66	-46.8	1.45	5.4	
1340	HAT ~~0~~ 5			8.34	375	6.44	-30.3	0.57	6.0	
1345	10			8.28	367	6.38	-21.5	0.27	5.5	
1350	15			8.30	369	6.36	-22.9	0.11	8.1	
1355	20			8.29	369	6.35	-22.0	0.06	9.0	
1400	25			8.32	371	6.35	-23.2	0.01	9.3	
1405	30			8.29	371	6.35	-25.6	0.00	11	
1410	35			8.31	370	6.35	-34.2	-0.02	12	HAT
1415	40			8.32	371	6.35	-32.9	-0.02	8.7	
1420	45			8.34	372	6.35	-29.6	-0.02	13	HAT
1425	50			8.33	372	6.35	-24.1	-0.03	13	
1430	55			8.26	372	6.35	-23.6	-0.03	14	
1435	60			8.25	373	6.34	-26.4	-0.03	14	

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B6-02GW02 Page 1 of 1 Field Staff: HAT

Date Sampled 4/10/01
Stick-up Height 2.1 feet
Depth to Water 9.53 feet below top of casing
Total Depth 20 feet below top of casing
Depth of Tubing (sample interval) 19 feet below top of casing

sulfide = 0.45 mg/L
ferrous iron = 3.30 mg/L

Start purge 0845
Start parameters 0900
End purge 0940
Total purge time: 0 hours, 55 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0900	0	400		9.57	1184	6.39	-14.3	3.48	10.6
0905	5			8.99	1175	6.44	-34.8	3.83	6.74
0910	10			8.98	1173	6.50	-49.6	4.22	6.83
0915	15			8.93	1177	6.54	-52.8	4.49	5.40
0920	20			8.98	1177	6.54	-55.4	4.85	4.63
0925	25			8.99	1177	6.54	-56.6	5.03	4.68
0930	30			9.02	1177	6.53	-59.0	5.61	4.45
HAT ~~0940~~ 0935	35			9.06	1179	6.54	-59.0	5.88	4.47
0940	40			9.10	1180	6.54	-59.0	5.91	4.58

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B6-026W03 Page 1 of 1 Field Staff: LC

Date Sampled 3/12/01
Stick-up Height — feet
Depth to Water 10.95' feet below top of casing
Total Depth 23.0' feet below top of casing
Depth of Tubing (sample interval) 23.0' feet below top of casing

Sulfide: 0.80mg/L
ferrous iron: 0.49mg/L

Start purge 1310
Start parameters 1330
End purge 1410
Total purge time: 1 hours, 0 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1330		400		11.17	2210	7.39	-155.1	0.61	6.8
1335	5	400		11.00	2220	7.38	-167.1	0.50	7.0
1340	10	400		10.92	2219	7.38	-196.7	0.31	6.0
1345	15	400		11.04	2205	7.38	-214.0	0.26	6.2
1350	20	400		10.98	2200	7.38	-227.1	0.21	7.0
1355	25	400		11.01	2170	7.38	-252.8	0.17	6.7
1400	30	400		10.97	2167	7.37	-257.6	0.16	8.5
1405	35	400		10.92	2157	7.35	-266.0	0.17	8.8
1410	40	400		10.95	2180	7.35	-267.4	0.16	8.7

Comments

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B603GW01 Date 9/20/00 1 1

Screen Setting 16-11 Measuring Point Description top of pipe Casing Diameter (inches) 1

Static Water Level 13.53 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 18.7 Pump On: 1425 Pump Rate: 100

stickup 1.96

Purge Method Pump Off: 1615 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 1545 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous iron
1440	last water switched to smaller tubing											
	water black - odor											
1510		100					66.0					
1520					7.56	0.88	59.7	-173	1.03	27.2		
1525					7.55	0.89	49.0	-191	0.96	27.1		
1530					7.54	0.89	44.1	-201	0.74	26.9		
535					7.54	0.89	30.2	-208	0.61	26.9		
1540					7.54	0.89	31.3	-212	0.58	26.9		
1545					7.54	0.89	29.8	-214	0.54	26.8	0.80 Limit	0.29

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	~~Amber~~	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	non

Sampling Personnel SD pH ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH 4.05 tubing 2' from bottom

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B6-03GW02 Date 25 Sept 00 (1 / 1)

Screen Setting 22-17 Measuring Point Description Top of Casing Casing Diameter (inches) 11"

Static Water Level 13.80 Measured Width Well Materials PVC ✓ St. Steel

23. BLS Total depth 25.0 Pump On: 1040 Pump Rate: 200ml/min

Purge Method Sta 1.75 Pump Off: 1150 Volumes Purged

Centrifugal Submersible Other ✓ Sample Time: 1120 - 1145 Weather: Sampled By: Diane Mosher

DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1045							481					
							229					
1050	5				7.62	1.2 S/m	163	-358	0.33	15.5		
1100	15				7.59	1.4 S/m	102.6	-390	0.0	16.0		
1105					7.58	1.4 S/m	62.8	-385	0.0	15.9		
1110	25				7.58	1.4 S/m	48.9	-383	0.0	15.8		
1115	30				7.58	1.4 S/m	25.6	-386	0.0	16.0		
1120					7.58	1.5 S/m	13.1	-380	0.0	16.1		
1125	40										0.57	0.15
1145					7.59	1.4 S/m	17.8	-385		16.8		

Constituents Sampled	Container Description	Number	Preservative
TSS	Plas	1	Ice
Total As, Spec	↓	1	↓
Diss As, Spec	↓	1	↓
Total Metals	↓	1	HNO3 Ice
Diss Metals	↓	1	↓
Benzene	VOA	3	HCL Ice

Sampling Personnel Diane Mosher

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

DH ✓ 3.98 Tubing set -2' bottom of well

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 2

Project/No. MA000646.0001.00002 Well B603GW03 Date 9/26/03

Screen Setting 32-27 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 14.42 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 35.18 Pump On: 1055 Pump Rate: 200

Purge Method STICKUP 1.95 Pump Off: 1230 Volumes Purged

Centrifugal ✓ Sample Time: 1205 Weather: Rain 50

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos mS/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
			≈1.5 with check valve									
1103		200					OR		C			
1120					7.60	0.695	369	-186	0.80	15.0		
1125					7.60	0.71	289	-214	0.52	15.2		
1135					7.57	0.73	129	-223	0.42	15.3		
1140					7.57	0.73	95.7	-224	0.41	15.3		
1145					7.56	0.73	73.8	-228	0.39	15.3		
1150					7.56	0.73	60.9	-228	0.38	15.2		
1155					7.56	0.73	49.7	-231	0.37	15.2		
1200					7.56	0.73	44.3	-233	0.36	15.2		
1205					7.56	0.73	41.2	-235	0.36	15.2	0.53	1.24

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO3
D Metals	"	1	"
T Arsenic	amber	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH 3.91 pH 3.91 tubing 2' from bottom

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B6-04GW01 Page 1 of 1 Field Staff: HAT

Date Sampled 4/11/01
Stick-up Height 2' feet
Depth to Water 6.47 feet below top of casing
Total Depth 15 feet below top of casing
Depth of Tubing (sample interval) 14 feet below top of casing

Sulfide: 0.59 mg/L
ferrous iron: 0.16 mg/L

Start purge 1215
Start parameters
End purge
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
Water & silt black, H_2O only gray, odor.

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B6-04GW02RMS Page 1 of 1 Field Staff: LC

Date Sampled 5/4/01
Stick-up Height 2.0 feet
Depth to Water 8.70 feet below top of casing
Total Depth 18.5' feet below top of casing
Depth of Tubing (sample interval) 17.5' feet below top of casing

Sulfide: 0.80mg/L
ferrous iron: 330mg/L

Start purge 0915
Start parameters
End purge 1050
Total purge time: 1 hours, 25 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

PID = 27.3ppm, collect 2 VOAs, 1 Total As/As Spec, 1 Total Metals, 1 Dis. Met, 1 TSS w/ pump

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B6-04GW03R ~~NS~~ Page 1 of 1 Field Staff: HAT

Date Sampled 5/4/01
Stick-up Height 0.9 feet
Depth to Water 7.5 feet below top of casing
Total Depth 22 feet below top of casing
Depth of Tubing (sample interval) 21 feet below top of casing

sulfide = 0.80 mg/L
ferrous iron = 3.30 mg/L

Start purge 0900, 1345
Start parameters
End purge 1130, 1410
Total purge time: 2 hours, 55 minutes
Parameters Stabilized?

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments PID = 2.5 ppm
Sample well not less than 50 mL/min. Collected condensed sulfa

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

Project/No. MA000646.0001.00002 Well B605GW01 Date 9/21/00

Screen Setting 12-7 Measuring Point Description top of pipe Casing Diameter (inches) 1

Static Water Level 8.19 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 15.02 Pump On: 1130 Pump Rate: 150

stickup 2.04

Purge Method Pump Off: 1243 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 1220 Weather: cloudy windy

Submersible Sampled By:

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1145					6.04	79	620	-68	3.31	19.4		
1150					6.38	76	162	-120	1.02	19.3		
1155					6.61	74	88.2	-147	0.74	19.2		
1200					6.69	74	68.4	-145	0.67	19.1		
1205					6.79	75	70.9	-146	0.61	18.9		
1210					6.82	75	62.0	-146	0.58	19.0		
1215					6.85	75	13.6	-146	0.56	19.0		
1220					6.89	75	8.27	-145	0.55	19.0	0.01	3.30 Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	plas amber	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCl
TSS	plas	1	none

Sampling Personnel SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

p H-4.09 tubing 2' from bottom

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B605GW02 Date 9/25/00

Screen Setting 22-17 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 8.40 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth ~~24.90~~ 25.96 Pump On: ~~910~~ 905 Pump Rate: 200

stickup 2.01

Purge Method Pump Off: 1025 Volumes Purged

Centrifugal ✓ Sample Time: 1000 Weather: Cloudy

Submersible Sampled

Other DUP / MS / MSD By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
910		200					OR					
915							OR					
925					6.70	0.13	647	-99	3.82	14.6		
930					6.60	0.14	473	-117	1.36	15.0		
935					6.63	0.14	243	-124	0.82	15.2		
940					6.69	0.14	150	-126	0.84	15.3		
945					6.65	0.14	89.2	-127	0.79	15.3		
950					6.65	0.14	68.1	-127	0.63	15.4		
955					6.65	0.14	42.2	-127	0.58	15.4		
1000					6.66	0.14	29.3	-127	0.58	15.4	0.07	3.30 Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	plas Amber	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH 4.04 tubing 2' from bottom

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B6-056-W03NS Page 1 of 1 Field Staff: LC

Date Sampled 4/5/01
Stick-up Height 1.0 feet
Depth to Water 5.92 feet below top of casing
Total Depth 39.5 feet below top of casing
Depth of Tubing (sample interval) 39.0 feet below top of casing

Sulfide = 0.80 mg/L
ferrous iron = 3.30 mg/L

Start purge 1245
Start parameters 1615
End purge 1645
Total purge time: 4 hours, — minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1615		400		13.27	869	7.10	16.2	26.56	—
1620	5	400		12.69	887	6.81	10.3	20.95	—
1625	10	400		12.45	886	6.43	-4.5	7.56	—
1630	15	400		12.42	887	6.47	-21.3	3.78	—
1635	20	400		12.39	888	6.49	-26.4	3.55	—
1640	25	400		12.41	889	6.53	-30.0	3.63	—
1645	30	400		12.41	890	6.52	-31.2	3.46	—

Comments
extremely silty purge water, turbidity over range

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B7-016W01 Date 12 Sept 2006

Screen Setting 9-4 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 5.82 Measured Width Well Materials PVC ✓ Steel

Total depth 13.22 Pump On: 1115 Pump Rate: 165 mL/min

Stickup 2.39

Purge Method Pump Off: 1235 Volumes Purged

Centrifugal Sample Time: 1200 - Weather: Sun 70

Submersible Sampled By: Diane Mosher

Other ✓ DUP / MS / MSD

Time	Minutes Elapsed	Rate ~~(gpm)~~ (mL)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1120	0				6.25	0.15	990	-136	[illegible]	23.5	*D.O. = 1.29	
1125		165			6.51	0.15	990	-153	1.79	23.4		
1130	10				6.55	0.15	990	-129	3.71	22.9		
1135					6.46	0.15	700	-122	3.72	22.5		
1140	20				6.46	0.15	80	-121	3.88	22.5		
1145					6.46	0.15	55	-119	4.19	22.2		
1150	30				6.47	0.15	24	-119	4.33	22.1		
1155					6.46	0.15	21	-118	4.03	21.9		
1200	40				6.48	0.15	18	-117	3.99	21.8		
					6.48	[illegible]	[illegible]	-123	4.41	24.5		330

Constituents Sampled	Container Description	Number	Preservative
Benz. Toluene	VOA	3	HCl / Ice
TSS	Plas	1	Ice
Total Metal	1	1	HNO3 / Ice
Diss Metal	1	1	1
As tot Spec	Amber	1	Ice
As dis Spec	1	1	1

Sampling Personnel Diane Mosher pH - ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B7-016W02 Date 13 Sept 00

Screen Setting 16-11 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 6.11 Measured Width Well Materials PVC / Steel

Total depth 18.90 Pump On: 1650 Pump Rate: 150 mL/m

Purge Method 5/4 2.23 Pump Off: 1920 Volumes Purged

Centrifugal Submersible Other ✓ Sample Time: 1850 Weather: Sun 70's

DUP / MS / MSD Sampled By: DM

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1650	0	150			6.62	0.16	O/R	-105	0.81	24.4		
1655					6.28	0.14	O/R	-99	0.32	23.5		
1700					6.26	0.14	O/R	-100	0.23	23.5		
1705					6.22	0.13	O/R	-101	0.75	23.3		
1710					6.23	0.12		-104	1.42	23.0		
1715					6.24	0.12		-105	1.43	22.8		
1720												
1725												
1730												
1735			—	—	6.28	0.09	494	-113	1.53	21.9		
1745					6.28	0.09	278	-113	2.04	21.8		
1755					6.25	80	100.6	-112	2.25	21.5		
1810					6.25	79	77.6	-113	2.33	21.1		
1820					6.26	78	68.3	-114	2.48	20.8		
1825					6.25	76	70.4	-112	2.40	20.4		
1830					6.25	76	93.4	-112	2.44	20.1		
1835		200			6.25	76	71.8	-112	2.39	19.8		
1840		150			6.24	75	58.8	-107	2.76	19.2		
1845					6.23	75	31.4	-102	3.04	18.9		
1850					6.22	75	24.7	-99	2.94	18.7	0.18	3.30
					6.18	75	18.6	-95	2.99	18.4		

Constituents Sampled	Container Description	Number	Preservative
Benzene toluene	VOA	3	HCL Ice
TSS	Plas	1	Ice
TOTAL As SPEC	↓	1	Ice
DISS As Spec		1	Ice
Total Metals		1	HNO3 Ice
DISS Metals		1	HNO3 Ice

Sampling Personnel DMosher pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

Resampled mid zone

1 of 1

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B7-01-GW-02 Date 9/19/00

Screen Setting 35-30 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level ~~4.53~~ 6.29 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 37.60 Pump On: 1000 Pump Rate:

s/g 2.51

Purge Method Pump Off: 1215 Volumes Purged 5 gals

Centrifugal Sample Time: 1135 Weather: Sunny, 60's

Submersible Sampled By: AR

Other peristaltic DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
1035		150		2	5.92	53	137	-4	0.67	14.9		
1040					5.91	52	65.6	-3	0.51	15.0		
1045					5.90	51	71.1	0	0.50	15.4		
1055					5.88	51	44.1	-2	0.60	16.0		
1100		100ml		3	5.87	52	38.9	-1	0.64	16.7		
1105					5.87	51	33.5	-3	0.67	16.8		
1110					5.87	52	30.4	-3	0.69	16.9		
1115					5.89	52	26.0	-3	0.68	16.9		
1125				4.5	5.90	52	21.4	-4	0.69	16.7		
1205												2.23
1216											0.11	

Constituents Sampled	Container Description	Number	Preservative
Benzene Toluene	Glass	3	HCl Ice 4°C
Total Metals	plastic	1	HNO3
Dissolved Metals	plastic	1	HNO3
TSS	plastic	1	None
Total Arsenic	plastic	1	None
Dissolved Arsenic	plastic	1	None

Sampling Personnel pH ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well BZ-01GW03 Date 9/18/00

Screen Setting 61-56 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 63.1 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 64.1 Pump On: 1245 Pump Rate: 100

stickup 1.95 Purge Method Pump Off: 1720 Volumes Purged

Centrifugal Submersible Other Sample Time: 1645 Weather: Sampled By: SD

DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ~~mS/cm~~ S/m	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1255	10				6.52	0.09	OR	-127	0.00	17.8		
1300					6.60	76mS	OR	-134	0.00	19.0		
1305		150			6.65	61mS	OR	-136	0.00	20.1		
1310					6.62	56	OR	-133	0.00	20.5		
1315		100			6.63	50	OR	-133	0.00	21.8		
1320					6.63	49	OR	-134	0.00	22.4		
1330					6.62	46	OR	-136	0.00	23.5		
1335					6.60	45	OR	-138	0.00	24.4		
1340					6.59	45	OR	-138	0.00	24.6		
1350					6.58	43	OR	-139	0.04	25.4		
1355	70				6.56	44	OR	-139	0.09	25.9		
1400					6.55	44	OR	-140	0.09	26.1		
1410		90			6.52	44	OR	-141	0.04	26.5		
1420					6.51	44	OR	-142	0.09	26.6		
1430					6.52	45	OR	-143	0.11	26.8		
1440					6.52	45	OR	-144	0.12	26.9		
1450	125				6.52	45	OR	-145	0.11	26.9		
1500					6.50	45	917	-146	0.11	26.8		
1510					6.50	46	770	-146	0.11	26.7		
1520					6.50	46	863	-146	0.13	26.6		

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	amber	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

.roundwater Sampling Form

2 2

Project/No. MA000646.0001.00002 Well B70GW03 Date 9/18/00

Screen Setting _____ Measuring Point Description _____ Casing Diameter (inches) _____

Static Water Level _____ Measured Width _____ Well Materials PVC ___ ST. Steel

Total depth _____ Pump On: _____ Pump Rate: _____

Purge Method ✓ Pump Off: _____ **Volumes Purged** _____

Centrifugal ✓ **Sample Time:** _____ Weather: _____

Submersible _____ Sampled By: _____

Other _____ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1530	165	80			6.50	46	703	-147	0.12	26.4		
1540					6.50	46	644	-147	0.11	26.3		
1550	185				6.50	45	571	-148	0.14	26.0		
1600					6.49	45	625	-148	0.14	25.6		
1610					6.50	45	511	-148	0.14	25.2		
1620					6.50	45	530	-147	0.16	25.0		
1630					6.49	45	581	-143	0.14	24.8		
1645					6.49	95	497	-143	0.15	24.8	0.80 Limit	3.30 Limit
4 hours - sampled "NS"												

Constituents Sampled	Container Description	Number	Preservative

Sampling Personnel _____

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B7-02GW01NS Page 1 of 1 Field Staff: LC

Date Sampled 3/9/01
Stick-up Height 1.5' feet
Depth to Water 11.59' feet below top of casing
Total Depth 28.7' feet below top of casing
Depth of Tubing (sample interval) 19.7' feet below top of casing

Sulfide: 0.80mg/L
Ferrous Iron: 3.30mg/L

Start purge 0930
~~Start parameters~~
End purge 1025
Total purge time: ____ hours, 55 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
- very silty sample, no water produced w/ peristaltic pump, sample w/ tubing and check valve
- collect condensed suite – sample VOC's directly from check valve, all other sample allowed to settle prior to collection in bottles

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B7-02GW02 Page 1 of 1 Field Staff: HT

Date Sampled 3/14/01
HAT Stick-up Height ~~1.80~~ 0.8 feet
Depth to Water 11.88 feet below top of casing
Total Depth 28.5 feet below top of casing
Depth of Tubing (sample interval) 27.5 feet below top of casing

sulfide = 0.08 mg/L
ferrous iron = 3.30 mg/L

Start purge 1220
Start parameters 1250
End purge 1425
Total purge time: 2 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1250	0	300		11.50	1291	5.94	17.9	7.24	300
1255	5			11.51	1288	5.92	18.0	7.37	320
1300	10			11.51	1269	5.89	23.1	7.47	350
1305	15			11.55	1260	5.88	23.8	7.45	350
1310	20			12.15	1251	5.87	25.2	7.36	240
1315	25			11.53	1245	5.88	27.8	7.45	110
1320	30			11.46	1242	5.87	28.3	7.48	110
1325	35			11.54	1238	5.87	29.5	7.44	90
1330	40			11.93	1234	5.87	29.7	7.43	80
1335	45			12.10	1227	5.86	30.3	7.39	60
1340	50			12.39	1226	5.86	30.3	7.44	50
1345	~~60~~ 55	HAT		12.18	1220	5.86	30.7	7.37	45
1350	60			11.69	1218	5 ~~8~~.87 HT	31.8	7.42	45
1355	65			11.45	1216	5.87	32.6	7.47	45
1400	70			11.47	1211	5.87	33.8	7.40	37
1405	75			11.40	1209	5.87	33.5	7.43	~~35~~ HT 75
1410	80			11.36	1206	5.87	34.2	7.49	67.8
1415	85			11.39	1204	5.86	34.2	7.43	40.0
1420	90			11.43	1193	5.86	34.2	7.37	37.4
1425	95			11.71	1199	5.87	33.8	7.35	40.08

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B7-OBGW03NS Page 1 of 1 Field Staff: MH

Date Sampled 3/9/01
Stick-up Height -.9' feet
Depth to Water 11.21' feet below top of casing
Total Depth 38.8' feet below top of casing
Depth of Tubing (sample interval) 37.8' feet below top of casing

Sulfide: 0.80mg/L
Ferrous Iron: 3.30mg/L

Start purge 0925
Start parameters
End purge 1025
Total purge time: 1 hours, ____ minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
extremely silty, no water produced w/ peristaltic pump, sample w/ tubing + check valve condensed suite - sample VOC's w/ check valve all other sample allowed to settle prior to collection in sample bottles

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B7-03-GW-01 Date 9/21/00

Screen Setting 15-10 Measuring Point Description ToC Casing Diameter (inches) 1"

Static Water Level 11.2 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 17.27 Pump On: 0820 Pump Rate: 100 ml/min

Purge Method Stick 1.9' Pump Off: 1000 Volumes Purged 2.5

Centrifugal Submersible Other Peristaltic Sample Time: 0930 Weather: Sunny 60's

DUP / MS / MSD Sampled By: AR

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
0855		100			4.03	0.47	94.6	278	8.62	19.8		
0900		↑			3.87	0.47	89.0	279	8.24	18.9		
0905					3.86	0.47	71.6	279	8.04	18.5		
0910					3.86	0.46	65.6	279	7.85	18.4		
0915					3.86	0.46	35.7	280	7.80	18.4		
0918 ~~0918~~					3.86	0.46	34.6	280	7.73	18.4		
0921		↓		2.5	3.86	0.46	27.4	280	7.65	18.5		
1000												2.40
1010											0.80 limit	
Ph. cal: 4.01												

Constituents Sampled	Container Description	Number	Preservative	
Benzene Toluene	GLASS	3	HCl	Ice 4°C
Total Metals	plastic	1	HNO_3	
Dissolved Metals	plastic	1	HNO_3	
Total Arsenic	plastic Amber	1	None	
Dissolved Arsenic	plastic Amber	1	None	
TSS	plastic	1	None	

Sampling Personnel pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

Tubing (sample point) 2ft off Bottom of Bonding

not sent in
missed 10% error margin on depth

ARCADIS GERAGHTY & MILLER
Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B7-03-GW-02 Date 9/22/00

Screen Setting 21-16 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 13.09 Measured Width Well Materials PVC / ST. Steel

Total depth 21.9 Pump On: 0820 Pump Rate:

Purge Method Stick 1.70 Pump Off: 1145 **Volumes Purged**

Centrifugal Submersible **Sample Time:** 1110 Weather: Sunny 60's

Other Peristaltic DUP / MS / MSD Sampled By: AR

Time	Minutes Elapsed	Rate (gpm) MLP	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
0835		100					OR					
0845							OR					
0900							OR					
0910							801					
0920					7.11	0.28	636	-285	0.00	15.8		
0925					7.16	0.28	505	-292	0.00	15.9		
0930					7.17	0.28	431	-299	0.00	16.0		
0935					7.17	0.29	378	-309	0.00	16.1		
0940					7.15	0.28	287	-317	0.00	16.2		
0945					7.13	0.27	247	-322	0.00	16.4		
0950					7.12	0.28	219	-322	0.00	16.5		
1005					7.10	0.27	178	-324	0.00	16.8		
1010					7.10	0.27	138	-333	0.00	16.9		
1015				2.5	7.10	0.27	92.8	-332	0.00	16.9		
1020					7.16	0.27	73.1	-335	0.00	17.0		
1025					7.10	0.27	65.6	-339	0.00	17.0		
1030					7.10	0.27	81.0	-342	0.00	17.1		
1035					7.11	0.27	80.3	-351	0.00	17.4		
1040					7.11	0.27	60.1	-350	0.00	17.6		
1045					7.11	0.27	42.7	-359	0.00	17.7		

Constituents Sampled	Container Description	Number	Preservative
Benzene, Toluene	GLASS	3	HCl Ice
Total Metals	plastic	1	HNO_3
Dissolved Metals	plastic	1	HNO_3
TSS	plastic	1	none
Total Arsenic	plastic Amber	1	none
Dissolved Arsenic	plastic Amber	1	none

Sampling Personnel pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

Tubing 2' from bottom of Boring

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B7-03-GW-02 Date 9/22/00

Screen Setting _____ Measuring Point Description _____ Casing Diameter (inches) _____

Static Water Level 13.09 Measured Width _____ Well Materials PVC ___ ST. Steel

Total depth 21.9 Pump On: 0820 Pump Rate: _____

Purge Method Gelc 1.70 Pump Off: _____ **Volumes Purged** _____

Centrifugal _____ **Sample Time:** 1110 Weather: _____

Submersible _____ Sampled By: _____

Other _____ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
1050				3.5	7.11	0.27	47.6	-350	0.00	12.6		
1055					7.11	0.27	40.1	-340	0.00	12.6		
1100					7.11	0.27	25.4	-333	0.00	12.5		
1133												1.74
1143											0.80	
											Limit	

Constituents Sampled	Container Description	Number	Preservative

Sampling Personnel _____

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

Project/No. MA000646.0001.00002 Well B7-03-GW-02R Date 10/2/00

Screen Setting 30-25 Measuring Point Description ToC Casing Diameter (inches) 1"

Static Water Level 11.60 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 31.40 Pump On: 0845 Pump Rate: 100ml/min

Stickup 0.71 Purge Method Pump Off: 1140 Volumes Purged 7

Centrifugal Submersible Sample Time: 1005 Weather: Cloudy low 50's

Other Peristaltic DUP / MS / MSD Sampled By: AR

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
		w/	check	valve	purged	2	gal					
0915		100		4			OR					
0925							220					
0940					4.02	0.46	36	309	9.10	13.4		
0945					4.03	0.46	45	298	9.06	13.5		
0950					4.02	0.46	34	298	8.33	13.7		
0905												
0955					4.03	0.46	25	299	8.26	13.9		
1115												1.9mg/L
1120											0.8mg/L limit	

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH-✓

F:\work2000\forms\LOWFLO646.xls

Tubing 2' from Bottom

ARCADIS GERAGHTY & MILLER

oundwater Sampling Form

Project/No. MA000646.0001.00002 Well B7-03-GW-03 Date 09/22/00

Screen Setting 51-46 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 13.11 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 51.76 Pump On: 1310 Pump Rate: 100 ml/min

Stick 1.71 Purge Method Pump Off: 1705 Volumes Purged

Centrifugal Submersible Other peristaltic Sample Time: 1635 Weather: Sunny / 70's

DUP / MS / MSD Sampled By: AR

Time	Minutes Elapsed	Rate (gpm) (ml)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
1345		100		0.5			OR					
1400							OR					
1415				2.0			OR					
1430							OR					
1445							OR					
1500				3.0			OR					
1530		250					OR					
1535					7.17	0.95	238	-200	0.41	16.9		
1540		100			7.23	1.0	177	-213	0.00	16.4		
1544				4.0	7.27	1.1	167	-213	0.00	16.4		
1548					7.28	1.1	178	-213	0.00	17.0		
1552					7.29	1.1	139	-214	0.00	17.3		
1556					7.30	1.1	124	-214	0.00	17.6		
1600					7.30	1.1	105	-214	0.00	17.8		
1605					7.31	1.1	82	-212	0.00	17.9		
1610					7.31	1.1	48	-210	0.00	18.4		
1615					7.31	1.1	42	-207	0.00	18.6		
1620					7.31	1.1	41	-203	0.00	18.4		
1625					7.31	1.1	38	-205	0.00	18.5		
1640											0.49	1.04

Constituents Sampled	Container Description	Number	Preservative
Benzene Toluene	GLASS	3	HCl Ice 4°C
Total Metals	plastic	1	HNO_3
Dissolved Metals	plastic	1	HNO_3
TSS	plastic	1	none
Total Arsenic	plastic Amber	1	none
Dissolved Arsenic	plastic Amber	1	none

Sampling Personnel pH - ✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

Tubing set 2' from Bottom

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B7-046W01 Page 1 of 1 Field Staff: LC

Date Sampled 3/12/01
Stick-up Height — feet
Depth to Water ~~7.85~~ ~~6.05~~ 7.85' feet below top of casing
Total Depth ~~33.0'~~ 13.5' feet below top of casing
Depth of Tubing (sample interval) ~~32.0'~~ 12.5' feet below top of casing

Sulfide 0.49 mg/L
Ferrous Iron: 1.3 mg/L

Start purge 0945
Start parameters 1010
End purge 1050
Total purge time: 1 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1010		300		6.10	962	6.95	-55.6	5.52	6.5
1015	5	300		7.63	952	7.10	-69.8	5.81	4.6
1020	10	300		7.58	956	7.33	-78.6	5.26	4.9
1025	15	300		7.57	963	7.42	-81.7	5.15	2.4
1030	20	300		7.59	963	7.46	-83.2	4.83	1.4
1035	25	300		7.53	962	7.46	-83.7	4.96	5.9
1040	30	300		7.53	964	7.50	-84.2	5.07	4.8
1045	35	300		7.66	965	7.54	-86.0	4.71	4.4
1050	40	300		7.69	970	7.54	-86.3	4.95	4.7

Comments
too much snow to accurately measure stick up

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B7-04GW02 Page 1 of 1 Field Staff: LC

Date Sampled 4/10/01
Stick-up Height 1.0 feet
Depth to Water 5.10 feet below top of casing
Total Depth 23.0 feet below top of casing
Depth of Tubing (sample interval) 22.0 feet below top of casing

sulfide: 0.09mg/L
ferrous iron: 1.89mg/L

Start purge 0845
Start parameters 0910
End purge 0955
Total purge time: 1 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0910		400		9.99	1756	6.62	123.6	0.31	18.8
0915	5	400		9.97	1743	6.83	18.3	0.14	19.1
0920	10	400		9.99	1751	6.90	-9.8	0.07	19.5
0925	15	400		9.99	1762	6.99	-40.9	0.04	20.0
0930	20	400		10.03	1765	7.02	-55.0	0.03	19.5
0935	25	400		10.03	1763	7.02	-57.3	0.02	20.3
0940	30	400		10.01	1769	7.04	-69.8	0.02	18.8
0945	35	400		10.01	1766	7.05	-74.9	0.01	19.4
0950	40	400		10.04	1767	7.06	-78.9	0.01	18.3
0955	45	400		10.04	1767	7.07	-84.6	0.01	18.2

Comments

water initially black w/ sheen → then become clear
pungent odor

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B7-04GW03 Page 1 of 1 Field Staff: HT/LC

Date Sampled 3/12/01
Stick-up Height _____ feet
Depth to Water ~~7.85~~ 6.05 feet below top of casing
Total Depth 33 feet below top of casing
Depth of Tubing (sample interval) 32 feet below top of casing

Sulfide: 0.07mg/L
ferrous iron: 0.26mg/L

Start purge 0945
Start parameters 1010
End purge 1115
Total purge time: 1 hours, 30 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1010	0	400		11.77	6561	7.68	50.4	0.12	190
1015	5			10.83	6545	7.68	39.7	0.20	100
1020	10			10.80	6518	7.68	54.5	0.33	35
1025	15			10.78	6492	7.68	63.7	0.45	25
1030	20			10.80	6482	7.69	70.5	0.52	20
1035	25			10.77	6460	7.69	77.1	0.54	16
1040	30			10.81	6438	7.69	83.1	0.62	17
1045	35			10.79	6437	7.70	88.0	0.66	15
1050	40 *								
1055	45			10.84	6401	7.69	102.2	0.69	14
1100	50			10.86	6383	7.71	101.9	0.80	15
1105	55			10.90	6375	7.71	105.6	0.87	13
1110	60			10.84	6376	7.71	110.2	0.90	12
1115	65			10.90	6351	7.71	113.1	0.93	12

Comments

* went to get new battery
collected sample + MS/MSD, B7-04GW03MS and B7-04GW03MSD

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

1 of 1

Project/No. MA000646.0001.00002 Well B7-05-GW-01 Date 09/21/00

Screen Setting 11-6 Measuring Point Description TOC Casing Diameter (inches) 1"

Static Water Level 8.94 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 12.74 Pump On: 1130 Pump Rate: 100

Slick 1.78

Purge Method Pump Off: 1300 Volumes Purged

Centrifugal Sample Time: 1240 Weather: Cloudy 60's

Submersible Sampled By: AR

Other Peristaltic DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
1155		100		1	3.94	0.47	397	255	8.47	20.8		
1200					3.93	0.47	260	255	8.50	19.4		
1205					3.92	0.47	242	255	8.29	18.6		
1210					3.91	0.46	90.3	256	8.01	18.2		
1215				2	3.92	0.46	40.3	256	7.26	18.1		
1220					3.91	0.46	23.8	256	7.17	18.1		
1225		↓			3.92	0.46	28.0	256	7.32	18.2		
1245											~~0.12~~	3.3/max it
1256											0.12	

Constituents Sampled	Container Description	Number	Preservative
Benzene, Toluene	Glass	3	HCl Ice
Total Metals	plastic	1	HNO3
Dissolved Metals	plastic	1	HNO3
TSS	plastic	1	none
Total Arsenic	plastic Amber	1	none
Dissolved Arsenic	plastic Amber	1	none

Sampling Personnel pH-V

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

Sampling Point 2'ft from BOB

not sent in
missed 10% middle zone
(03 - to 78')

ARCADIS GERAGHTY & MILLER
'oundwater Sampling Form

Project/No. MA000646.0001.00002 Well B70SG1002 Date 25 Sept 00

Screen Setting 21.5-16.5 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 8.15 Measured Width W/L Meter Well Materials PVC / SS. Steel

2.5 Total depth 23.9 Pump On: 840 Pump Rate: 105 ML/min

S/u 1.21

Purge Method Pump Off: 955 Volumes Purged 4gal

Centrifugal Sample Time: 925-950 Weather:

Submersible Sampled By: D. Mosher

Other ✓ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
850	10				6.85	76	O/R	-2	2.07	14.1		
855					6.19	70	680	13	1.63	14.1		
900	20				6.16	69	373	11	0.69	14.1		
905					6.14	68	118	10	0.61	14.0		
910	30				6.13	67	45.6	11	0.53	14.0		
915	35				6.13	67	43.5	12	0.53	14.0		
920	40				6.12	67	23.9	13	0.51	14.0		2.65
950					6.18	69	17.8	12	0.74	13.7		

Constituents Sampled	Container Description	Number	Preservative
TSS	Plas	1	Ice
Diss As Spec	↓	1	↓
Total As Spec	↓	1	↓
Total Metals	↓	1	HNO3 / Ice
Diss Metals	↓	1	↓
Benzene	VOA	3	HCL / Ice

Sampling Personnel DM

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH Check 3.99 Tubing back 1.0'

ARCADIS GERAGHTY & MILLER

'oundwater Sampling Form

Project/No. MA000646.0001.00002 Well B705GW02R Date 9/27/00

Screen Setting 45-40 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 14.34 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 49.1 Pump On: 1055 Pump Rate: 100

stickup 2.46

Purge Method Pump Off: 1530 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 1500 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1040				≈4g	very silty or sandy (fines)							
1110		150					OR					
1155							OR					
1255							OR					
1315		<100					OR					
1400							891					
1407							641					
1415					6.38	61	269	-80	1.04	16.7		
1420					6.36	61	256	-82	0.78	16.5		
1425					6.38	61	213	-84	0.71	16.4		
1430					6.38	61	161	-85	0.66	16.3		
1435					6.39	61	128	-85	0.65	16.4		
1440					6.40	61	94.9	-86	0.66	16.4		
1445					6.41	61	71.8	-86	0.66	16.4		
1450					6.41	61	71.1	-85	0.61	16.2		
1455					6.41	60	63.8	-85	0.64	16.4		
1500					6.43	61	47.6	-86	0.64	16.4		
				≈8.5								

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	amber	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH - 4.01

~~tubing~~ tubing 3' from bottom

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

10/2/00 1 of 2

Project/No. MA000646.0001.00002 Well B705 GW03 Date 9/27/00

Screen Setting 77.5-72.5 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 20.30 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 78.20 Pump On: ~~1535~~ 0920 Pump Rate: 100

stickup 1.96

Purge Method Pump Off: 1405 Volumes Purged

Centrifugal ✓ Sample Time: 1320 Weather:

Submersible Sampled

Other DUP / MS / MSD By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
				≈4.5g very silty & sandy								
10/2/00 came back to well to try to sample												
				≈1g								
920	pump on						OR					
935		200					476					
950					5.79	73	280	-17	2.51	14.63		
955					6.28	71	324	-81	0.88	14.65		
1000		150			6.46	71	336	-104	0.75	14.68		
1010					6.64	71	350	-119	0.72	14.77		
1015		100			6.68	71	420	-122	0.71	14.93		
1030					6.77	71	446	-128	0.78	14.83		
1040					6.84	70	698	-146	0.71	14.79		
1050					6.85	70	726	-153	0.68	14.79		
1100					6.85	70	812	-156	0.67	14.81		
1110		<100			6.88	69	982	-161	0.64	14.90		
1125					6.93	69	1021	-169	0.66	15.11		
1140					6.95	68	OR	-172	0.62	15.41		
1200					6.98	46	OR	-177	0.60	15.64		

Constituents Sampled	Container Description	Number	Preservative
TMetals	plas	1	HNO_3
DMetals	"	1	"
TArsenic	amber	1	none
DArsenic	"	1	"
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH-4.05 Tubing 2.0' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

Project/No. MA000646.0001.00002 Well B705GW03US Date 10/2/00

Screen Setting _____ Measuring Point Description _____ Casing Diameter (inches) _____

Static Water Level _____ Measured Width _____ Well Materials PVC ___ ST. Steel

Total depth _____ Pump On: 920 Pump Rate: _____

Purge Method Pump Off: 1405 **Volumes Purged** _____

Centrifugal _____ **Sample Time:** 1320 Weather: _____

Submersible _____ Sampled By: _____

Other _____ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1220		<100			6.99	38	OR	-180	0.58	15.91		
1235					7.07	38	1059	-187	0.62	16.45		
1250					7.08	38	893	-189	0.60	17.26		
~~1305~~												
1305					7.00	38	710	-186	0.56	18.08		
1320					7.02	38	380	-188	0.53	18.76	0.39	3.30, Limit
						sampled as MS						

Constituents Sampled	Container Description	Number	Preservative

Sampling Personnel _____

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B7-066W01 Page 1 of 1 Field Staff: LC

Date Sampled 3/16/01
Stick-up Height 1.9 feet
Depth to Water 7.34 feet below top of casing
Total Depth 12.5' feet below top of casing
Depth of Tubing (sample interval) 12.0 feet below top of casing

Sulfide: 0.01 mg/L
ferrous iron: 0.66 mg/L

Start purge 0855
Start parameters 0915
End purge 1005
Total purge time: 1 hours, 10 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0915		400		5.22	276	7.55	52.8	8.03	67.1
0920	5	400		4.94	274	6.95	78.2	7.96	38.2
0925	10	400		5.06	272	6.62	94.9	7.87	35.4
0930	15	400		5.01	273	6.22	106.9	8.49	19.2
0935	20	400		5.04	272	6.03	114.9	7.87	18.0
0940	25	400		5.04	272	5.88	122	7.84	24.7
0945	30	400		5.02	272	5.77	127.1	7.91	18.1
0950	35	400		5.00	272	5.61	131.2	8.43	14.5
0955	40	400		5.00	272	5.53	134.2	7.88	13.5
1000	45	400		5.04	271	5.51	137.2	7.98	14.1
1005	50	400		5.08	271	5.50	138.8	7.97	13.3

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B7-06GW02 Page 1 of 1 Field Staff: LC

Date Sampled 3/26/01
Stick-up Height 1.8' feet
Depth to Water ~~19.2~~ 5.78' feet below top of casing
Total Depth 19.5' feet below top of casing
Depth of Tubing (sample interval) 18.5 feet below top of casing

Sulfide: 0.07mg/L
ferrous iron: 0.47mg/L

Start purge 0900
Start parameters 0925
End purge 1000
Total purge time: 1 hours, – minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0925		400		7.36	345	7.32	120.1	6.51	9.5
0930	5	400		7.08	337	6.93	108.3	5.90	3.7
0935	10	400		6.95	321	6.33	112.2	5.72	2.0
0940	15	400		7.08	314	5.92	118.1	5.87	2.7
0945	20	400		7.05	313	5.90	117.9	5.83	3.0
0950	25	400		7.08	306	5.76	120.0	5.76	2.1
0955	30	400		7.10	305	5.75	121.0	5.77	2.1
1000	35	400		7.17	300	5.67	122.4	5.80	1.5

Comments

Collect sample and duplicate, B7-06GW0299

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B7-06GW03 Page 1 of 1 Field Staff: HT

Date Sampled 3/16/01
Stick-up Height 0.7 feet
Depth to Water 6.55 feet below top of casing
Total Depth 23.5 feet below top of casing
Depth of Tubing (sample interval) 23.5 feet below top of casing

Sulfide = 0.01 mg/L
iron = 0.21 mg/L

Start purge 0955
Start parameters 0910
End purge 1000
Total purge time: 1 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0910	0	400		8.35	438	6.66	75.7	4.32	700
0915	5			8.50	423	5.86	67.8	2.36	400
0920	10			8.46	424	5.43	100.1	2.06	164
0925	15			8.37	424	5.40	111.9	2.06	64.5
0930	20			8.41	423	5.36	124.2	2.31	25
0935	25			8.35	422	5.36	130.9	2.08	15.3
0940	30			8.50	420	5.31	~~280~~ 144	2.06	7.8
0945	35			8.53	421	5.31	148.6	2.03	5.6
0950	40			8.54	421	5.28	151.7	2.04	4.5
HT 0955	45			8.71	419	5.29	152.1	2.03	3.9
1000	50			8.73	417	5.29	153.3	2.05	2.6

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B7-076W01 Page 1 of 1 Field Staff: LC

Date Sampled 4/4/01
Stick-up Height 2.0 feet
Depth to Water 5.36 feet below top of casing
Total Depth 16 feet below top of casing
Depth of Tubing (sample interval) 15 feet below top of casing

sulfide: 0.01 mg/L
ferrous iron: 1.76 mg/L

Start purge 1140
Start parameters 1320
End purge 1440
Total purge time: 3 hours, — minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1320		400		9.33	173	6.26	120.3	8.93	145
1325	5	400		9.31	173	6.05	125.0	8.90	88.5
1330	10	400		9.32	172	5.99	126.8	8.96	65.8
1335	15	400		9.28	172	5.89	131.7	9.02	37.8
1340	20	400		9.24	171	5.89	133.4	9.12	35.6
1345	25	400		9.21	171	5.84	137.2	9.19	31.0
1350	30	400		9.23	171	5.84	137.9	9.16	29.7
1355	35	400		9.10	171	5.81	140.2	9.16	37.2
1400	40	400		9.14	170	5.80	142.1	9.15	36.0
1405	45	400		9.12	171	5.79	143.5	9.20	72.9
1410	50	400		9.14	170	5.80	145.3	9.25	98.6
1415	55	400		9.13	171	5.80	146.7	9.60	50.9
1420	60	400		9.08	170	5.78	148.2	9.29	36.1
1425	65	400		9.14	171	5.78	149.6	9.25	40.5
1430	70	400		9.19	170	5.78	151.1	9.40	33.1
1435	75	400		9.14	170	5.76	152.4	9.25	30.7
1440	80	400		9.13	170	5.77	153.6	9.25	31.2

Comments

Ferry 938-0946

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B7-07GW02 Page 1 of ___ Field Staff: HAT

Date Sampled 4/5/01
Stick-up Height 2' feet
Depth to Water 8.66 feet below top of casing
Total Depth 25 feet below top of casing
Depth of Tubing (sample interval) 24 feet below top of casing

sulfide = 0.03 mg/L
ferrous iron = 0.84 mg/L

Start purge 1220
Start parameters 1250
End purge 1355
Total purge time: 1 hours, 35 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)	
1250	0	400		11.52	511	5.41	81.9	0.54	360	
1255	5			11.34	511	5.50	64.8	0.42	320	
1300	10			11.33	512	5.60	47.0	0.34	160	
1305	15			11.31	513	5.66	37.8	0.31	60	
1310	20			11.40	512	5.70	33.3	0.33	28	
1315	25			11.36	513	5.74	32.4	0.26	17	
1320	30			11.56	511	5.73	30.6	0.25	14	
1325	35			11.51	513	5.74	29.4	0.24	11	
1330	40			11.48	513	5.74	28.7	0.23	8.8	
1335	45			11.53	513	5.76	27.6	0.22	8.9	
1340	50			11.50	514	5.76	27.0	0.22	6.5	
1345	55			11.56	513	5.77	25.6	0.23	5.57	HAT
1350	60			11.47	514	5.77	25.3	0.22	5.97	
1355	65			11.36	515	5.77	25.0	0.21	5.57	
~~1400~~	~~70~~	HAT								

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B7-07GW03 Page 1 of 2 Field Staff: HAT

Date Sampled 4/4/01
Stick-up Height 1.2 feet
Depth to Water 9.64 feet below top of casing
Total Depth 38 feet below top of casing
Depth of Tubing (sample interval) 38 feet below top of casing

Sulfide: 0.02 mg/L
ferrous iron: 0.87

Start purge 1140
Start parameters 1240
End purge 1440
Total purge time: 3 hours, — minutes HAT
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1240	0	400		11.45	398	6.10	79.0	27.36	40
1245	5			11.43	400	5.90	47.1	2.25	32
1250	10			11.65	400	5.88	36.4	1.73	65
1255	15			11.66	400	5.92	20.2	1.40	140
1300	20			11.72	400	5.97	16.0	1.21	100
1305	25			11.79	400	5.96	12.2	1.12	95
1310	30			11.59	400	5.97	13.9	1.03	80
1315	35			11.42	399	6.01	15.4	1.15	55
1320	40			11.56	399	5.99	16.9	1.02	40
1325	45			11.69	399	5.99	17.6	1.01	30
1330	50			11.75	400	6.00	18.4	0.97	26
1335	55			11.76	400	5.99	20.2	0.95	20
1340	60			11.76	400	5.97	21.4	0.94	20
1345	65			11.80	400	5.96	22.4	0.93	15
1350	70			11.80	399	5.97	23.2	0.93	14
1355	75			11.65	400	5.96	24.8	0.90	12
1400	80			11.78	400	5.97	26.0	0.92	9.2
1405	85			11.74	400	6.00	26.4	0.94	8.3
HAT ~~15~~ 1410	90			11.76	400	5.98	28.0	~~0.89~~ 0.90 HAT	7.2

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B7-07GW03 Page 2 of 2 Field Staff: HAT

Date Sampled 4/4/01
Stick-up Height 1.2 feet
Depth to Water 9.64 feet below top of casing
Total Depth 38 feet below top of casing
Depth of Tubing (sample interval) 38 feet below top of casing

Start purge 1140
Start parameters 1240
End purge 1440
Total purge time: 3 hours, — minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1415	95	400		11.75	400	5.97	30.7	0.88	5.3
1420	100	↓		11.72	401	6.03	29.7	0.94	7.6
1425	105			11.71	402	6.00	30.5	0.85	5.2
1430	110			11.72	401	6.00	30.4	0.84	4.3
1435	115			11.70	401	6.01	30.8	0.83	3.9
1440	120	↓		11.57	402	6.02	31.6	0.82	3.4

Comments

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well B8-016WOX Date 26Sept 00

Screen Setting 19-14 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 15.54 Measured Width Well Materials PVC ✓ ~~St.~~ Steel

Total depth 21.89 Pump On: 810 Pump Rate: 125 ml/min

S/u 1.98 Purge Method Pump Off: 950 Volumes Purged 3 Gal

Centrifugal Sample Time: 855 - 945 Weather:

Submersible Sampled By: DMosher

Other ✓ (DUP) / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos (ms/cm)	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
825	15				6.65	92	112	-132	0.74	14.8		
830					6.30	87	63.1	-119	0.26	15.0		
835					6.22	83	36.1	-106	0.14	15.2		
840	30				6.08	79	17.1	-102	0.25	15.4		
845					6.09	78	14.1	-109	0.26	15.4		
850					6.08	76	5.2	-110	0.24	15.5		
											0.72	2.13
945					6.09	73	8.0	-67		13.8		

Constituents Sampled	Container Description	Number	Preservative
TSS	Plas	1	Ice
Diss As Spec	↓	1	↓
Tot As Spec	↓	1	↓
Diss metals	↓	1	HNO3 Ice
Total Metals	↓	1	↓
Benzene	VOA	3	HCL Ice

Sampling Personnel Diane Mosher

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH ✓ 4.00 Tubing - 1'

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 2

Project/No. MA000646.0001.00002 Well B8.0161002 Date 27 ~~[illegible]~~ Sept 00

Screen Setting 39-34 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 15.50 Measured Width w/c meter #3 Well Materials PVC ✓ ~~S.~~ Steel

Total depth 40.20 Pump On: 14:25 (Purge/clear) Pump Rate: 100 mL/min

Stickup 1.60 Purge Method Pump Off: 1705 Volumes Purged

Centrifugal Sample Time: 1630-1700 Weather: Sun 60°S

Submersible Sampled By: Diane Mosher

Other ✓ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (mL)	DTW	Gallons Purged	pH	Cond. umhos (mS/cm)	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1520		100			6.18	0.36	176.0	-41	1.77	17.8		
1525	60				6.21	0.39	175.0	-46	0.84	16.7		
1530					6.22	0.40	158	-47	0.65	16.8		
1535					6.24	0.41	101.0	-46	0.63	16.3		
1540					6.24	0.41	70.8	-45	0.63	16.3		
1545					6.25	0.41	61.8	-44	0.65	16.3		
1550					6.25	0.41	50.6	-44	0.66	16.3		
1555					6.25	0.41	46.0	-43	0.74	16.3		
1600					6.26	0.41	36.2	-42	0.86	16.5		
1605					62.6	0.41	31.2	-41	1.07	16.6		
1610					6.26	0.41	31.8	-41	0.84	16.6		
1615					6.26	0.41	27.5	-40	0.75	16.6		
1620					6.26	0.41	21.4	-39	0.72	16.2		
1625	120				6.26	0.41	18.2	-39	0.71	16.2	0.08	330

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel Diane Mosher

[illegible]2000\forms\ DWFL0646.xls

pH ✓ 4.12 tubing - 1.5' " " "

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B80IGW02R Date 9/29/00

Screen Setting 49.44 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 15.70 Measured Width Well Materials ✓ PVC / ✓ ST. Steel

Total depth 51.60 Pump On: 1015 Pump Rate: 300

stickup 2.04

Purge Method Pump Off: ~~1130~~ 1255 Volumes Purged

Centrifugal ✓ Sample Time: 1130 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1025					5.80	0.39	1047	-93	1.16	14.7		
1010				≈1.5 g removed with check valve								
1040		300			5.90	0.38	230	-84	0.68	14.4		
1045					5.92	0.38	153	-81	0.64	14.3		
1050					5.93	0.38	111	-80	0.63	14.4		
1055					5.93	0.38	102.3	-79	0.62	14.4		
1100					5.94	0.38	92.5	-79	0.60	14.4		
1105					5.94	0.38	67.1	-78	0.60	14.4		
1115					5.95	0.38	42.7	-77	0.58	14.4		
1120					5.96	0.38	46.1	-76	0.57	14.4	0.10	
1125					5.96	0.38	41.7	-75	0.56	14.5	~~0.10~~	3.30 Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

~~Sampling Personnel~~ pH ✓ - 4.01 tubing 2.5' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B801GW03 Date 9/29/00 1 1

Screen Setting 77-72 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 16.45 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 78.75 Pump On: 1310 Pump Rate: 100

Stickup 1.95 Purge Method Pump Off: 1740 Volumes Purged

Centrifugal ✓ Sample Time: 1710 Weather:

Submersible Other DUP / MS / MSD Sampled By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
930		water would not overcome 17' head										
1030		≈1.5g water with check valve										
1335							OR					
1350		<100					OR	well not recovering well				
1435							OR					
1510	120						OR					
1535							OR					
1610					6.08	0.73	OR	-102	1.37	19.1		
1620					6.13	0.83	OR	-113	0.46	16.8		
1630					6.14	0.84	OR	-115	0.43	16.3		
1640					6.17	0.85	OR	-118	0.40	15.9		
1650					6.18	0.85	OR	-121	0.38	15.9		
1700					6.17	0.85	OR	-119	0.39	15.6		
1710					6.17	0.85	OR	-119	0.39	15.5	water too turbid for Hach to read	
			Sampled as "NS"									

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel

F:\stds2000\forms\LOWFLO646.xls

pH - 4.05 tubing 2.5' from bottom

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B8-026W01 Page 1 of 1 Field Staff: LC

Date Sampled 2/21/01
Stick-up Height 1.91' feet
Depth to Water 21.94' feet below top of casing
Total Depth 27.0' feet below top of casing
Depth of Tubing (sample interval) 26.0' feet below top of casing

Sulfide: 0.80 mg/L
Ferrous iron: 0.91 mg/L

Start purge 1400
Start parameters 1515
End purge 1550
Total purge time: 1 hours, 50 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1515		400		11.51	1442	7.01	-128.0	4.69	31.7
1520	5	400		11.59	1437	7.20	-137.7	4.74	8.44
1525	10	400		11.64	1436	7.20	-139.8	4.76	6.81
1530	15	400		11.66	1431	7.21	-145.3	4.77	6.32
1535	20	400		11.64	1426	7.08	-145.4	4.86	4.42
1540	25	400		11.63	1426	7.16	-148.0	4.87	4.71
1545	30	400		11.66	1428	7.24	-149.8	4.75	4.95
1550	35	400		11.58	1428	7.20	-149.7	4.96	5.65

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B8-02GW02NS Page 1 of 1 Field Staff: LC

Date Sampled 2/22/01, 3/1/01
Stick-up Height 1.9' feet
Depth to Water 20.55' feet below top of casing
Total Depth 46.3' feet below top of casing
Depth of Tubing (sample interval) 45.3' feet below top of casing

Sulfide: 0.80 mg/L
ferrous iron: 1.84 mg/L

Start purge 1430, 1420
Start ~~parameters~~
End purge 1500, 1430
Total purge time: ____ hours, 40 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

-could not sample using pump, sampled and purged with check valve
-extremely silty water, pungent odor, collected condensed suite (Total As/As Spec. - 1 bottle,
-3/1/01 -> collect 3 VOC vials w/ tubing + check valve, No VOC's collected TSS, Total Metals (Unpreserved)

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample 88-02GWR3NS Page 1 of 1 Field Staff: MH

Date Sampled 2/21/01, 3/1/01
Stick-up Height .73 feet
Depth to Water 22.17 feet below top of casing
Total Depth 64.7 feet below top of casing
Depth of Tubing (sample interval) 63.7 feet below top of casing

SULFIDE: 0.80 mg/L
FERROUS IRON: UNREADABLE ERROR (?)

Start purge 1400, 1400
Start parameters —
End purge 1445, 1420 + 15 min SURGE TIME
Total purge time: 0 hours, 45 minutes total = 65 min.
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

COLLECTED CONDENSED SUITE MINUS VOC VIALS.
EXTREMELY SILTY. USED CHECK VALVE DUE TO DTW > 20 feet.
3/1/01 → collected 3 VOC vials w/ tubing + check valve (Beyond pump capability)

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B803GW01 Date 9/25/00 1 1

Screen Setting 22-17 Measuring Point Description top of pipe Casing Diameter (inches) 1

Static Water Level 19.05 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 24.04 Pump On: *1105 Pump Rate: 175

stickup 2.09

Purge Method Pump Off: 1225 Volumes Purged

Centrifugal ✓ Sample Time: 1200 Weather: Sunny 65

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1120		175					OR					
1125							621					
1135					6.14	72	260	-88	0.81	15.5		
1138					6.15	71	19.9	-89	0.77	15.5		
1143					6.15	70	16.3	-91	0.72	15.5		
1146					6.15	70	12.8	-92	0.69	15.5		
1150					6.15	69	12.3	-92	0.65	15.5		
1155					6.15	69	13.3	-92	0.64	15.5	0.02	3.30 limit

Constituents Sampled	Container Description	Number	Preservative
TMetals	plas	1	HNO_3
DMetals	"	1	"
TArsenic	plas amber	1	none
DArsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH 4.04 @ tubing 2' from bottom

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B803GW02 Date 9/26/00 1 1

Screen Setting 28-23 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 19.10 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 30.15 Pump On: 825 Pump Rate: 175

stickup 1.96

Purge Method Pump Off: ~~1000~~ 1040 Volumes Purged

Centrifugal ✓ Sample Time: 930 Weather:

Submersible Sampled By: SD

Other DUP MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
845		175					OR					
850							OR					
855							~~OR~~ 860					
900					6.07	56	272	-118	1.30	14.0		
905					5.98	48	139	-121	0.48	14.0		
910					5.98	46	74.2	-117	0.46	14.0		
915					6.00	45	42.3	-116	0.47	13.9		
920					6.00	43	22.0	-113	0.49	13.9		
925					6.02	43	17.8	-114	0.51	13.9		
930					6.03	42	20.2	-115	0.51	13.8	0.03	3.30 Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	amber plas	1	none
D Arsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH-3.96 tubing 2' from bottom

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

10/3/00 1 1

Project/No. MA000646.0001.00002 Well B803GW02R Date 9/28/00

Screen Setting 39-34 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 19.04 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 41.75 Pump On: 1355 925 Pump Rate:

Stickup 2.25 Purge Method ✓ Pump Off: Volumes Purged

Centrifugal ✓ Sample Time: Weather:

Submersible Other DUP / MS / MSD Sampled By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
				≈0.5g with check valve								
1315			well going dry -									
1535			moved to another well to allow to recover									
10/3/00												
925	pump on											
935	well not producing water											
			19.76									
940	moved to another well											
10/4/00												
810	pump set on ground - stickup cut off											
825	still not producing water											

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO3
D Metals	plas	1	HNO3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel

F:\stds2000\forms\LOWFLO646.xls

PQ5

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B803GW03NS Date 9/28/00

Screen Setting 55-50 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 19.03 Measured Width Well Materials PVC / ✓ ST. Steel

Total depth 57.5 Pump On: 845 Pump Rate: 100

Stickup 1.91 Purge Method Pump Off: 1350 Volumes Purged

Centrifugal ✓ Sample Time: 1245 Weather:

Submersible Other DUP / MS / MSD Sampled By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
				≈2g with check valve - very sandy & silty								
905		175					OR					
925		100					OR					
935							OR					
955							OR					
935		4100					OR					
1055							OR					
1215					7.50	1.1(S)	OR	-196	0.94	15.9		
1225					7.53	1.1	958	-221	0.31	16.1		
1235					7.54	1.1	801	-228	0.27	16.7		
1245					7.55	1.1		-224	0.27	16.6	0.90 limit	2.44

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO3
D Metals	plas	1	HNO3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel

E:\ardc2000\forms\LOWFLO646.xls

pH 4.01 tubing 3' from bottom

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B8-03GW00R Page 1 of 1 Field Staff: LC/AG

Date Sampled 8/2/01
Stick-up Height 1.2 feet
Depth to Water 18.41 feet below top of casing
Total Depth 41.0 feet below top of casing
Depth of Tubing (sample interval) 39.0 feet below top of casing

Sulfide: 0.09 mg/L
ferrous iron: 3.30 mg/L

Start purge 0915
Start parameters ~~1115~~ 1130 AG
End purge 1255
Total purge time: 3 hours, 40 minutes
Parameters Stabilized? _____

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
~~1115~~ 1130 AG		400	5	17.00	2425	6.79	-57.3	0.01	27
1135	5			14.83	2373	6.90	-135.2	0.36	27
1140	10			15.06	2345	6.62	-90.4	0.63	17
1145	15			15.09	2342	6.99	-120.7	0.65	16
1150	20			17.84	2327	7.13	-104.8	4.26	34
1200	25			13.99	2117	6.08	-119.6	1.80	31
1205	30			14.12	2104	6.87	-119.0	0.90	23
1210	40			14.15	2110	7.06	-131.7	0.88	20
1220	50			14.03	2124	6.97	-133.1	0.80	22
1225	55			14.02	2126	6.21	-37.7	1.27	19
1230	60		10	14.07	2122	7.00	-130.0	0.84	19
1235	65			14.13	2126	7.08	-136.3	0.73	18
1240	70			14.31	2124	7.09	-136.5	0.79	24
1245	75			14.08	2130	6.96	-128.2	0.83	22
1250	80			14.06	2130	6.99	-132.7	0.87	22
1255	85			14.22	2128	7.00	-138.1	0.76	20

Comments

Collect sample suite for plume delineation

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B8-04GW01 Page 1 of 1 Field Staff: HT+HH

Date Sampled 2/22/01
Stick-up Height 2.0 feet
Depth to Water 15.50 feet below top of casing
Total Depth 20.50 feet below top of casing
Depth of Tubing (sample interval) 19.50 feet below top of casing

Sulfide: 0.0mg/L
ferrous iron: 1.45 mg/L

Start purge 1030
Start parameters 1045
End purge 1205
Total purge time: 1 hours, 20 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1045	0	400		9.88	266	5.07	146.6	2.21	5.33
1050	5			9.90	265	5.00	147.7	1.67	3.17
1055	10			9.94	264	4.92	151.3	1.02	3.90
1100	15			9.91	263	5.00	149.6	0.63	3.59
1105	20			9.72	262	4.94	152.9	0.37	5.53
1110	25			9.97	262	4.84	156.0	0.21	3.01
1115	30			9.87	259	5.00	164.0	0.05	3.35
1120	35			9.96	258	HH 4.93	167.4	0.04	2.86
1125	40			9.94	257	4.87	176.6	0.04	3.01
1130	45			9.94	254	4.84	185.3	0.03	3.20
1135	50			9.97	255	4.83	189.3	0.03	3.47
1140	55			10.03	254	HH 4.88	HH 194.9	0.04	3.17
1145	60			9.90	254	4.90	203.2	0.02	2.96
1150	65			9.79	253	4.90	207.7	0.04	2.81
HH 1155 ~~1200~~	70			9.80	251	4.87	214.6	0.02	3.05
1200	75			9.79	251	4.90	219.6	~~0.03~~ HH	2.76
1205	80			9.67	251	4.81	221.3	0.02	2.89

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B8-04GW02 Page 1 of ___ Field Staff: HT/LC

Date Sampled 3/26/01 HAT
Stick-up Height 1.8 ~~14.59~~ feet
Depth to Water 14.59 feet below top of casing
Total Depth 47.5 feet below top of casing
Depth of Tubing (sample interval) 46.5 feet below top of casing

Sulfide = 0.15 mg/L
ferrous iron = 0.94 mg/L

Start purge 1350
Start parameters 1400
End purge 1525
Total purge time: 1 hours, 35 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1400	0	400		10.85	13101	7.90	70.8	1.58	58.5
1405	5	400		10.77	13205	7.93	60.2	1.45	64.1
1410	10	400		10.67	13350	7.91	22.8	1.24	41.5
1415	15	400		10.60	13375	7.92	-6.0	1.35	61.0
1420	20	400		10.57	13408	7.62	-5.0	1.54	52.4
1425	25	400		10.55	13408	7.83	-30.0	1.7	22.6
1430	30	400		10.40	13441	7.91	-32.0	1.97	42.1
1435	35	400		10.35	13454	7.81	-26.3	2.28	16.1
1440	40	400		10.34	13454	7.84	-27.5	2.30	18.0
1445	45	400		10.31	13460	7.87	-28.3	2.43	25.4
1450	50	400		10.21	13479	7.89	-27.0	2.62	18.9
1455	55	400		10.21	13481	7.88	-26.5	2.60	20.4
1500	60	400		10.23	13502	7.45	-18.0	2.70	13.1
1505	65	400		10.26	13517	7.68	-4.2	2.63	14.0
1510	70	400		10.24	13557	7.88	-7.6	2.77	10.8
1515	75	400		10.24	13546	7.87	-8.0	2.86	4.78
1520	80	400		10.25	13581	7.88	-10.3	2.49	9.59
1525	85	400		10.27	13582	7.85	-10.3	3.08	9.0

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B8 04GW03 Page 1 of 1 Field Staff: HT/MH

Date Sampled 2/22/01
Stick-up Height 9.5" feet
Depth to Water unreadable feet below top of casing
Total Depth 64.0 feet below top of casing
Depth of Tubing (sample interval) 63.0 feet below top of casing

sulfide 0.47 mg/L
Ferrous iron 1.93 mg/L

Start purge 1419
Start parameters 1510
End purge 1620
Total purge time: 1 hours, 59 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1510	0	200		7.84	116.30	6.70	119.3	0.05	91
1515	5	200		7.80	12318	7.23	82.5	0.05	212
1520	10			7.24	12325	7.87	74.7	0.02	222
1525	15			8.53	12300	7.83	60.8	0.01	480
1530	20			8.25	12291	7.85	30.6	0.01	496
1535	25			8.00	12301	7.87	9.7	0.00	265
1540	30			7.85	12301	7.83	10.7	0.01	161
1545	35			7.85	12301	7.84	9.3	0.00	290
1550	40			7.75	12308	7.97	4.7	0.00	125
HMT 1555 1600	45			7.53	12323	7.87	3.6	0.00	145
1600	50			7.47	12323	7.87	1.1	0.00	114
1605	55			7.28	12343	7.94	5.6	0.00	96
1610	60			7.23	12346	7.95	5.6	0.00	88.7
1615	65			7.10	12358	7.97	9.0	0.00	90.5
~~1620~~									

Comments

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well B805GW01 Date 9/25/00

Screen Setting 12-7 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 8.84 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 14.70 Pump On: ~~1450~~ ~~1443~~ 1450 Pump Rate: 250

Stickup @ 2.05

Purge Method Pump Off: 1555 Volumes Purged

Centrifugal ✓ Sample Time: ~~15~~ 1530 Weather: Cloudy 60

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1458		250										
1505					6.07	66	158	-91	0.70	14.8		
1510					6.08	66	63.2	-92	0.60	14.7		
1515					6.11	65	24.9	-93	0.53	14.7		
1520					6.13	65	16.3	-93	0.50	14.6		
1525					6.15	65	13.9	-94	0.48	14.6		
1530					6.16	64	13.2	-95	0.47	14.6	0.08	3.30 Limit

Constituents Sampled	Container Description	Number	Preservative
TMetals	plas	1	HNO3
DMetals	"	1	"
TArsenic	amberplas	1	none
DArsenic	"	1	"
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

DH-4.09

tubing 2' from bottom

not sent in
missed 10% window

ARCADIS GERAGHTY & MILLER
Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B805GW02 Date 9/27/00 / /

Screen Setting 23.5-18.5 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 8.31 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 25.1 Pump On: 852 Pump Rate: 325

stickup 1.51

Purge Method Pump Off: 1000 **Volumes Purged**

Centrifugal ✓ **Sample Time:** 935 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
845				#1 with check valve								
905		325			5.94	76	217	-84	1.12	13.3		
910					6.33	71	62.7	-128	0.60	13.1		
915					6.39	71	46.2	-133	0.56	13.1		
920					6.49	71	23.9	-140	0.53	13.1		
925					6.57	71	13.3	-143	0.49	13.1		
930					6.61	70	10.66	-144	0.47	13.1		
935					6.65	70	9.44	-146	0.45	13.1	0.01	3.30 Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	"	1	"
T Arsenic	amber	1	none
D Arsenic	"	1	none
Benz Tol	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH - 4.03 tubing 2' from bottom

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well B8-056W02R Date 28 Sept 00

Screen Setting 44-39 Measuring Point Description TOC Casing Diameter (inches) 1"

Static Water Level 9.45 Measured Width W/L #3 Well Materials PVC ✓ Steel

Total depth 46.7 Pump On: 1535 Pump Rate: 100 mL/m

Stickup 1.80 Purge Method Pump Off: 1750 Volumes Purged

Centrifugal Sample Time: 1730 Weather: Cloudy 50's

Submersible Other ✓ DUP / MS / MSD Sampled By: DMosher

Time	Minutes Elapsed	Rate (gpm) (mL)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1500-1545	Develop / Purge Set up											
1545-1600	Purge to turbidity standards											
1605					7.55	0.40	62	-122	2.04	14.3		
1615		100			7.62	0.44	43.0	-157	0.29	13.8		
1625					7.64	0.45	65	-171	0.16	13.8		
1635					7.65	0.45	70	-177	0.02	13.9		
1645		<100			7.66	0.45	310	-184	0.00	14.0		
well begins to dry, air brings along sediments												
1650		<100			7.68	0.45	320	-184	0.0	14.1		
1700					7.65	0.43	110	-200	0.00	13.7		
1705					7.65	0.43	85	-203	0.00	13.3		
1710					7.65	0.44	55	-207	0.0	13.3		
1715					7.62	0.45	45	-188	0.0	13.2		
1720					7.62	0.44	40	-178	0.0	13.0	.30	3.18
1725												

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO3
D Metals	plas	1	HNO3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH - ✓

401-463-8448

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well B8056W03 Date 9/28/00

Screen Setting 75.5-70.5 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 9.03 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 79.83 Pump On: 1610 Pump Rate: 150

Stickup 1.85 Purge Method Pump Off: 1725 Volumes Purged

Centrifugal ✓ Sample Time: 1655 Weather:

Submersible Sampled

Other DUP / MS / MSD By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
				≈2.5 g	purged with check valve							
1625					6.88	0.27	200	-122	1.27	13.5		
1630					6.68	0.25	100	-148	0.85	13.3		
1638					6.68	0.24	65	-156	0.76	13.3		
1636					6.70	0.24	50	-160	0.72	13.3		
1644					6.75	0.24	40	-163	0.64	13.2		
1648					6.78	0.24	40	-164	0.60	13.1		
1651					6.78	0.24	40	-164	0.58	13.1	0.24	3.30 Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel

pH 4.05 tubing 2.5' from bottom

B8-06GW01NS – not on COC

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample ~~B6 08GW01~~ Page 1 of 1 Field Staff: HAT

Date Sampled HAT 4/4 4/10/01
Stick-up Height 2 feet
Depth to Water 12.19 feet below top of casing
Total Depth 15.1 feet below top of casing
Depth of Tubing (sample interval) 14 feet below top of casing

sulfide = 0.13 mg/L
ferrous iron = 3.30 mg/L

Start purge 1120
Start parameters
End purge 1320
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
less than 50 mL/min. Did collect the full sweep

B8-06GW01RNS

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample ~~B6-08GW01RNS~~ Page 1 of 4 Field Staff: HAT

Date Sampled 5/4/01
Stick-up Height 2 feet
Depth to Water 11.2 feet below top of casing
Total Depth 15 feet below top of casing
Depth of Tubing (sample interval) 14 feet below top of casing

sulfide: 0.09 mg/L
ferrous iron: 3.30

Start purge 1215
Start parameters
End purge 1340
Total purge time: 1 hours, 25 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
much less than 50 mL/min

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B8-066W02R Page 1 of 1 Field Staff: LC

Date Sampled 4/27/01
Stick-up Height 2.0' feet
Depth to Water – feet below top of casing
Total Depth 32.5' feet below top of casing
Depth of Tubing (sample interval) 31.5' feet below top of casing

sulfide: 0.00mg/L
ferrous iron: 1.52mg/L

Start purge 0930
Start parameters 1000
End purge 1035
Total purge time: 1 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1000		400		12.66	14.03	7.22	156.4	1.84	20
1005	5	400		12.78	1388	7.00	153.8	1.38	22
1010	10	400		12.98	1368	6.68	137.3	0.81	11
1015	15	400		13.01	1366	6.68	135.0	0.76	12
1020	20	400		13.01	1361	6.65	124.6	0.72	10
1025	25	400		13.02	1356	6.65	118.2	0.68	7.8
1030	30	400		12.99	1353	6.64	111.8	0.66	7.5
1035	35	400		12.98	1350	6.64	108.4	0.64	7.1

Comments
Collect sample and duplicate, B8-066W0299

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B8-06GW03 R Page 1 of 1 Field Staff: HAT

Date Sampled 4/26/01
Stick-up Height 0.7 feet
Depth to Water NM feet below top of casing
Total Depth 55 feet below top of casing
Depth of Tubing (sample interval) 54' feet below top of casing

sulfide = 0.05
ferrous iron = 1.59

Start purge 1500
Start parameters 1535
End purge 1620
Total purge time: 1 hours, 20 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1535	0	400		13.80	2229	6.35	146.4	1.52	19
1540	5			13.37	2242	6.42	136.0	0.64	17
1545	10			13.30	2244	6.47	120.5	0.47	14
1550	15			13.28	2246	6.49	108.0	0.36	14
1555	20			13.27	2245	6.49	97.0	0.31	9.3
1600	25			13.26	2251	6.50	93.2	0.29	10
1605	30			13.25	2251	6.50	82.5	0.26	11
1610	35			13.24	2251	6.51	80.5	0.23	8.4
1615	40			13.22	2247	6.52	75.7	0.23	8.0
1620	45			13.22	2247	6.50	73.0	0.22	8.2

Comments

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well B90GW01 Date 9/25/00

Screen Setting 10-5 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 7.45 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 12.80 Pump On: 1315 Pump Rate: 225

stickup 2.19

Purge Method Pump Off: 1420 Volumes Purged

Centrifugal ✓ Sample Time: 1355 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1325		225			6.13	74	143	-98	1.88	17.3		
1330					6.33	73	338	-110	0.87	17.0		
1335					6.39	72	12.8	-116	0.67	16.9		
1340					6.45	72	6.71	-120	0.65	16.7		
1345					6.47	72	4.21	-122	0.63	16.8		
1350					6.50	72	3.81	-124	0.54	16.8	0.07	3.30 Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas		
D Metals	"		
T Arsenic	amber plas		
D Arsenic	"		
Benz Tol	VOA		
TSS	plas		

Sampling Personnel SD

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH - 4.08 tubing 2' from bottom

ARCADIS GERAGHTY & MILLER

·oundwater Sampling Form

1 2

Project/No. MA000646.0001.00002 Well B9-016WC2 Date ~~26 Sept 2000~~ 26 Sept 00

Screen Setting 22-17 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 7.38 Measured Width W/L Meter Well Materials PVC ✓ St. Steel

Total depth 23.80 Pump On: 1100 Pump Rate: 100 mL/m

Purge Method S/4 0.9 Pump Off: 1245 Volumes Purged

Centrifugal Submersible Other ✓ Sample Time: 1143 Weather: Sampled By: D. Mosher

(DUP) / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1105		100			6.60	1.1	221	-115	0.0	12.9		
1110					6.62	1.1	127	-125	0.0	12.5		
1115					6.61	1.1	503	-126	0.0	12.8		
1120					6.62	1.1	404	-123	0.0	12.8		
1125					6.62	1.1	348	-120	0.0	12.8		
1130					6.62	1.1	650	-117	0.0	12.9		
1135					6.62	1.1	36.7	-116	0.0	12.9		
1140					6.62	1.1	31.5	-119	0.0	12.8		
1145					6.61	1.1	27.0	-121	0.0	12.8		
1240					6.62	1.2	36.1	-106	0.0	12.5	0.48	2.48

Constituents Sampled	Container Description	Number	Preservative
TSS	Plas	1	Ice
Diss As Spec	Glass Amb	1	↓
Total As Spec	Glass Amb	1	↓
Total Metals	Plas	1	HNO3 Ice
Diss Metals	↓	1	↓
Benzene	VOA	3	HCL Ice

Sampling Personnel D Mosher

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well B9-016W03 Date 28 Sept 00

Screen Setting 30-25 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 7.30 Measured Width W/L #3 Well Materials PVC ✓ Stainless Steel

Total depth 33.31 Pump On: 945 Pump Rate: 100ml/min

Stickup 1.63 Purge Method Pump Off: 1230 Volumes Purged

Centrifugal Sample Time: 1135-1225 Weather: Cloud 50's

Submersible Other ✓ DUP / MS / MSD Sampled By: Diane Mosher

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos (ms/cm)	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
800-945	Develop, purge, Recover (well went dry)											
945-1020	wait for turbidity levels to come into range											
1020		100			6.91	1.0	486.0	-132	0.88	15.3		
1025					6.92	1.1	420	-129	1.07	15.2		
1030					6.94	1.1	306	-125	0.32	15.4		
1035					6.95	1.1	211	-120	0.00	15.8		
1040					6.95	1.1	201	-119	0.00	15.8		
1045					6.95	1.1	182	-118	0.00	16.1		
1050					6.95	1.1	138	-117	0.00	16.2		
1055					6.95	1.1	108	-115	0.00	16.0		
1100					6.95	1.1	101	-115	0.00	15.9		
1105					6.95	1.1	96.1	-112	0.00	15.4		
1110					6.97	1.1	88.1	-109	0.00	15.4		
1115					6.96	1.1	66.2	-109	0.00	15.4		
1120					6.97	1.11	45.1	-108	0.00	15.4		
1125					6.97	1.1	43.5	-107	0.00	15.4		
1130					6.97	1.1	38.0	-106	0.00	15.5	0.32	3.30

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel Diane Mosher

F:\sdx2000\forms\LOWFLO646.xls

pH r 3.93

Tubing up 2.5' bottom

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B9-02GW01 Page 1 of 1 Field Staff: HT

Date Sampled 3/2/01
Stick-up Height 1.8 feet
Depth to Water 6.10 feet below top of casing
Total Depth 9.5 feet below top of casing
Depth of Tubing (sample interval) 8.5 feet below top of casing

sulfide = 0.00 mg/L
iron = 3.30 mg/L

Start purge 0850
Start parameters 0910
End purge 0940
Total purge time: – hours, 50 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0910	0	400		5.96	739	6.26	-40.7	4.48	4.2
0915	5			5.97	738	6.30	-43.8	4.36	2.4
0920	10			5.97	739	6.35	-48.4	4.48	3.1
0925	15			5.91	736	6.38	-49.8	4.97	2.4
0930	20			5.93	735	6.41	-51.5	4.69	2.5
0935	25			5.95	736	6.42	-51.7	4.84	3.0
0940	30			5.98	735	6.42	-51.8	4.97	2.4

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B9-026MW02 Page 1 of 1 Field Staff: LC

Date Sampled 3/14/01
Stick-up Height 2.1 feet
Depth to Water 6.01' feet below top of casing
Total Depth 24.9' feet below top of casing
Depth of Tubing (sample interval) 24.4' feet below top of casing

Sulfide: 0.2mg/L
ferrous iron: 3.3mg/L

Start purge ~~1450~~ 1455
Start parameters 1605
End purge 1640
Total purge time: 1 hours, 45 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1605		400		11.43	5181	6.29	-22.2	4.62	95
1610	5	400		11.49	5186	6.33	-24.5	4.60	73.3
1615	10	400		11.45	5096	6.34	-25.6	4.61	66.4
1620	15	400		11.38	5086	6.35	-26.3	4.63	65.4
1625	20	400		11.36	5073	6.35	-26.9	4.74	70.8
1630	25	400		11.35	5087	6.36	-27.3	4.73	52.5
1635	30	400		11.34	5060	6.37	-27.7	4.78	50.7
1640	35	400		11.30	5123	6.37	-27.8	4.80	53.1

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B9-02GW03 Page 1 of 1 Field Staff: HAT

Date Sampled 3/2/01
Stick-up Height _____ feet
Depth to Water 4.61' feet below top of casing
Total Depth 52' feet below top of casing
Depth of Tubing (sample interval) 51' feet below top of casing

sulfide = 0.10 mg/L
iron = 3.30 mg/L

Start purge 1030
Start parameters 1155
End purge ~~1310~~ 1305 HAT
Total purge time: 2 hours, 35 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1155	0	400		9.89	3556	6.72	-67.3	4.60	380
1200	5			10.96	3551	6.71	-67.5	4.40	220
1205	10			11.20	3551	6.70	-67.7	4.30	110
1210	15			11.28	3550	6.70	-67.0	4.08	65
1215	20			11.02	3550	6.70	-66.0	3.87	60
1220	25			11.32	3555	6.70	-65.3	3.73	60
1225	30			11.42	3553	6.70	-65.0	3.50	45
1230	35			11.18	3555	6.70	-64.4	3.68	60
1235	40			11.09	3557	6.70	-64.3	3.36	50
1240	45			10.98	3555	6.70	-64.5	~~2.50~~	55
1245	50			11.06	3560	6.70	-64.1	3.09	37
1250	55			11.13	3560	6.70	-64.8	3.32	36
~~1300~~ 1255	60			11.10	3560	6.70	-64.3	2.63	29
1300	65			11.21	3564	6.71	* -64.4	2.66	31
1305	70			11.21	3564	6.71	-63.8	2.65	31

HAT
* 3.38 (DO)
* 64.4

Comments

ARCADIS GERAGHTY & MILLER

oundwater Sampling Form

Project/No. MA000646.0001.00002 Well B9-036W01 Date 25 Sept 00

Screen Setting 9-4 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 5.78 Measured Width Well Materials PVC ✓ ~~St.~~ Steel

Total depth 11.28 Pump On: 1320 Pump Rate: 100 mL/min

Purge Method S/U 1.4 Pump Off: 1435 Volumes Purged

Centrifugal Submersible Other ✓ Sample Time: 1410- Weather: Sampled By: D. Mosher

DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos (ms/cm)	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron mg/L
1330	10				7.13	0.13	56.0	-107	1.26	20.2		
1335	15				6.72	56	21.1	-65	0.91	19.8		
1340					6.47	42	9.0	-33	0.83	19.5		
1345					6.20	32	0.3	8	0.77	19.3		
1350					6.18	31	0.2	13	0.76	19.2		
1355					6.17	30	1.2	15	0.76	19.2		
1400					6.17	30	0.9	18	0.72	19.0		
1405					6.17	30	1.7	18	0.72	19.0		
					6.26	30	1.0	15	1.82	19.1	0.02	0.18

Constituents Sampled	Container Description	Number	Preservative
TSS	Plas	1	Ice
TOTAL As Spec	↓	1	↓
Diss As Spec	↓	1	↓
BTEX	VOA	3	HCL Ice
Total Metals	Plas	1	HNO3 Ice
Diss Metals	↓	1	↓

Sampling Personnel Diane Mosher

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH ✓ 4.01 Tubing - 1.5

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well BA-036W02 Date 26Sept-00

Screen Setting 22.5-17.5 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 5.93 Measured Width w/L meter Well Materials PVC ✓ ~~SS~~. Steel

Total depth 23.0 Pump On: 1310 (purge to Low turbidity) Pump Rate: 100 mL/m

Purge Method 1.4 Pump Off: Volumes Purged

Centrifugal Submersible Other ✓ Sample Time: 1450-1530 Weather: Sampled By: Diane Mosher

DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1335					6.76	0.41	831	-104	0.20	14.3		
1340					6.75	0.40	624	-104	0.19	14.3		
1345					6.75	0.32	241	-105	0.04	14.9		
1355					6.75	0.31	301	-101	0.06	14.8		
1405					6.75	0.31	122	-93	0.09	14.3		
1410				(6.75)	6.75	0.31	118	-89	0.05	14.1		
1415					6.75	0.29	113.0	-102	0.28	14.9		
1425				(6.75)	6.75	0.28	118	-97	0.07	15.2		
1435					6.75	0.28	41.1	-101	0.02	15.1		
1440					6.75	0.28	36.3	-100	0.03	15.1		
1445					6.75	0.28	31.2	-98	0.02	15.1		
											0.28	2.49

Constituents Sampled	Container Description	Number	Preservative
TSS	Plas	1	Ice
Diss As Spec	Plas	1	Ice
Total As Spec	↓	1	Ice
Total Metals	↓	1	HNO3 + Ice
Diss Metals	↓	1	HNO3 + Ice
Benzene Toluene	VOA	3	HCL

Sampling Personnel DM SD pH-✓

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 of 1

Project/No. MA000646.0001.00002 Well B9-03-G202R-NS Date 09-29-00

Screen Setting 31-26 Measuring Point Description ToC Casing Diameter (inches) 1"

Static Water Level 6.89 Measured Width Well Materials PVC / ST. Steel

Total depth 32.1 Pump On: 1415 Pump Rate: 100 ml/min

Purge Method Slick 2.21 Pump Off: 1845 Volumes Purged

Centrifugal Submersible Other Peristaltic **Sample Time:** 1815 Weather: Sunny 60's

DUP / MS / MSD Sampled By: AR

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
pH Calibration			4.01									
1440							OR					
1500							OR					
1515							OR					
1530							OR					
1545							OR					
1600							OR					
1615							OR					
1630							OR					
1645							OR					
1655					6.74	0.24	OR	-111	4.52	15.3		
1705					6.74	0.24	1000	-112	0.44	15.1		
1710					6.74	0.24	550	-114	0.61	14.9		
1715					6.75	0.24	360	-111	1.00	14.9		
1720					6.76	0.24	316	-111	0.78	14.9		
1725					6.76	0.24	270	-109	0.96	14.9		
											0.68	3.3 Lim-T

Constituents Sampled	Container Description	Number	Preservative
Benzene Toluene	glass	3	HCl Ice 4°C
Total Metals	plastic	1	HNO3
Dissolved Metals	plastic	1	HNO3
TSS	plastic	1	none
Total Arsenic	plastic Amber	1	none
Dissolved Arsenic	plastic Amber	1	none

Sampling Personnel

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

Tubing 2' off Bottom

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 of 1

Project/No. MA000646.0001.00002 Well 39-03-GW-03NS Date 9/29/00

Screen Setting 52-47 Measuring Point Description ToC Casing Diameter (inches) 1"

Static Water Level 6.88 Measured Width Well Materials PVC / ST. Steel

Total depth 52.65 Pump On: 0830 Pump Rate: 75 ml/min

Stickup 2.01 Purge Method Pump Off: 1330 Volumes Purged

Centrifugal Submersible Sample Time: 1255 Weather: Sunny 50's

Other Peristaltic DUP / MS / MSD Sampled By: AR

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
0945		75					500					
1000							OR					
1005							OR					
1010							OR					
1015							400					
1035							100					
1110							OR					
1145					6.97	52	OR	-141	0.21	24.0		
1220					6.99	52	OR	-142	0.08	24.4		
1225					6.99	52	OR	-142	0.06	24.8		
1230					6.98	51	OR	-142	0.05	25.2		
1240							OR					
												0.001 limit
											0.80 limit	

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO3
D Metals	plas	1	HNO3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH-V

Tubing 2' from Bottom of Boring

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B9-046W01 Page 1 of 1 Field Staff: LC

Date Sampled 1/19/01
Stick-up Height _____ feet
Depth to Water 4.02 feet below top of casing
Total Depth ~8 feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 0920 ~~[illegible]~~ [illegible]
Start parameters –
End purge 1040
Total purge time: 1 hours, 20 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B9-04GW02 Page 1 of ___ Field Staff: LC

Date Sampled 1/31/01
Stick-up Height 1.9' feet
Depth to Water 4.18' feet below top of casing
Total Depth 17.25' feet below top of casing
Depth of Tubing (sample interval) 16.25' feet below top of casing

Start purge 1215
Start parameters 1245
End purge 1315
Total purge time: 1 hours, 0 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1245		400		12.97	775.0	5.50	-337.1	0.03	16.0
1250	5	400		12.84	779.0	5.48	-344.6	0.01	9.4
1255	10	400		12.87	780.0	5.46	-344.0	0.01	11.0
1300	15	400		12.83	781.0	5.45	-342.4	0.01	10.0
1305	20	400		12.87	781.0	5.45	-335.2	0.01	10.29
1310	25	400		12.88	780.0	5.44	-338.0	0.01	10.74
1315	30	400		12.89	780.0	5.44	-334.9	0.01	10.41

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B9046W03 Page 1 of 1 Field Staff: LC

Date Sampled 1/19/09
Stick-up Height _____ feet
Depth to Water Last 3.72 feet below top of casing
Total Depth ~29 feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 0900-0905; 1120-
Start parameters —
End purge 1200
Total purge time: ____ hours, 45 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

ARCADIS GERAGHTY & MILLER

roundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well B9-05GW01 Date 9-25-00

Screen Setting 9-4 Measuring Point Description ToC Casing Diameter (inches) 1"

Static Water Level 5.12 Measured Width Well Materials PVC ✓ St. Steel

Total depth 11.20 Pump On: 1440 Pump Rate: 100 mL/min

S/u 1.5

Purge Method Pump Off: 1600 Volumes Purged

Centrifugal Sample Time: 1530 Weather: Sun 60's

Submersible Sampled By: Diane Mosker

Other ✓ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos (mS/cm)	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
1455					6.56	43	103	-90	1.71	19.3		
1500	20				6.47	42	65	-86	0.56	19.3		
1505					6.47	41	32.3	-87	0.28	19.3		
1510	30				6.46	41	13.4	-88	0.21	19.3		
1515					6.47	41	4.8	-91	0.14	19.3		
1520					6.47	41	1.5	-92	0.16	19.2		
1525					6.47	41	3.2	-92	0.15	19.2		
					6.50	40	3.2	-66	0.60	19.0	0.0	3.30

Constituents Sampled	Container Description	Number	Preservative
TSS	Plas	1	Ice
Diss As Spec	↓	1	Ice
Total As Spec	↓	1	Ice
Total Metals	↓	1	HNO3 Ice
Diss Metals	↓	1	↓
Benzene	VOA	3	HCL Ice

Sampling Personnel Diane Mosker

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH ✓

Tubing - 1.5'

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well B9-05GW02 Date 27 Sept 00

Screen Setting 23.5-18.5 Measuring Point Description Top of Casing Casing Diameter (inches) 1"

Static Water Level 4.80 Measured Width W/L Meter Well Materials PVC ✓ ~~ST.~~ Steel

45 Total depth 26.00 Pump On: 8:30 (Purge) Pump Rate: 180 ml/m

Stickup 1.30 Purge Method Pump Off: 945 Volumes Purged

Centrifugal Sample Time: 925-945 Weather: Sun 50's

Submersible Other ✓ DUP / MS / MSD Sampled By: Diane Mosher

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
845		180			6.31	0.28	65.2	-35	0.57	14.5		
850					5.94	0.28	50.0	-5	0.45	16.1		
855					5.87	0.28	38.6	1	0.70	16.4		
900					5.86	0.28	33.1	2	0.13	16.5		
905					5.86	0.28	25.1	3	0.11	16.6		
910					5.85	0.28	23.0	3	0.07	16.5		
915					5.85	0.28	22.8	4	0.06	16.5		
920					5.84	0.28	17.2	5	0.06	16.6		
					5.84	0.28	9.9	7	0.41	16.5		
											0.00	3.30

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

pH - 3.99 tubing 1.5 from bottom

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well B9-056WB3 Date 28 Sept 00

Screen Setting 38.5-33.5 Measuring Point Description TOC Casing Diameter (inches) 1"

Static Water Level 6.33 Measured Width W/L #3 Well Materials PVC ✓ SS. Steel

Total depth 41.5 Pump On: 1300 Pump Rate: 200 ml/m

Stickup 1.65 Purge Method Pump Off: 1420 Volumes Purged

Centrifugal Sample Time: 1350- Weather: Cloudy 50's

Submersible Other ✓ DUP / MS / MSD Sampled By: D. Mosher

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1230/1300 Develop well												
1300/1320 Purge to turbidity readings under 1000 NTU												
1320					6.44	0.12	46	-36	0.98	16.1		
1325					6.41	0.11	27	-36	1.31	16.0		
1330					6.41	0.11	29	-37	1.47	16.1		
1335					6.39	0.11	24	-39	1.19	16.1		
1340					6.39	0.11	24	-39	1.21	16.1		
1345					6.40	0.11	19	-37	1.17	16.1		
											0.00	3.30

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel Diane Mosher pH-✓

F:\Arc\700\Forms\LOWFLO646.xls

tubing - 2' bottom

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample ~~B9-06GW01~~ B9-06GW01 LC Page 1 of 1 Field Staff: LC

Date Sampled 3/2/01
Stick-up Height 1.6' feet
Depth to Water 5.0' feet below top of casing
Total Depth LC ~~9.8'~~ 10.0' feet below top of casing
Depth of Tubing (sample interval) 9.0' feet below top of casing

sulfide: 0.0 mg/L
ferrous: 0.11 mg/L

Start purge 0900
Start parameters 0935
End purge 1010
Total purge time: 1 hours, 10 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0935		400		8.90	317	6.31	-268.0	12.9	13.1
0940	5	400		8.84	318	6.31	-272.3	1.45	13.1
0945	10	400		8.85	318	6.31	-276.5	1.38	4.50
0950	15	400		8.85	318	6.31	-276.1	1.40	4.35
0955	20	400		8.87	318	6.32	-275.5	1.41	4.27
1000	25	400		8.75	318	6.32	-273.2	1.24	3.82
1005	30	400		8.84	317	6.32	-272.9	1.22	3.85
1010	35	400		8.85	318	6.32	-274.8	1.20	3.74

Comments

Collect sample and duplicate B9-06GW0199

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample B9-06GW02 Page 1 of ___ Field Staff: HAT

Date Sampled 3/21/01
Stick-up Height 1.5 feet
Depth to Water 4.29 feet below top of casing
Total Depth 28 feet below top of casing
Depth of Tubing (sample interval) 27 feet below top of casing

sulfide = 0.09 mg/L
iron = 3.30 mg/L

Start purge 0830
Start parameters 0850
End purge 0935
Total purge time: 1 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0850	0	408	~~400~~ HAT	14.44	1107	5.11	142.6	3.04	418
0855	5	↓		13.67	5149	4.80	107.9	0.34	232
0900	10			13.68	5163	4.80	103.8	0.33	195
0905	15			13.70	5164	4.79	100.9	0.29	99
0910	20			13.69	5168	4.79	100.7	0.28	64.6
0915	25			13.68	5170	4.78	100.1	0.26	64.7
0920	30			13.75	5170	4.77	99.8	0.24	41.9
0925	35			13.76	5180	4.77	100.7	0.23	40.6
0930	40			13.77	5174	4.76	100.8	0.22	37.9
0935	45			13.86	5171	4.76	100.8	0.21	40.5

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample ~~B9-016GW03~~ B9-06GW03 ~~B9-016GW03~~ fc Page 1 of 1 Field Staff: LC

Date Sampled 3/2/01
Stick-up Height 0.9' feet
Depth to Water 41.89' feet below top of casing
Total Depth 50.0' feet below top of casing
Depth of Tubing (sample interval) 49.0' feet below top of casing

Sulfide: 0.15 mg/L
ferrous iron: 0.65 mg/L

Start purge 1120
Start parameters 1255
End purge 1340
Total purge time: 2 hours, 20 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1255		400		13.06	704	6.41	-2.4	3.45	102.5
1300	5	400		13.15	718	6.37	-11.7	3.32	51.4
1305	10	400		13.19	718	6.37	-10.5	3.23	56.3
1310	15	400		13.19	718	6.36	-18.6	3.13	47.5
1315	20	400		13.21	718	6.37	-20.4	3.20	46.4
1320	25	400		13.23	717	6.37	-21.5	3.14	40.2
1325	30	400		13.26	716	6.36	-12.0	3.12	35.2
1330	35	400		13.21	715	6.37	-15.5	3.07	30.7
1335	40	400		13.18	716	6.36	-18.1	3.09	30.7
1340	45	400		13.17	715	6.37	-16.1	3.06	28.7

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E3-01GW-01 Page 1 of 1 Field Staff: MH

Date Sampled 1/12/01
Stick-up Height ~~2~~ 1.42 ~~1.45~~ feet
Depth to Water 4.52 feet below top of casing
Total Depth 10.23 feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 0950
Start parameters 1055
End purge 1120
Total purge time: 1 hours, 30 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1055		400		6.39	85	5.84	70.2	9.19	3.2
1100				6.39	86	5.84	69.7	9.23	1.7
1105				6.40	85	5.82	79.0	9.26	2.1
1110				6.40	85	5.83	88.3	9.27	3.0
1115				6.41	85	5.81	95.8	9.34	2.6
1120				6.41	85	5.81	94.1	9.28	2.3

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E3-016W02 Page ___ of ___ Field Staff: _____

Date Sampled 1/22/01
Stick-up Height 2.4 feet
Depth to Water 7.8 feet below top of casing
Total Depth NM feet below top of casing
Depth of Tubing (sample interval) NM feet below top of casing

Start purge 1200
Start parameters 1215
End purge 1325
Total purge time: 1 hours, 25 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1215		400		9.71	510	6.20	-39.3	1.18	227
1220				10.18	510	6.1	-45.2	0.68	155
1225				10.25	510	6.06	-48.7	0.50	70.5
1230				10.32	512	6.05	-47.5	0.44	43.6
1235				10.38	514	6.04	-45.5	0.44	40.6
1240				10.38	511	6.04	-43.5	0.39	32.0
1245				10.37	508	6.04	-40.9	0.36	21.1
1250				10.35	508	6.03	-39.2	0.34	17.7
1255				10.37	508	6.03	-37.6	0.33	12.2
1300				10.47	508	6.05	-37.5	0.32	8.14
1305				10.47	508	6.03	-35.8	0.31	7.15
1310				10.48	508	6.03	-34.5	0.31	~~7.5~~ 5.72
1315				10.57	508	6.03	-33.6	0.28	4.12
1320				10.65	509	6.03	-33.4	0.29	4.87
1325				10.69	509	6.02	-32.8	0.28	2.93

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E3-016W03 Page 1 of 1 Field Staff: LC

Date Sampled 1/12/01
Stick-up Height ~~NM~~ 1.8 feet
Depth to Water NM feet below top of casing
Total Depth NM feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 0950
Start parameters 1045
End purge 1220
Total purge time: 2 hours, 30 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1045		400		10.42	803	6.83	-103.9	0.38	110
1050				10.47	807	6.83	-117.5	0.34	85.0
1055				10.45	808	6.82	-123.5	0.32	75.0
1100				10.45	806	6.83	-127.2	0.31	50.9
1105				10.51	806	6.82	-129.2	0.30	48.3
1110				10.48	807	6.82	-129.8	0.31	33.4
1115				10.48	806	6.82	-129.8	0.29	36.9
1120				10.40	806	6.82	-128.8	0.28	33.0
1125				10.50	805	6.82	-128.2	0.28	26.0
1130				10.49	805	6.82	-126.2	0.27	14.0
1135				10.45	806	6.82	-125.1	0.26	10.0
1140				10.51	805	6.82	-121.9	0.26	8.9
1145				10.50	805	6.82	-121.3	0.26	8.1
1150				10.49	805	6.82	-118.8	0.26	8.8
~~1200~~ 1155				10.51	805	6.82	-118.5	0.25	7.1
1200				10.52	804	6.82	-116.5	0.25	6.2
1205				10.49	805	6.82	-116.6	0.24	6.1
1210				10.51	805	6.82	-114.3	0.26	6.8
1215				10.48	805	6.81	-113.9	0.26	6.3
1220				10.49	805	6.81	~~-117~~ -113.9	0.25	6.1

Comments

LMCF

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E3-02GW01 Page 1 of 1 Field Staff: MH

Date Sampled 1/11/01
Stick-up Height -2 feet
Depth to Water 4.56 feet below top of casing
Total Depth _____ feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 0950
Start parameters 1025
End purge 1130
Total purge time: 1 hours, 40 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1025		400		9.52	83	6.09	65.6	6.36	3.1
1030				9.64	83	6.01	70.2	6.93	2.3
1035				9.71	83	5.96	74.9	6.91	1.1
1040				9.58	83	5.92	77.9	7.00	1.2
1045				9.68	83	5.90	80.9	6.58	0.55
1050				9.67	83	5.89	83.9	7.22	0.35
1055				9.73	83	5.88	85.7	7.07	0.10
1100				9.76	83	5.87	87.3	7.08	0.06
1105				—	—	—	—	—	—
1110				9.79	83	5.87	89.5	7.07	0.08
1115				9.92	83	5.86	91.5	7.10	0.05
1120				9.91	83	5.86	93.1	7.11	0.0
1125				9.94	83	5.85	94.4	7.20	0.0
1130				10.01	83	5.85	95.8	7.13	0.0

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E3-02GW02 Page 1 of 1 Field Staff: _____

Date Sampled 1/22/01
Stick-up Height 2.3 feet
Depth to Water 5.7 feet below top of casing
Total Depth NM feet below top of casing
Depth of Tubing (sample interval) NM feet below top of casing

Start purge 0940
Start parameters 1010
End purge 1045
Total purge time: 1 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1010		400		10.82	309	6.7	-13.5	1.84	200
1015		↓		10.85	306	6.3	-51.8	0.39	37
1020				10.84	305	6.25	-64.0	0.31	14.3
1025				10.90	306	6.24	-65.8	0.29	10.89
1030				10.92	307	6.24	-66.7	0.35	8.00
1035				10.99	307	6.23	-66.3	0.26	4.35
1040				11.00	307	6.23	-65.6	0.25	3.76
1045				11.08	308	6.22	-64.7	0.24	2.90

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E3-026W03 Page 1 of 1 Field Staff: LC

Date Sampled 1/11/01
Stick-up Height ~~1.5~~ 1.9 feet
Depth to Water 4.32 feet below top of casing
Total Depth 12.23 feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 0945-1200, 1400 -
Start parameters 1400
End purge 1530
Total purge time: 3 hours, 45 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1405		400		10.15	785	6.26	-417.1	1.64	530
1410				10.58	780	6.20	-409.6	0.43	974
1415				10.60	779	6.19	-402.6	0.35	402
1420				10.69	778	6.19	-401.6	0.34	51.3
1425				10.69	778	6.19	-320.9	0.31	12.6
1430				10.64	778	6.19	-300.3	0.28	12.0
1435				10.66	778	6.18	-338.5	0.28	13.0
1440				10.68	777	6.19	-365.9	0.28	6.8
1445				10.66	779	6.18	-387.9	0.27	5.1
1450				10.67	779	6.17	-386.5	0.26	5.5
1455				10.67	778	6.18	-388.1	0.26	11
1500				10.64	777	6.17	-388.1	0.25	7.5
1505				10.64	776	6.18	-386.5	0.24	17
1510				10.60	777	6.18	-387.3	0.24	8.7
1515				10.76	776	6.17	-385.8	0.24	6.4
1520				10.60	777	6.17	-381.5	0.24	4.5
1525				10.64	776	6.17	-378.2	0.23	2.6
1530				10.63	779	6.17	-377.7	0.23	2.3

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample F3-036-V01 Page 1 of ___ Field Staff: LC

Date Sampled 2/5/01
Stick-up Height 1.35' feet
Depth to Water 7.67' feet below top of casing
Total Depth 10.91' feet below top of casing
Depth of Tubing (sample interval) 9.9' feet below top of casing

Start purge 1330
Start parameters 1340
End purge 1410
Total purge time: ___ hours, 40 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1340		300	~~300~~	4.94	135.0	5.56	92.4	5.69	5.62
1345	5	300		8.01	132.0	5.54	78.1	5.61	6.25
1350	10	300		7.96	134.0	5.56	55.1	5.53	4.63
1355	15	300		7.92	133.0	5.54	53.1	5.46	3.36
1400	20	300		7.88	134.0	5.54	58.1	5.40	1.42
1405	25	300		7.85	133.0	5.53	59.3	5.35	1.16
1410	30	300		7.85	133.0	5.52	61.4	5.34	1.79
1415									
1420									
1425									

Comments
recharging slow. purging at 300mL/min.

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E3-03GW02 Page 1 of 1 Field Staff: MH

Date Sampled 2/20/01
Stick-up Height 2' feet
Depth to Water 7.89 feet below top of casing
Total Depth 26.3 feet below top of casing
Depth of Tubing (sample interval) ~25.3 feet below top of casing

SULFIDE = 0.03 mg/L
FERROUS = 0.65

Start purge 1320
Start parameters 1405
End purge 1445
Total purge time: 1 hours, 25 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1405		400		12.80	78	6.25	29.0	0.14	25.6
1410				12.23	77	6.07	33.7	0.05	13.3
1415				12.37	77	6.04	36.4	0.03	9.88
1420				12.31	77	6.01	~~88~~ 38.7	0.03	6.25
1425				12.33	77	6.00	39.3	0.02	5.73
1430				12.49	78	5.99	40.5	0.02	5.00
1435				12.40	78	5.98	41.5	0.02	3.29
1440				12.40	78	5.97	43.2	0.02	3.30
1445				12.32	78	5.97	44.1	0.02	2.24

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E3-03GW03 Page 1 of 1 Field Staff: MH

Date Sampled 2/5/01
Stick-up Height .35' feet
Depth to Water 6.36 feet below top of casing
Total Depth 22 feet below top of casing
Depth of Tubing (sample interval) 21 feet below top of casing

Start purge 1325
Start parameters 1345
End purge 1450
Total purge time: 1 hours, 25 minutes
Parameters Stabilized? 4

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1345		300		10.29	67	7.30	-8.1	5.50	57.0
1350				10.49	65	6.80	-7.4	5.39	37.3
1355				10.48	64	6.61	-7.2	5.45	15.1
1400				10.41	66	6.41	-4.2	5.26	9.36
1405				10.43	66	6.32	-1.8	5.37	9.19
1410				10.43	66	6.23	1.1	5.07	7.57
1415				10.36	66	6.18	3.6	4.97	7.00
1420				10.41	66	6.18	4.9	4.94	9.71
1425				10.38	66	6.14	7.1	4.90	8.07
1430				10.32	66	6.16	7.8	4.93	5.[illegible]
1435				10.38	64	6.13	9.5	4.80	9.22
1440				10.40	64	6.12	10.3	4.76	4.19
1445				10.36	66	6.10	12.0	4.70	4.83
1450				10.39	67	6.10	13.4	4.63	4.38

Comments

TUBING FAILED TO REACH FULL CASING DEPTH DUE TO INTENSE FRICTION.

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E3-03GW03R Page 1 of 1 Field Staff: LC

Date Sampled 4/10/01
Stick-up Height 1.0' feet
Depth to Water 5.81' feet below top of casing
Total Depth 36.0' feet below top of casing
Depth of Tubing (sample interval) 35.5' feet below top of casing

sulfide: 0.00mg/L
ferrous iron: 0.40mg/L

Start purge 1145
Start parameters 1205
End purge 1235
Total purge time: - hours, 50 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1205		400		12.00	230	8.15	50.4	1.71	215
1210	5	400		11.67	223	7.90	32.2	1.03	120
1215	10	400		11.61	216	7.28	22.6	0.91	49.3
1220	15	400		11.69	208	6.62	31.3	0.87	23.4
1225	20	400		11.70	208	6.59	31.8	0.84	22.8
1230	25	400		11.67	208	6.52	32.7	0.82	22.6
1235	30	400		11.81	205	6.49	34.9	0.79	20.7

Comments
collect sample and duplicate, E3-03GW03R99

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well E4 01G WOW/S Date 10/6/03

Screen Setting 9-4 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 5.41 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 11.00 Pump On: ~~1100~~ 1110 Pump Rate: /

stickup 2.07

Purge Method Pump Off: 1300 Volumes Purged

Centrifugal ✓ Sample Time: 1200 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1030				≈0.5g purged - dried up								
1100	allowed it to recover											
1110	pump on											
1115					5.85	0.12 OR		-31	319	15.84		
1120	dried up - shut off pump to allow recovery for sampling											
1200	began sampling recovering very slowly											

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH-4.03 tubing 1.5' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

iroundwater Sampling Form

Project/No. MA000646.0001.00002 Well E4 01GW02 Date 10/11/00

Screen Setting 18.5-13.5 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 6.05 Measured Width Well Materials PVC / ✓ ST. Steel

Total depth 20.95 Pump On: 1420 Pump Rate: 200

stickup 1.60

Purge Method ✓ Pump Off: 1540 Volumes Purged

Centrifugal ✓ Sample Time: 1510 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1230				≈3.5g with check valve								
1425		200					625					
1430					5.96	68	163	21	1.15	15.64		
1435					5.93	65	121	23	0.64	15.38		
1440					5.91	64	72.7	26	0.58	15.33		
1445					5.90	63	43.0	30	0.55	15.37		
1450					5.91	63	30.6	32	0.51	15.39		
1455					5.88	62	22.5	35	0.50	15.27		
1500					5.88	62	17.2	38	0.47	15.10		
1505					5.88	62	16.7	38	0.48	15.08		
1510					5.88	62	14.5	38	0.47	15.20	0.00	3.20

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH-4.05 tubing 2' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-01GW02R Page 1 of 1 Field Staff: LC

Date Sampled 2/21/01
Stick-up Height 1.95' feet
Depth to Water 5.61' feet below top of casing
Total Depth 11.75' feet below top of casing
Depth of Tubing (sample interval) 10.75' feet below top of casing

sulfide: 0.0 mg/L
ferrous iron: 0.75 mg/L

Start purge 1115
Start parameters 1145
End purge 1255
Total purge time: 1 hours, 40 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1145		400		8.07	434	5.75	-156.7	1.40	28.4
1150	5	400		8.06	433	5.78	-168.3	1.04	19.4
1155	10	400		8.08	431	5.78	-159.9	0.78	15.3
1200	15	400		8.10	429	5.77	-159.7	0.52	14.0
1205	20	400		8.10	428	5.77	-161.2	0.37	10.44
1210	25	400		8.10	430	5.77	-157.6	0.26	8.65
1215	30	400		8.10	430	5.76	-159.2	0.20	5.71
1220	35	400		8.12	430	5.76	-158.9	0.14	7.20
1225	40	400		8.11	429	5.77	-150.3	0.05	6.71
1230	45	400		8.11	429	5.76	-147.0	0.04	7.5
1235	50	400		8.10	430	5.75	-149.1	0.02	6.82
1240	55	400		8.08	430	5.75	-147.4	0.02	7.41
1245	60	400		8.09	431	5.74	-143.6	0.01	4.36
1250	65	400		8.09	431	5.74	-145.5	0.01	4.97
1255	70	400		8.09	430	5.74	-146.7	0.01	4.15

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-01GW03 Page 1 of 1 Field Staff: MH

Date Sampled 2/20/01
Stick-up Height 0.75' feet
Depth to Water 4.51' feet below top of casing
Total Depth 23.0' feet below top of casing
Depth of Tubing (sample interval) 22.0' feet below top of casing

Sulfide: 0.01mg/L
Ferrous iron: 0.64 mg/L

Start purge 1115
Start parameters 1145
End purge 1225
Total purge time: 1 hours, 10 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1145		400		8.59	393	6.49	21.7	0.47	9.53
1150	5	400		8.61	389	6.40	22.1	0.38	6.44
1155	10	400		8.60	388	6.37	23.2	0.34	5.0
1200	15	400		8.67	386	6.34	24.4	0.30	6.23
1205	20	400		8.65	384	6.34	26.3	0.26	5.32
1210	25	400		8.67	384	6.33	27.4	0.26	7.33
1215	30	400		8.69	384	6.32	30.2	0.32	4.58
1220	35	400		8.71	383	6.31	31.3	0.33	4.21
1225	40	400		8.71	383	6.31	33.2	0.33	4.23

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-02GW01 Page 1 of 1 Field Staff: MH

Date Sampled 2/02/02 MH
Stick-up Height 1.8' feet
Depth to Water 10.9' feet below top of casing
Total Depth 16.5' feet below top of casing
Depth of Tubing (sample interval) 15.5 feet below top of casing

Start purge 1315
Start parameters —
End purge 1430
Total purge time: 0 hours, 45 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

PURGED WELL VOLUME. VERY SLOW FLOW, GAUGED AT 10mL/MIN. PURGE TIME IS LESS THAN OVERALL TIME, TURNED OFF PUMP FOR 30 MIN TO EVALUATE RECHARGE. VERY LITTLE RECHARGE.

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-026W01NS Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/8/01
Stick-up Height 1.95' feet
Depth to Water 11.65' feet below top of casing
Total Depth 16.5' feet below top of casing
Depth of Tubing (sample interval) 16.5' feet below top of casing

Start ~~purge~~ sample 0940
Start parameters
End ~~purge~~ sample 1000
Total purge time: ____ hours, 20 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
• last purged on 2/7/01, very low recharge rate → collect 1 TSS sample on 2/8/01

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-026W01NS Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/7/01
Stick-up Height 1.95' feet
Depth to Water 10.95' feet below top of casing
Total Depth 16.3' feet below top of casing
Depth of Tubing (sample interval) 15.3' feet below top of casing

Start purge 1255
Start parameters —
End purge 1320
Total purge time: 0 hours, 25 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
- Purged on 2/5/01, very low flow
- collected 1 unpreserved bottle for Total and Dissolved Metals analysis

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-02GW01NS Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/5/01
Stick-up Height 1.95' feet
Depth to Water 11.13' feet below top of casing
Total Depth 16.5' feet below top of casing
Depth of Tubing (sample interval) 15.5' feet below top of casing

Start purge 1045
Start parameters
End purge 1115
Total purge time: ____ hours, 30 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
- collect partial sample, purged on 2/2/01, recharge less than 50mL/min
- collect 1 AS Sample Bottle

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-02GW01NS Page 1 of 1 Field Staff: LC/MA

Date Sampled 2/9/01
Stick-up Height 1.95' feet
Depth to Water 11.61' feet below top of casing
Total Depth 16.3' feet below top of casing
Depth of Tubing (sample interval) 15.3' feet below top of casing

Start ~~purge~~ sample 0945
Start parameters
End ~~purge~~ sample 1005
Total purge time: ____ hours, 20 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
• Very low purge rate, last purged on 2/8/01 → sample collected = 2 VOCs, Hach Colorimeter

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-02GW02 Page 1 of 1 Field Staff HT

Date Sampled 2/16/01
Stick-up Height 1.85' feet
Depth to Water 14.96' feet below top of casing
Total Depth 29.0' feet below top of casing
Depth of Tubing (sample interval) 28.0' feet below top of casing

Sulfide = 0.00 mg/L
Fe = 1.24 mg/L

Start purge 0855
Start parameters ~~0925~~ HT
End purge ~~0930~~ HT
Total purge time: 2 hours, 35 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
				±1	±1	±1	10mV	10%	10%
0930	0	400		10.92	689	5.78	13.2	2.83	49.3
0935	5			11.18	694	5.67	-140.7	11.8	16.2
0940	10			11.14	698	5.71	-162.0	1.29	4.80
0945	15			11.08	696	5.70	-197.1	1.04	3.42
0950	20			11.20	697	5.71	-196.3	0.92	4.48
0955	25			11.09	696	5.79	-245.0	* 70.81	6.37
1000	30			11.10	695	5.65	-237.8	0.79	4.82
1005	35			11.27	696	5.47	-187.0	0.77	2.33
1010	40			11.34	691	5.71	-204.4	0.71	1.28
1015	45			11.46	691	5.71	-198.0	0.70	1.33
1020	50			11.37	690	5.76	-201.2	0.66	1.22
1025	55			11.52	691	5.70	-206.6	0.63	0.58
1030	60			11.58	690	5.68	-208.8	0.64	0.86

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-02GW03 Page ___ of ___ Field Staff: MH

Date Sampled 2/2/01
Stick-up Height 1' feet
Depth to Water 14.1' feet below top of casing
Total Depth 40 feet below top of casing
Depth of Tubing (sample interval) 39' feet below top of casing

Start purge 955
Start parameters 1110
End purge
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? ____

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1115	5	300		11.62	453	6.70	-44.3	5.17	58.1
1120	10			11.62	451	6.57	-45.7	4.48	19.2
1125	15			11.61	451	6.54	-43.2	4.43	32.2
1130	20			11.56	451	6.51	-38.9	4.47	33.6
1135	25			11.54	450	6.49	-33.8	4.49	23.9
1140	30			11.56	449	6.47	-31.6	4.43	24.4
1145	35			11.54	449	6.44	-26.6	4.47	26.2
1150	40			11.53	448	6.46	-26.2	4.34	20.4
1155	45			11.48	448	6.45	-22.7	4.43	22.4
1200	50			11.44	447	6.45	-21.8	4.38	25.2
1205	55			11.52	449	6.44	-20.3	4.32	18.8
1210	60			11.54	449	6.43	-18.4	4.26	20.3
1215	65			11.51	449	6.44	-17.2	4.28	18.6
1220	70								
1225	75								
1230	80								
1235	85								
1240	90								
1245	95								

Comments

FLOW THROUGH YSI CELL SOMEWHAT AERATED. ADJUSTED PURGE RATE REPEATEDLY WITH NO EFFECT ON LEVEL OF AERATION. USED CONNECTORS AND TAPE SEAL. AERATION IS COMING FROM THE WELL.

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-03GWOINS Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/9/01
Stick-up Height 1.89' feet
Depth to Water 5.82' feet below top of casing
Total Depth 9.3' feet below top of casing
Depth of Tubing (sample interval) 8.3' feet below top of casing

Start ~~purge~~ sample 0915
Start parameters
End ~~purge~~ sample 0950
Total purge time: ____ hours, 40 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
- last purged on 2/8/01 → sampled on 2/9/01 for total metals
- extremely low recharge, black water develops

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-03GW01 NS Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/8/01
Stick-up Height 1.55' feet
Depth to Water 6.01' feet below top of casing
Total Depth 9.3' feet below top of casing
Depth of Tubing (sample interval) 9.3' feet below top of casing

Start ~~purge~~ sample 1025
Start parameters
End ~~purge~~ sample 1035
Total purge time: ____ hours, 10 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
• last purged on 2/7/01 → collect 2 VOC's, Hach Colorimeter Test on 2/8/01

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-03GW01 Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/5/01
Stick-up Height 1.55' feet
Depth to Water 5.93' feet below top of casing
Total Depth 9.3' feet below top of casing
Depth of Tubing (sample interval) 8.3' feet below top of casing

Start purge 0945
Start parameters
End purge 1010
Total purge time: ____ hours, 25 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

- very slow recharge, purged initially on 2/2/01, recharge less than 50 mL/min
- collect 1 AS sample bottle — very black sample, pungent odor

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-03GW01NS Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/7/01
Stick-up Height 1.55' feet
Depth to Water 5.98' feet below top of casing
Total Depth 9.3' feet below top of casing
Depth of Tubing (sample interval) 8.3' feet below top of casing

Start purge 1300
Start parameters —
End purge 1330
Total purge time: 0 hours, 30 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
- very low purge rate, purged on 2/5/01
- collect 1 bottle for TSS analysis → very black water, pungent odor

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample EH-036-W01 Page 1 of 1 Field Staff: LC

Date Sampled 2/2/01
Stick-up Height 1.55' feet
Depth to Water 5.36' feet below top of casing
Total Depth 9.3' feet below top of casing
Depth of Tubing (sample interval) 8.3' feet below top of casing

Start purge 1410
Start parameters
End purge 1440
Total purge time: ____ hours, 30 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
- developed one well volume using check valve, pump developed no water
- could not determine recharge rate b/c pump did not draw water
- purge water very black, pungent odor

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-03GW02 Page 1 of 1 Field Staff: HAT/LC

Date Sampled 4/18/01
Stick-up Height 2.1 feet
HAT Depth to Water ~~9.21~~ 9.12 feet below top of casing
Total Depth 20.5 feet below top of casing
Depth of Tubing (sample interval) 19.5 feet below top of casing

sulfide: 0.80 mg/L
ferrous iron. 0.80 mg/L

Start ~~purge~~ sample 1120
Start parameters
End purge 1330
Total purge time: 2 hours, 10 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
very pungent, black water w/ really slow recharge
4/18/01 - collected complete condensed suite w/ pump

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-03GW03 Page 1 of ___ Field Staff: LC

Date Sampled 2/2/01
Stick-up Height 0.78' feet
Depth to Water 11.62' feet below top of casing
Total Depth 26.0' feet below top of casing
Depth of Tubing (sample interval) 25.0' feet below top of casing

Start purge 0945
Start parameters 1045
End purge _____
Total purge time: _____ hours, _____ minutes
Parameters Stabilized? _____

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1045		400		11.47	833.0	5.94	-42.0	0.40	45
1050	5	400		11.36	830.0	5.96	-75.6	0.39	38
1055	10	400		11.38	824.0	5.95	-89.8	0.39	35
1100	15	400		11.55	824.0	5.95	-99.8	0.33	21
1105	20	400		11.38	822.0	5.95	-107.9	0.34	17
1110	25	400		11.41	819.0	5.94	-117.3	0.32	13
1115	30	400		11.41	818.0	5.94	-120.8	0.31	6.5
1120	35	400		11.36	816.0	5.95	-124.5	0.29	5.4
1125	40	400		11.37	814.0	5.93	-128.2	0.30	4.1
1130	45	400	5	11.38	812.0	5.94	-130.5	0.29	6.7
1135	50	400		11.38	802.0	5.93	-133.1	0.28	7.2
1140	55	400		11.34	792.0	5.94	-134.5	0.28	800
1145	60	400		11.39	780.0	5.90	-135.7	0.23	220
1150	65	400		11.39	778.0	5.92	-135.6	0.23	130
1155	70	400		11.35	783.0	5.91	-135.6	0.23	85
1200	75	400		11.37	783.0	5.94	-135.5	0.23	45
1205	80	400		11.38	782.0	5.94	-135.2	0.24	26
1210	85	400		11.39	781.0	5.93	-135.4	0.24	19
1215	90	400		11.38	781.0	5.92	-135.8	0.24	20

Comments

- Sample has a very strong, pungent odor, no PID hits through parameters or sampling
- Purge water initially black, then clear → small volume of very black water purged at 1140

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-03GW03 Page 2 of ___ Field Staff: LC

Date Sampled 2/2/01
Stick-up Height 0.78' feet
Depth to Water 11.62' feet below top of casing
Total Depth 26.0' feet below top of casing
Depth of Tubing (sample interval) 25.0' feet below top of casing

Start purge 0945
Start parameters 1045
End purge _____
Total purge time: _____ hours, _____ minutes
Parameters Stabilized? _____

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1220	95	400	10	11.38	781.0	5.93	-136.3	0.24	13
1225	100	400		11.38	780.0	5.94	-136.5	0.24	14
1230	105	400		11.39	780.0	5.93	-136.6	0.24	4.4
1235	110	400		11.35	779.0	5.92	-137.1	0.25 LC	7.1
1240	115	400		11.35	778.0	5.94	-137.4	0.25	4.5
1245	120	400		11.32	778.0	5.95	-137.7	0.25	4.5
1250	125	400	13	11.34	778.0	5.94	-137.8	0.25	4.4
1255	130	400		11.35	777.0	5.93	-137.8	0.25	4.5

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-04GW01NS Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/8/01
Stick-up Height 1.85' feet
Depth to Water 5.12' feet below top of casing
Total Depth 9.5' feet below top of casing
Depth of Tubing (sample interval) 8.5' feet below top of casing

Start ~~purge~~ sample 1100
Start parameters
End ~~purge~~ sample 1200
Total purge time: ____ hours, 30 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
· last purged on 2/7/01 → Hach Colorimeter Test on 2/8/01; condensed sample suite complete

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-04GW01NS Page 1 of 1 Field Staff: MH

Date Sampled 2/2/01
Stick-up Height _____ feet
Depth to Water _____ feet below top of casing
Total Depth _____ feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 1435
Start parameters —
End purge 1450
Total purge time: 0 hours, 15 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
PURGE INTO 1 GALLON JUG. SAMPLED FOR TOTAL As / As SPECIES (UNFILTERED).

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample EH-04GW01NS Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/5/01
Stick-up Height 1.85' feet
Depth to Water 2.41' feet below top of casing
Total Depth 9.5' feet below top of casing
Depth of Tubing (sample interval) 8.5' feet below top of casing

Start purge 1015
Start parameters
End purge 1030
Total purge time: ____ hours, 15 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
- Very slow recharge, collect partial sample, recharge less than 50mL/min
- As sample collected on 2/2/01 → collect TSS sample 2/5

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-04GW03 Page 1 of 1 Field Staff: LC

Date Sampled 2/1/01
Stick-up Height 1.85' feet
Depth to Water 5.30' feet below top of casing
Total Depth 9.5' feet below top of casing
Depth of Tubing (sample interval) 8.5' feet below top of casing

Start purge 1230, 1500
Start parameters
End purge 1245, 1520
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? ____

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
- Purged "dry" during initial purge, allowed to recharge, purged to determine rate (15ml/min)
- DTW after recharge = 5.04'
- reverse air flow on pump to clear screen - no change in purge rate
- Will sample on 2/2/01
- did not attempt check valve, well too shallow

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-046W02 Page 1 of ___ Field Staff: LC

Date Sampled 2/16/01
Stick-up Height 1.70' feet
Depth to Water 2.60' feet below top of casing
Total Depth 26.7' feet below top of casing
Depth of Tubing (sample interval) 25.7' feet below top of casing

Sulfide 0.20mg/L
Ferrous Iron 3.3mg/L

Start purge 1015
Start parameters 1040
End purge 1305
Total purge time: 2 hours, 50 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1140		400		11.83	536	6.37	-32.1	1.90	—
1145	5	400		11.91	540	6.35	-32.7	1.81	778
1150	10	400		11.94	539	6.32	-30.8	1.81	227
1155	15	400		11.97	539	6.32	-30.8	1.83	213
1200	20	400		11.96	540	6.32	-30.6	1.84	197
1205	25	400		11.92	542	6.31	-30.3	1.93	181
1210	30	400		11.91	543	6.32	-30.6	2.03	124
1215	35	400		11.96	542	6.31	-30.2	2.06	126
1220	40	400		11.96	543	6.30	-30.0	2.13	112
1225	45	400		11.95	544	6.24	-28.2	2.22	121
1230	50	400		11.92	544	6.31	-28.2	2.13	98.6
1235	55	400		11.95	544	6.31	-27.9	2.19	92.6
1240	60	400		11.93	545	6.31	-27.4	2.20	84.3
1245	65	400		11.92	543	6.31	-26.8	2.15	117
1250	70	400		11.91	544	6.30	-26.7	2.12	64.8
1255	75	400		11.91	546	6.31	-26.2	2.04	88.9
1300	80	400		11.94	546	6.30	-25.7	2.13	88.4
1305	85	400		11.92	547	6.30	-25.3	2.17	86.9

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-046W03 Page 1 of __ Field Staff: LC

Date Sampled 2/1/01
Stick-up Height 0.73' feet
Depth to Water 4.23' feet below top of casing
Total Depth 43.5' feet below top of casing
Depth of Tubing (sample interval) 42.5' feet below top of casing

Start purge 0945
Start parameters 1030
End purge 1155
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1030		400		11.53	609.0	6.25	-326.0	0.42	192
1035	5	400		11.52	610.0	6.25	-305.8	0.35	153
1040	10	400		11.54	609.0	6.24	-334.0	0.31	120
1045	15	400		11.56	609.0	6.22	-334.8	0.31	81.0
1050	20	400		11.60	608.0	6.24	-333.3	0.29	76.9
1055	25	400		11.60	608.0	6.21	-331.9	0.27	73.2
1100	30	400	3.5	11.63	608.0	6.23	-329.5	0.27	56.1
1105	35	400		11.64	609.0	6.23	-328.1	0.26	49.8
1110	40	400		11.73	609.0	6.22	-326.7	0.25	42.7
1115	45	400		11.70	609.0	6.21	-325.1	0.25	37.1
1120	50	400	5	11.73	608.0	6.22	-323.6	0.24	62.6
1125	55	400		11.75	608.0	6.21	-322.0	0.24	53.2
1130	60	400		11.74	608.0	6.22	-320.5	0.23	44.7
1135	65	400		11.76	608.0	6.22	-319.5	0.23	42.5
1140	70	400	8	11.77	604.0	6.21	-318.5	0.23	34.0
1145	75	400		11.79	604.0	6.21	-316.8	0.22	40.6
1150	80	400		11.78	609.0	6.21	-316.9	0.22	37.9
1155	85	400		11.87	609.0	6.21	-315.7	0.22	39.2

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample E4-046WONS ? Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/7/01
Stick-up Height 1.85' feet
Depth to Water 5.04' feet below top of casing
Total Depth 9.5' feet below top of casing
Depth of Tubing (sample interval) 8.5' feet below top of casing

Start purge 1335
Start parameters —
End purge 1350
Total purge time: 0 hours, 15 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
- purged on 2/5/01, very low recharge
- collect 2 VOC's, 1 bottle for Total Metals and Dissolved Metals analysis

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-01GW01 Page 1 of 1 Field Staff: HT

Date Sampled 3/19/01
Stick-up Height 2 feet
Depth to Water 13.91 feet below top of casing
Total Depth 20 feet below top of casing
Depth of Tubing (sample interval) 19 feet below top of casing

Sulfide: 0.01 mg/L
iron = 3.30 mg/L

Start purge 1115
Start parameters 1205
End purge 1240
Total purge time: 1 hours, 25 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min) HT	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1205	0	~~200~~ 100		12.10	922	6.69	3.8	11.04	23.4
1210	5			11.87	918	6.70	11.7	11.08	18.2
1215	10			11.33	922	6.67	13.6	11.48	17.2
1220	15			11.25	923	6.68	13.1	12.26	18.2
1225	20			11.19	922	6.66	13.7	11.54	17.0
1230	25			11.15	921	6.66	13.2	11.63	16.0
1235	30			11.31	922	6.65	13.4	11.56	15.4
1240	35			11.28	919	6.70	11.5	11.67	16.3

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-01GW02 Page 1 of 1 Field Staff: LC

Date Sampled 4/11/01
Stick-up Height 2.0 feet
Depth to Water 13.89 feet below top of casing
Total Depth 25.0 feet below top of casing
Depth of Tubing (sample interval) 24.0 feet below top of casing

Sulfide: 0.0mg/L
ferrous iron: 3.30mg/L

Start purge 0900
Start parameters 0925
End purge 0955
Total purge time: – hours, 55 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0925		400		13.05	970	7.16	54.3	4.43	88.6
0930	5	400		12.98	973	6.38	53.8	3.66	19.5
0935	10	400		13.05	975	6.34	58.1	4.02	10.10
0940	15	400		13.14	985	6.29	60.0	4.54	2.15
0945	20	400		13.14	986	6.28	63.9	4.38	1.98
0950	25	400		13.12	993	6.27	70.9	4.73	1.59
0955	30	400		13.10	998	6.26	72.1	4.70	1.58

Comments
Collected sample and duplicate, H1-01GW0299

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample HI-01GW03 Page 1 of 1 Field Staff: LC

Date Sampled 3/19/01
Stick-up Height 0.9 feet
Depth to Water 13.08 feet below top of casing
Total Depth 33.0 feet below top of casing
Depth of Tubing (sample interval) 32.5 feet below top of casing

Sulfide: 0.0 mg/L
ferrous iron: 3.30 mg/L

Start purge 1115
Start parameters 1210
End purge 1320
Total purge time: 2 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1210		400		13.97	1157	6.73	12.0	3.57	68.6
1215	5	400		13.98	1157	6.64	14.1	3.60	44.1
1220	10	400		13.93	1154	6.46	18.7	3.61	15.8
1225	15	400		13.91	1154	6.45	19.0	3.62	13.4
1230	20	400		13.90	1155	6.41	20.8	3.57	10.1
1235	25	400		13.88	1151	6.38	21.6	3.53	16.1
1240	30	400		14.04	1150	6.36	22.4	3.61	7.19
1245	35	400		13.95	1150	6.35	23.7	3.47	6.98
1250	40	400		13.96	1151	6.34	24.3	3.40	12.9
1255	45	400		13.97	1149	6.33	24.8	3.41	33.7
1300	50	400		14.07	1148	6.32	27.3	3.45	6.46
1305	55	400		14.07	1148	6.32	27.7	3.42	5.41
1310	60	400		14.15	1148	6.31	28.9	3.38	3.92
1315	65	400		14.12	1147	6.31	30.1	3.49	3.77
1320	70	400		14.11	1148	6.31	30.8	3.55	3.71

Comments
collect sample and duplicate HI-01GW0399

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well H1 02GW01 Date 10/4/00

Screen Setting 13-8 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 7.42 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 15.80 Pump On: 1105 Pump Rate: 275

stickup 1.84 Purge Method Pump Off: 1225 Volumes Purged

Centrifugal ✓ Sample Time: 1200 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1045-N05				≈1.5g	with check valve							
1110		275					OR					
1120					5.70	89	595	21	2.80	18.61		
1125					5.41	83	436	42	0.81	18.46		
1130					5.33	83	261	49	0.64	18.45		
1135					5.28	83	139	54	0.60	18.47		
1140					5.26	83	81.6	56	0.58	18.52		
1145					5.26	83	52.1	58	0.56	18.55		
1150					5.24	83	36.6	60	0.54	18.47		
1155					5.20	83	22.3	64	0.55	18.46		
1200					5.24	83	20.5	64	0.53	18.45	0.10	3.30 Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH-4.01 tubing 4.5' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

RCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 7

Project/No. MA000646.0001.00002 Well H102GW02 Date 10/11/00

Screen Setting 17.5-12.5 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 5.17 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 20.71 Pump On: 810 Pump Rate: 175

stickup 2.02 Purge Method Pump Off: 925 Volumes Purged

Centrifugal ✓ Sample Time: 900 Weather:

Submersible Other DUP / MS / MSD Sampled By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
				≈1.5g	with	check	valve					
820		175					205					
825					6.09	0.11 (S)	87.0	78	1.30	15.40		
830					6.24	0.11	46.9	40	0.93	15.68		
835					6.30	0.11	29.9	23	0.69	15.72		
840					6.35	0.11	22.1	14	0.62	15.73		
845					6.36	0.11	19.0	12	0.59	15.78		
850					6.37	0.11	18.2	9	0.56	15.78		
855					6.38	0.11	15.5	6	0.54	15.84		
900					6.39	0.11	15.9	4	0.55	15.84	0.05	0.67

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH-4.00 tubing 1.5' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well H1 03GW01 Date 10/4/00

Screen Setting 13-8 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 5.89 Measured Width Well Materials PVC ✓ ST. Steel

Total depth ~~12.45~~ 14.80 Pump On: 855 Pump Rate: 225

stickup 1.03

Purge Method Pump Off: 1045 Volumes Purged

Centrifugal ✓ Sample Time: 950 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
		225		≈1g with check valve								
920					6.31	52	17.9	-47	1.65	18.17		
925					6.19	51	12.8	-37	1.04	18.22		
930					6.23	52	10.87	-45	0.98	18.24		
935					6.08	50	8.64	-32	0.91	18.25		
940					6.04	50	6.92	-29	0.87	18.24		
945					5.99	49	5.66	-25	0.85	18.30		
950					5.99	49	6.18	-25	0.85	18.31	0.04	1.38

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH - 4.01 tubing 4' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well AL-036W02 Date 11 OCT 2000

Screen Setting 17.5-12.5 Measuring Point Description TOC Casing Diameter (inches) 1"

Static Water Level 6.66 Measured Width W/L #3 Well Materials PVC / ST Steel

Total depth 21.1 Pump On: 830 Pump Rate: 200 mL min

stickup 1.70 Purge Method Pump Off: 955 Volumes Purged

Centrifugal Submersible Other ✓ Sample Time: 930-950 Weather: Sampled By: DMosher

(DUP) / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
8-830				Develop	Purge	recover					(5 Gallons)	
830-845				Pump	to	Lower	Turbidity					
850					6.03	54	26.5	53	1.18	15.8		
855					6.34	50	18.9	4	0.55	16.1		
900					6.38	50	11.5	-2	0.40	16.1		
905					6.42	50	12.3	-9	0.33	16.1		
910					6.46	49	8.97	-14	0.30	16.1		
915					6.47	49	9.90	-16	0.29	16.1		
920					6.48	49	6.90	-18	0.23	16.1		
925					6.48	49	6.90	-19	0.22	16.2		
					6.49	49	6.10	-19	0.22	16.2		
											0.19	0.79

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH - 4.01 tubing 1.5' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

H1036W003 1 1

Project/No. MA000646.0001.00002 Well [redacted] Date 12 OCT 00

Screen Setting 27.5-22.5 Measuring Point Description TOC Casing Diameter (inches) 1"

Static Water Level 6.93 Measured Width W/L #3 Well Materials PVC / ST (Steel)

Total depth 30.4 Pump On: 905 Pump Rate: 200 mL min/100 mL

stickup 1.75 Purge Method Pump Off: 1215 Volumes Purged

Centrifugal Sample Time: 1145-1210 Weather: Sun 50's

Submersible Other ✓ DUP / MS / MSD Sampled By: Diane Mosher

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos (ms/cm)	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
825-905		Develop			Purge		Recover			10 gallons (15x volume		
905-950		Pump			to lower turbidity - Connect to cer 950 (5 gal)							
1005	60	100			6.65	0.10	499	-72	1.75	16.00		
1015					6.69	0.09	574	-81	0.50	16.4		
1030					6.66	0.09	386	-82	0.38	16.8		
1045					6.70	0.09	296	-84	0.28	17.0		
1100					6.71	0.09	223	-84	0.15	16.9		
1115	130				6.72	0.10	87.7	-82	0.15	17.1		
1130					6.76	0.10	34.7	-79	0.12	16.9		
1135					6.79	0.10	39.1	-78	0.11	16.8		
1140					6.73	0.10	44.6	-78	0.11	16.7		
											0.12	200

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH - 4.00 tubing 2' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-03GW03 6P HT Page 1 of __ Field Staff: HAT

Date Sampled 3/20/01
Stick-up Height 0.9 feet
Depth to Water 3.14 feet below top of casing
Total Depth 42 feet below top of casing
Depth of Tubing (sample interval) 42 feet below top of casing

sulfide = 0.27mg/L
iron = 3.30mg/L

Start purge 0830
Start parameters 0900
End purge 1025
Total purge time: 1 hours, 55 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0900	0	400		12.45	872	7.22	-56.7	3.12	625
0905	5			12.02	846	7.00	-69.3	2.15	>1100
0910	10			12.00	855	6.95	-81.5	2.00	288
0915	15			12.05	858	6.95	-87.4	2.28	175
0920	20			12.09	857	6.94	-90.4	2.40	271
0925	25			12.16	857	6.92	-90.9	2.64	96.6
0930	30			12.18	858	6.92	-91.7	2.85	94.3
0935	35			12.16	858	6.92	-92.9	2.97	77.2
0940	40			12.12	858	6.92	-94.2	3.13	262
HT 0945	45			12.10	859	6.93	-94.2	3.09	250
950 ~~1000~~	50			12.14	857	6.92	-94.1	3.24	140
955	55			12.20	857	6.94	-94.6	3.25	76.4
1000	60			12.23	856	6.94	-94.6	3.02	177
1005	65			12.26	856	6.94	-94.8	3.09	89.6
1010	70			12.26	855	6.94	-94.7	3.22	224
1015	75			12.29	855	6.93	-94.7	3.17	190
1020	80			12.23	855	6.93	-94.7	3.13	196
1025	85			12.29	855	6.93	-94.7	3.21	183

Comments

.09

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Well Designation HI-036W04 Page 1 of 1 Field Staff: MH

Date Sampled 1/30/01
Stick-up Height 1.9' feet
Depth to Water 9.7' feet below top of casing
Total Depth 36' feet below top of casing
Depth of Tubing (sample interval) 35' feet below top of casing

Start purge 910
Start parameters 1040
End purge 1120
Total purge time: 2 hours, 10 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1045	0	200		11.84	831	7.27	-180.7	0.62	146
1050	5			11.76	832	7.27	-184.6	0.57	101.4
1055	10			11.76	830	7.28	-188.8	0.52	114.0
1100	15			11.68	830	7.28	-189.2	0.53	108.0
1105	20			11.75	830	7.29	-189.0	0.50	77.7
1110	25			11.90	830	7.29	-189.1	0.50	44.5
1115	30			11.87	830	7.29	-187.2	0.50	44.2
1120	35		8	11.77	830	7.29	-187.5	0.50	40.7

Comments

INITIALLY EXTREMELY TURBID AND INTERMITTENT. CLEARED SOMEWHAT w/ SLOW FLOW AND OCASSIONAL AIR BUBBLES. SAMPLING DEPTH MAY BE DUE TO SEDIMENT.

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample HT034W05 Page 1 of 1 Field Staff: LC/MH-MK

Date Sampled 2/5/01
Stick-up Height 1.63' feet
Depth to Water 5.75 feet below top of casing
Total Depth 34.2 feet below top of casing
Depth of Tubing (sample interval) 33.2 feet below top of casing

Start purge 1130
Start parameters —
End purge 1200
Total purge time: 0 hours, 30 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

PURGED ONE CASING VOLUME. TUBING DID NOT REACH BOTTOM OF WELL DUE TO INTENSE FRICTION.

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-03GW05NS Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/7/01
Stick-up Height 1.45' feet
Depth to Water 5.68' feet below top of casing
Total Depth 34.2' feet below top of casing
Depth of Tubing (sample interval) 34.2' feet below top of casing

Start ~~purge~~ sample 1400
Start parameters
End ~~purge~~ sample 1435
Total purge time: ____ hours, 35 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
• purged 2/5/01, very low recharge rate • sample depth: 34.2' → caught on collar
• collect 2 VOC's, 1 Unfiltered As sample, 1 TSS sample, 1 tot. met., 1 Dis. Met.

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-03GW05 Page 1 of 1 Field Staff: MH

Date Sampled 2/1/31
Stick-up Height 2.0' feet
Depth to Water 6.7' feet below top of casing
Total Depth 34 feet below top of casing
Depth of Tubing (sample interval) 33 feet below top of casing

Start purge 1435
Start parameters —
End purge 1525
Total purge time: 0 hours, 50 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

ENCOUNTERED SOFT RESISTANCE BELIEVED TO BE A BEND IN THE PIPE. GAUGED FLOW TO BE 40ML/min.

SURGED WELL FOR 15 min W/ CHECK VALUE.

NOT INCLUDED ABOVE

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample HI-03GW06NS Page 1 of 1 Field Staff: MH

Date Sampled 2/12/01
Stick-up Height 1.1' feet
Depth to Water 4.63' feet below top of casing
Total Depth 35.2' feet below top of casing
Depth of Tubing (sample interval) 35.2' feet below top of casing

Start ~~purge~~ sample 1040
Start parameters
End ~~purge~~ sample 1145
Total purge time: 1 hours, 5 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
last purged on 2/9/01, very low recharge rate (Sample depth = 35.2' → tubing caught on collar)
Collect complete condensed sample suite on 2/12/01

mm

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well H1-04-GW-01 Date 10/6/00

Screen Setting 8-3 Measuring Point Description TOC Casing Diameter (inches) 1"

Static Water Level 6.65 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 9.74 Pump On: 0845 Pump Rate: 75 ml/min

stickup 0.99 Purge Method Pump Off: 1045 Volumes Purged 2

Centrifugal Submersible Other Peristaltic Sample Time: 0940 Weather: Cloudy 40's

DUP / MS / MSD Sampled By: AR

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
0900							100					
0905					5.69	55	29	35	5.11	18.0		
0910					5.91	54	12	13	4.64	17.7		
0915					5.96	54	12	12	3.72	17.5		
0920					5.96	52	14	16	3.52	17.4		
0925					5.93	50	11	14	3.30	17.5		
											0.07	2.95

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH - 4.00 tubing 21' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well H1-046WOR Date 11 OCT 00

Screen Setting 18-13 Measuring Point Description TOC Casing Diameter (inches) 1"

Static Water Level 7.65 Measured Width WL #3 Well Materials PVC / ST Steel

Total depth 20.85 Pump On: 1005 Pump Rate: 200mL min

stickup 1.70 Purge Method Pump Off: 1140 Volumes Purged

Centrifugal Submersible Other ✓ Sample Time: 1115 - 1135 Weather: Windy 40's

DUP / MS / MSD Sampled By: DMosher

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
955-1005			Develop		Purge		recharge					
1005-1010			Pump		to		lower	turbidity				
1010					6.28	0.27	55	-43	6.39	16.0		
1015					6.15	0.27	28	-30	5.84	16.3		
1020					6.09	0.27	19	-10	5.12	16.4		
1025					6.05	0.27	11.4	4	4.73	16.4		
1030					6.05	0.27	12.7	9	4.66	16.5		
1035					6.03	0.27	11.3	12	4.64	16.4		
1040					6.03	0.27	8.3	15	4.70	16.4		
1045					6.02	0.27	5.9	18	4.78	16.5		
1050					6.02	0.27	4.6	21	4.88	16.5		
1055					6.01	0.27	4.4	24	4.93	16.5		
1100					6.01	0.27	3.3	26	5.00	16.4		
1105					6.00	0.27	6.1	27	5.01	16.4		
1110					6.01	0.27	6.2	28	5.04	16.4	0.02	2.81

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH - 7.01 tubing 1.5 from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well HM04GW03 Date 10/11/00 + 7

Screen Setting 28-23 Measuring Point Description TOC Casing Diameter (inches) 1

Static Water Level 7.31 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 31.07 Pump On: 850 Pump Rate: 200

stickup 1.88 Purge Method ✓ Pump Off: 1015 Volumes Purged

Centrifugal Submersible Other Sample Time: 945 Weather: Sampled By: SD

DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
830				≈3.5g with check valve								
900		200				(S)	444					
910					5.79	0.25	123	68	4.10	15.86		
920					5.99	0.25	57.9	27	3.04	15.90		
925					6.03	0.24	39.1	18	2.98	15.84		
930					6.06	0.24	26.5	13	2.99	15.80		
935					6.09	0.24	18.0	9	2.97	15.77		
940					6.10	0.24	17.0	6	2.97	15.77		
945					6.12	0.24	16.4	3	2.94	15.81	0.02	2.33

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH - 4.00 tubing 2.5' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-04GW04NS Page 1 of 1 Field Staff: MH

Date Sampled 1/31/01
Stick-up Height 2.0' feet
Depth to Water 7.7' feet below top of casing
Total Depth 30' feet below top of casing
Depth of Tubing (sample interval) 29' feet below top of casing

Start purge 905
Start parameters —
End purge 940
Total purge time: 0 hours, 35 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

SAMPLED FOR VOC, TSS AND HACH (SULFIDE, FERROUS IRON)
PREVIOSLY SAMPLED FOR ARSENIC (TOTAL AND SPECIES)

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Well Designation HI-04GW04NS Page 1 of 1 Field Staff: MH

Date Sampled 1/26/01
Stick-up Height 2.0 feet
Depth to Water 12.01 feet below top of casing
Total Depth 30.06 feet below top of casing
Depth of Tubing (sample interval) 29 feet below top of casing

Start purge 920
Start parameters ~~950~~ MH
End purge 950
Total purge time: ____ hours, 30 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
UNPRODUCTIVE WELL. PURGED 1.5 PINTS. SAMPLED UNFILTERED FOR AS.

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-04GW04NS Page 1 of 1 Field Staff: MH

Date Sampled 2/1/01
Stick-up Height 2.0' feet
Depth to Water 10.1' feet below top of casing
Total Depth 31' feet below top of casing
Depth of Tubing (sample interval) 30' feet below top of casing

Start purge 1250
Start parameters —
End purge 1305
Total purge time: 0 hours, 15 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

COMPLETED SUITE.

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-044W05 Page 1 of 1 Field Staff: MH

Date Sampled 2/5/01
Stick-up Height 2.0 feet
Depth to Water 11.54 feet below top of casing
Total Depth 35 feet below top of casing
Depth of Tubing (sample interval) 34 feet below top of casing

Start purge 1140
Start parameters —
End purge 1200
Total purge time: 0 hours, 20 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

PURGED CASING VOLUME. TUBING DID NOT REACH TOTAL DEPTH DUE TO INTENSE FRICTION.

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-04GW05NS Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/7/01
Stick-up Height 2.0' feet
Depth to Water 11.3' feet below top of casing
Total Depth 35' feet below top of casing
Depth of Tubing (sample interval) 34 feet below top of casing

Start ~~purge~~ sample 1445
Start parameters —
End ~~purge~~ sample 1500
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
COLLECTED SAMPLE. 1 TSS, 2 VOC, AND As SPEC/TOTAL As UNFILTERED.

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample HI-04GW05NS Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/8/0
Stick-up Height 1.75' feet
Depth to Water 10.29' feet below top of casing
Total Depth 34.2' feet below top of casing
Depth of Tubing (sample interval) 34.2' feet below top of casing

Start ~~purge~~ sample 0910
Start parameters
End ~~purge~~ sample 0930
Total purge time: ____ hours, 20 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
- Purged last on 2/7/01, collected 1 Total Met. bottle on 2/8
- Hach Colorimeter Test, condensed sample suite complete

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample HI-04GW05R Page 1 of 1 Field Staff: LC

Date Sampled 3/20/01
Stick-up Height 1.0' feet
Depth to Water 3.67 feet below top of casing
Total Depth 48.0 feet below top of casing
Depth of Tubing (sample interval) 47.5 feet below top of casing

sulfide = 0.09 mg/L
iron = 2.76 mg/L

Start purge 0845
Start parameters 0910
End purge 0950
Total purge time: 1 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0910		400		12.82	727	6.37	14.5	2.35	207
0915	5	400		12.71	725	6.55	-35.0	2.29	134
0920	10	400		12.74	725	6.57	-38.8	2.28	134
0925	15	400		12.79	722	6.71	-54.7	2.38	94.3
0930	20	400		12.81	722	6.75	-57.9	2.28	79.5
0935	25	400		12.80	722	6.80	-61.4	2.27	33.0
0940	30	400		12.81	722	6.85	-63.6	2.32	23.5
0945	35	400		12.74	722	6.86	-63.9	2.29	23.6
0950	40	400		12.76	720	6.91	-65.3	2.36	22.1

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-040W06NS Page 1 of 1 Field Staff: MH

Date Sampled 2/12/01
Stick-up Height 1.0' feet
Depth to Water 5.34' feet below top of casing
Total Depth 33.4' feet below top of casing
Depth of Tubing (sample interval) 33.4' feet below top of casing

Start ~~purge~~ sample 1000, 1205
Start parameters
End ~~purge~~ sample 1010, 1230
Total purge time: ____ hours, 35 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
(Sample depth = 33.4' → tubing caught on collar), last purged on 2/9, very low recharge
Complete condensed sample suite collected 2/12

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-05GW01 Page 1 of 1 Field Staff: MH

Date Sampled 2/1/01
Stick-up Height 1' feet
Depth to Water 4.7' feet below top of casing
Total Depth 10 feet below top of casing
Depth of Tubing (sample interval) 9 feet below top of casing

Start purge 1035
Start parameters 1110
End purge
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? ____

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1115		300		6.89	458	6.97	5.4	6.97	476
1120				6.89	459	6.95	5.6	6.94	29.8
1125				6.88	460	6.92	6.3	7.25	43.0
1130				6.87	462	6.89	7.6	7.75	12.6
1135				6.86	462	6.86	7.9	8.15	11.9
1140				6.88	462	6.85	16.1	8.46	9.56
1145				6.88	460	6.87	8.97	8.90	6.03
1150				6.90	460	6.85	10.3	9.40	3.57
1155				6.93	463	6.84	10.7	10.17	2.69
1200				6.94	463	6.84	11.4	10.20	1.91
1205									

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Well Designation H1-05GW01 Page 1 of 1 Field Staff: MH

Date Sampled 1/26/01
Stick-up Height 1 feet
Depth to Water 4.85' feet below top of casing
Total Depth 9.1 feet below top of casing
Depth of Tubing (sample interval) 8.1 feet below top of casing

Start purge 1430
Start parameters —
End purge 1525
Total purge time: ____ hours, 55 minutes
Parameters Stabilized? NO

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

FLOW VERY SLOW AND AERATED. ADVISED BY L. McTIERNAN TO SAMPLE ON 1/30/01.

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-05GW01 Page 1 of 1 Field Staff: MH

Date Sampled 2/1/01
Stick-up Height 1' feet
Depth to Water 4.7' feet below top of casing
Total Depth 10 feet below top of casing
Depth of Tubing (sample interval) 9 feet below top of casing

Start purge 1035
Start parameters 1110
End purge
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? ____

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1115		300		6.89	458	6.97	5.4	6.97	476
1120				6.89	459	6.95	5.6	6.94	29.8
1125				6.88	460	6.92	6.5	7.25	43.0
1130				6.87	462	6.89	7.6	7.75	12.6
1135				6.86	462	6.86	7.9	8.15	11.9
1140				6.88	462	6.85	16.1	8.46	9.56
1145				6.88	460	6.87	8.97	8.90	6.03
1150				6.90	460	6.85	10.3	9.40	3.57
1155				6.93	463	6.84	10.7	10.17	2.69
1200				6.94	463	6.84	11.4	10.20	1.91
1205									

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-05GW02~~X~~ Page 1 of 1 Field Staff: LC

Date Sampled 5/4/01
Stick-up Height 2.1' feet
Depth to Water 5.75' feet below top of casing
Total Depth 20.5' feet below top of casing
Depth of Tubing (sample interval) 19.5' feet below top of casing

Sulfide: 0.24mg/L
ferrous iron: 0.47mg/L

Start purge 1245
Start parameters 1320
End purge 1405
Total purge time: 1 hours, 20 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1320				11.89	1066	7.88	35.5	7.91	45
1325	5			11.87	1048	7.36	21.2	7.80	36
1330	10			11.55	1045	6.94	-101.2	7.14	160
1335	15			11.51	1047	7.09	-39.2	5.70	230
1340	20			11.43	1042	6.87	-34.7	5.40	200
1345	25			11.44	1064	6.86	-35.9	5.02	190
1350	30			11.53	1075	6.87	-38.8	3.65	65
1355	35			11.54	1075	6.87	-35.8	3.31	60
1400	40			11.44	1080	6.86	-35.4	3.12	65
1405	45			11.43	1080	6.88	-35.7	3.22	59

Comments

Collected sample and duplicate, H1-05GW02~~X~~99

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well H105GW01 Date 10/6/00 1 1

Screen Setting 8-3 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 5.75 Measured Width Well Materials ✓ PVC ✓ ST. Steel

Total depth 9.75 Pump On: 850 Pump Rate: 150

stickup 1.11 Purge Method Pump Off: 1005 Volumes Purged

Centrifugal ✓ Sample Time: 930 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
				≈0.5 with check valve								
900							531					
905		150			5.56	66	177	29	1.80	16.93		
910					5.51	061	97.6	32	1.37	17.09		
920					5.55	53	25.4	34	0.93	17.59		
925					5.54	52	19.4	37	0.94	17.68		
930					5.54	52	13.6	39	0.87	17.77	0.00	2.24

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH - 4.01 tubing 1.5' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well H106 GW02 Date 10/11/00

Screen Setting 17-12 Measuring Point Description TOC Casing Diameter (inches) 1

Static Water Level 5.55 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 18.70 Pump On: 1015 Pump Rate: 175

stickup 0.98

Purge Method Pump Off: 1135 Volumes Purged

Centrifugal ✓ Sample Time: 1100 Weather: Windy 40s

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
950				≈2.5g	with check valve							
1025		175			6.44	76	122	12	5.03	15.60		
1030					6.05	67	74.1	28	1.71	16.51		
1035					5.92	58	44.5	42	1.46	16.55		
1040					5.88	57	28.3	48	1.42	16.62		
1045					5.87	57	23.2	51	1.41	16.66		
1050					5.85	56	18.0	54	1.40	16.63		
1055					5.83	56	14.1	58	1.40	16.63		
1100					5.82	56	13.4	59	1.39	16.63	0.00	243

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH – 4.01 tubing 2.5' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 of 1

Project/No. MA000646.0001.00002 Well H1-07-GW-01 Date 10/6/00

Screen Setting 8-3 Measuring Point Description TOC Casing Diameter (inches) 1"

Static Water Level 6.55 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 10.66 Pump On: 1105 Pump Rate: 100 ml/min

stickup 1.74

Purge Method Pump Off: 1300 Volumes Purged

Centrifugal Sample Time: 1145 Weather: Cloudy, RAIN

Submersible Sampled By: AR

Other Peristaltic DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide mg/L	Ferrous Iron mg/L
1115		100			6.12	0.30	85	-28	4.35	15.0		
1120					6.11	0.31	14	-22	4.50	15.3		
1125					6.05	0.30	4.19	-11	3.83	15.4	15.4	
1130					6.03	0.30	3.7	-1	3.74		15.5	
1135					6.04	0.31	5.5	-8	3.70		15.5	
											0.01	3.12

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO3
D Metals	plas	1	HNO3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH-4.01 4.01 tubing 15' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well H10TGW02 Date 10/11/00

Screen Setting 17-12 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 5.49 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 18.91 Pump On: 1230 Pump Rate: 250

stickup 0.85 Purge Method Pump Off: 1415 Volumes Purged

Centrifugal ✓ Sample Time: 1350 Weather:

Submersible Other DUP / MS / MSD Sampled By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1205				≈1.5g with check valve								
1240		250					OR					
1250							OR					
1300							516					
1310					5.80	86	157	61	1.31	16.21		
1325					5.79	86	38.6	42	0.57	15.07		
1330					5.80	85	24.0	42	0.55	15.02		
1335					5.79	85	17.4	42	0.53	14.94		
1340					5.79	85	14.6	42	0.54	14.97		
1345					5.79	84	14.6	42	0.51	14.94		
1350					5.79	84	13.8	43	0.51	15.09	0.00	3.30 Limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH-4.01 tubing 2.5' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H1-076W03 Page 1 of 1 Field Staff: LC

Date Sampled 2/22/01
Stick-up Height 0.35' feet
Depth to Water 6.81' feet below top of casing
Total Depth 26.0' feet below top of casing
Depth of Tubing (sample interval) 25.0' feet below top of casing

sulfide: 0.0mg/L
ferrous iron: 0.08mg/L

Start purge 0940
Start parameters 1020
End purge 1105
Total purge time: 1 hours, 25 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1020		400		9.41	406	5.74	115.1	0.32	10.46
1025	5	400		9.39	383	5.41	99.5	0.38	8.89
1030	10	400		9.40	383	5.40	98.0	0.34	8.44
1035	15	400		9.45	383	5.37	93.3	0.29	6.48
1040	20	400		9.54	383	5.35	89.0	0.30	6.40
1045	25	400		9.64	384	5.33	86.5	0.27	5.0
1050	30	400		9.50	383	5.32	85.8	0.26	2.70
1055	35	400		9.68	384	5.33	85.7	0.26	3.07
1100	40	400		9.67	384	5.32	85.7	0.25	2.59
1105	45	400		9.68	383	5.32	86.4	0.25	2.34

Comments
collect sample and MS/MSD, H1-076W03MS and H1-076W03MSD

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-01GW01NS Page 1 of 1 Field Staff LC

Date Sampled 5/10/01
Stick-up Height 2.0 feet
Depth to Water 12.1 feet below top of casing
Total Depth 16.0 feet below top of casing
Depth of Tubing (sample interval) 15.0 feet below top of casing

sulfide: 0.04mg/L
ferrous iron: 3.30mg/L

Start purge 10:40
Start parameters
End purge 12:30
Total purge time: 1 hours, 50 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments
Purge rate less than 50mL/min, collect complete suite w/ pump

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-01GW02NS Page 1 of 1 Field Staff: LC

Date Sampled 5/10/01
Stick-up Height 0.9 feet
Depth to Water 11.2 feet below top of casing
Total Depth 20.5 feet below top of casing
Depth of Tubing (sample interval) 19.5 feet below top of casing

Sulfide: 0.03 mg/L
ferrous iron: 0.62 mg/L

Start purge 1045
Start parameters
End purge 1345
Total purge time: 3 hours, – minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

purge rate <50mL/min, collected condensed suite w/ pump

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-02GW01 Page 1 of 1 Field Staff: MH

Date Sampled 1/17/01
Stick-up Height ~3' feet
Depth to Water 4.60 feet below top of casing
Total Depth NM feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 1410
Start parameters 1430
End purge 1455
Total purge time: ____ hours, 45 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1430		400		4.31	313	6.92	-18.0	4.22	8.58
1435		↓		4.23	301	6.85	-40.2	3.10	9.89
1440				4.25	300	6.83	-50.7	2.86	7.36
1445				4.28	300	6.82	-51.3	2.77	6.77
1450				4.30	300	6.82	-54.3	2.75	6.20
1455				4.30	300	6.81	-58.6	2.61	6.36

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample Hz-02GW02 Page 1 of 1 Field Staff: MH

Date Sampled 1/19/01
Stick-up Height ~1 feet
Depth to Water 4.82 feet below top of casing
Total Depth NM feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 0905
Start parameters —
End purge 1025
Total purge time: 1 hours, 20 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

Also purged dry on ~~2f~~ 1/17 after ~25 minutes

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Well Designation H2-02GW03 Page 1 of 1 Field Staff: MH

Date Sampled 1/25/01
Stick-up Height 1.6' feet
Depth to Water 5.91' feet below top of casing
Total Depth 27 feet below top of casing
Depth of Tubing (sample interval) 26 feet below top of casing

Start purge 1330
Start parameters 1350
End purge 1515
Total purge time: 1 hours, 45 minutes
Parameters Stabilized? ✓

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1400	0	400	4	10.51	407	5.77	48.5	0.75	—
1405	5	400		10.55	407	5.84	1.4	0.38	892
1410	10	400	5.5	10.54	406	5.85	-10.8	0.35	102.0
1415	15	400		10.52	405	5.86	-13.3	0.32	46.1
1420	20	400		10.58	405	5.86	-16.9	0.29	29.8
1425	25	400		10.54	405	5.86	-15.7	0.29	18.1
1430	30	400		10.57	404	5.87	-16.8	0.28	13.1
1435	35	400		10.59	404	5.87	-15.8	0.27	10.23
1440	40	400		10.58	404	5.87	-20.1	0.26	9.40
1445	45	400		10.63	403	5.86	-19.4	0.25	9.06
1450	50	400	9	10.56	403	5.86	-20.6	0.25	7.22
1455	55	400		10.60	402	5.87	-21.2	0.25	5.71
1500	60	400		10.59	402	5.86	-21.4	0.24	5.32
1505	65	400		10.58	402	5.86	-21.8	0.24	4.45
1510	70	400		10.53	402	5.87	-21.8	0.24	3.89
1515	75	400		10.53	401	5.86	-19.1	0.24	3.46

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Well Designation H2-026W04 Page 1 of 1 Field Staff: MH

Date Sampled 1/25/01
Stick-up Height 1 feet
Depth to Water 5.85 feet below top of casing
Total Depth 26' feet below top of casing
Depth of Tubing (sample interval) 25' feet below top of casing

Start purge 9:25
Start parameters 9:50
End purge 11:00
Total purge time: 1 hours, 35 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0950	0	400	4.5	11.04	359	5.61	119.0	1.04	41.1
0955	5	400		10.97	357	5.28	114.2	0.79	37.8
1000	10	400		10.97	357	5.11	107.5	0.64	19.8
1005	15	400	6.0	11.04	358	5.04	102.5	0.55	15.2
1010	20	400		11.03	357	5.02	101.9	0.48	10.88
1015	25	400		11.11	356	5.02	101.2	0.46	8.61
1020	30	400	8.0	11.14	357	5.03	101.2	0.44	6.83
1025	35	400		11.09	357	5.01	101.7	0.42	5.53
1030	40	400	9.5	11.17	356	5.00	102.1	0.42	4.56
1035	45	400		11.18	357	5.00	103.0	0.40	4.24
1040	50	400		11.21	356	5.00	103.6	0.37	7.27
1045	55	400	11.0	11.26	357	5.01	104.2	0.37	5.30
1050	60	400		11.22	357	5.02	105.0	0.40	2.82
1055	65	400		11.21	358	5.04	105.2	0.38	3.37
1100	70	400	12.5	11.25	357	5.02	105.3	0.37	2.74

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Well Designation H2-02GW05 Page 1 of 1 Field Staff: MH

Date Sampled 1/31/01
Stick-up Height .9' feet
Depth to Water 40.1' feet below top of casing
Total Depth 41' feet below top of casing
Depth of Tubing (sample interval) 40 feet below top of casing

Start purge 1220
Start parameters 1300
End purge 1350
Total purge time: 1 hours, 30 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1305		400		10.44	1619	6.04	7.6	0.62	7.53
1310				10.53	1614	6.05	-14.4	0.53	17.4
1315				10.51	1615	6.07	-31.6	0.47	10.41
1320				10.53	1610	6.06	-37.9	0.43	7.55
1325				10.57	1607	6.06	-41.9	0.41	6.69
1330				10.57	1599	6.06	-44.0	0.40	5.95
1335				10.58	1593	6.07	-46.1	0.39	5.42
1340				10.56	1593	6.07	-47.1	0.38	4.70
1345				10.47	1589	6.06	-49.1	0.37	4.56
1350				10.48	1583	6.07	-50.0	0.37	3.44

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-036W01 Page 1 of 1 Field Staff: LC

Date Sampled 1/17/01
Stick-up Height 1.49 feet
Depth to Water 4.85 feet below top of casing
Total Depth ~11 feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 1410
Start parameters 1430
End purge 1520
Total purge time: 1 hours, 10 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1430		400		6.26	515	5.93	-12.5	1.17	0.71
1435				6.11	524	5.91	-56.0	0.62	0.46
1440				6.06	524	5.91	-52.4	0.58	0.48
1445				6.06	525	5.91	-105.7	0.51	0.37
1450				6.06	526	5.91	-127.5	0.46	0.41
1455				6.03	527	5.91	-163.1	0.43	0.03
1500				6.02	528	5.91	-188.3	0.41	0.10
1505				6.01	530	5.91	-197.5	0.40	0.01
1510				6.01	531	5.90	-200.1	0.38	0.03
1515				6.00	533	5.90	-205.5	0.38	0.00
1520				5.99	534	5.90	-209.3	0.38	0.29

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-036W02 Page ___ of ___ Field Staff: LC

Date Sampled 1/17/01
Stick-up Height 0.55 feet
Depth to Water 3.91 feet below top of casing
Total Depth 19.02 feet below top of casing
Depth of Tubing (sample interval) ___ feet below top of casing

Start purge 0845
Start parameters 0935
End purge 1040
Total purge time: 1 hours, 55 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0935		400		10.54	667	5.97	-61.6	0.32	29.2
0940				11.27	630	5.69	-388.1	0.33	24.6
0945				11.26	629	5.68	-393.2	0.29	19.3
0950				11.23	627	5.68	-395.9	0.24	18.1
0955				11.26	626	5.68	-393.0	0.22	14.0
1000				11.23	626	5.68	-390.5	0.20	13.4
1005				11.25	625	5.67	-386.3	0.19	9.81
1010				11.21	625	5.67	-378.6	0.19	5.48
1015				11.19	625	5.67	-378.5	0.18	10.95
1020				11.21	625	5.67	-374.4	0.18	8.20
1025				11.23	625	5.66	-372.2	0.17	3.13
1030				11.18	624	5.67	-370.5	0.17	3.18
1035				11.22	624	5.67	-368.8	0.17	4.37
1040				11.25	624	5.67	-362.9	0.17	2.67

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-03GW03 Page 1 of 1 Field Staff: _____

Date Sampled 1/19/01
Stick-up Height _____ feet
Depth to Water 7.3 feet below top of casing
Total Depth _____ feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 1305
Start parameters 1325
End purge 1400
Total purge time: ____ hours, 55 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1325		400		10.24	543	5.45	18.0	.45	83.6
1330				10.16	546	5.44	12.7	.43	32
1335				10.15	546	5.44	8.5	.40	25
1340				10.14	547	5.44	5.8	.37	15
1345				10.05	547	5.44	3.4	.35	9.8
1350				10.12	546	5.45	0.7	.36	6.8
1355				10.38	545	5.42	-1.5	.31	7.1
1400				10.35	545	5.42	-2.1	.31	6.8

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-03GW04 Page 1 of 1 Field Staff: _____

Date Sampled 1/24/01
Stick-up Height _____ feet
Depth to Water 8.2 feet below top of casing
Total Depth NM feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 1405
Start parameters 1450
End purge 1545
Total purge time: 1 hours, 40 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1450		402		11.14	2054	4.77	180.0	0.35	32.3
1455				11.29	2066	4.74	85.0	0.71	23.7
1500				11.21	2067	4.75	77.6	0.63	30.5
1505				11.22	2072	4.73	86.8	0.61	15.8
1510				10.50	2058	4.74	77.3	0.60	32.5
1515				11.15	2070	4.75	83.7	0.58	~~3~~ 54.9
1520				11.28	2080	4.73	86.0	0.58	15.5
1525				11.28	2080	4.72	86.5	0.56	15.1
1530				11.23	2079	4.72	87.6	0.58	16.6
1535				11.22	2078	4.71	87.0	0.56	7.31
1540				11.25	2076	4.71	84.8	0.56	7.78
1545				11.25	2075	4.71	84.5	0.56	7.29

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Well Designation H2-03GW05 Page 1 of ___ Field Staff: LC/MH

Date Sampled 1/26/01
Stick-up Height 1.57' feet
Depth to Water 4.87' feet below top of casing
Total Depth 49.75' feet below top of casing
Depth of Tubing (sample interval) 48.75' feet below top of casing

Start purge 1415
Start parameters 1445
End purge
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? ____

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1445		400		9.69	2096.0	4.70	-10.5	0.73	62.7
1450	5	400		10.59	2177.0	4.75	-204.5	0.44	766.1
1455	10	400		10.55	2113.0	4.75	-240.0	0.26	866.2
1500	15	400		10.38	2126.0	4.74	-170.8	0.45	670.3
1505	20	400		10.39	2106.0	4.73	-175.0	0.42	55.2
1510	25	400		10.76	2149.0	4.74	-217.3	0.29	44.3
1515	30	400		10.76	2157.0	4.74	-221.8	0.25	30.3
1520	35	400		10.75	2160.0	4.73	-221.4	0.20	21.1
1525	40	400		10.76	2165.0	4.73	-223.1	0.19	16.3
1530	45	400		10.74	2162.0	4.73	-223.5	0.18	15.8
1535	50	400		10.68	2164.0	4.73	-231.3	0.17	11.7
1540	55	400		10.61	2162.0	4.74	-235.1	0.16	9.31
1545	60	400		10.61	2161.0	4.73	-230.6	0.16	8.49
1550	65	400		10.61	2167.0	4.73	-220.7	0.15	7.50
1555	70	400		10.63	2158.0	4.72	-226.7	0.15	7.05
1600	75	400		10.64	2158.0	4.72	-199.8	0.15	6.94
1605	80	400		10.66	2154.0	4.73	-207.5	0.15	6.75

Comments

Collected duplicate sample H2-03GW0599

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Well Designation ~~H-GW-72-3-06~~ H2-036W06

Field Staff: LC|MH

Date Sampled 1/26/01
Stick-up Height 0.53' feet
Depth to Water 5.46' feet below top of casing
Total Depth 57.5' feet below top of casing
Depth of Tubing (sample interval) 56.5' feet below top of casing

Start purge 0915
Start parameters 1000
End purge
Total purge time: ____ hours, ____ minutes
Parameters Stabilized? ____

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1000		400		10.38	1425.0	5.69	-361.4	0.90	298
1005	5	400		10.60	1426.0	5.65	-391.8	0.48	209
1010	10	400	2	10.72	1427.0	5.64	-389.4	0.33	198
1015	15	400		10.63	1429.0	5.64	-384.6	0.29	94.4
1020	20	400		10.48	1430.0	5.63	-383.1	0.21	43.3
1025	25	400	3	10.48	1429.0	5.63	-385.1	0.20	40.3
1030	30	400		10.37	1429.0	5.62	-381.3	0.20	26.1
1035	35	400	5	10.36	1429.0	5.62	-374.5	0.17	99.0
1040	40	400		10.30	1429.0	5.62	-372.3	0.16	19.2
1045	45	400		10.31	1428.0	5.62	-371.5	0.16	17.2
1050	50	400	~~2~~ 7	10.48	1429.0	5.62	-372.8	0.16	13.5
1055	55	400		10.48	1429.0	5.62	-372.6	0.15	12.1
1100	60	400		10.43	1428.0	5.62	-372.5	0.16	11.8
1105	65	400	8	10.42	1426.0	5.62	-370.8	0.15	23.5
1110	70	400		10.60	1427.0	5.62	-367.5	0.15	18.0
1115	75	400		10.58	1426.0	5.62	-368.5	0.15	16.1
1120	80	400		10.60	1426.0	5.62	-370.2	0.14	11.3
1125	85	400		10.71	1426.0	5.62	-373.4	0.14	9.00
1130	90	400	10	10.74	1427.0	5.61	-371.0	0.13	8.36

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Well Designation H2-03GW06 Page 2 of 2 Field Staff: LC/MH

Date Sampled 1/26/01
Stick-up Height 0.53' feet
Depth to Water 5.46' feet below top of casing
Total Depth 57.5' feet below top of casing
Depth of Tubing (sample interval) 56.5' feet below top of casing

Start purge 0915
Start parameters -1000
End purge 1145
Total purge time: 2 hours, 30 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1135	95	400		10.93	1427.0	5.61	-377.4	0.13	6.95
1140	100	400		10.80	1425.0	5.62	-382.1	0.12	6.76
1145	105	400	12	10.87	1424.0	5.62	-374.5	0.13	6.54

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-046W01 Page 1 of 1 Field Staff: _____

Date Sampled 1/12/01
Stick-up Height NM feet
Depth to Water NM feet below top of casing
Total Depth NM feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 1440
Start parameters 1530
End purge 1610
Total purge time: 1 hours, 30 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1535		400		7.11	747	5.86	-127.8	2.06	13.0
1540		↓		7.11	755	5.86	-129.3	2.15	7.8
1545				7.10	757	5.85	-127.9	2.17	7.11
1550				7.09	752	5.85	-126.0	2.19	4.01
1555				7.14	745	5.84	-119.5	2.23	2.47
1600				7.14	744	5.80	-118.3	2.24	2.18
1605				7.14	742	5.84	-116.3	2.25	2.00
1610				7.22	739	5.86	-115.3	2.33	1.4

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-04GW02 Page 1 of 1 Field Staff: LC

Date Sampled 1/12/01
Stick-up Height NM feet
Depth to Water NM feet below top of casing
Total Depth NM feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 1445
Start parameters 1530
End purge 1620
Total purge time: 1 hours, 35 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1530		400		11.94	94	6.59	41.3	4.78	4.42
1535				11.96	92	6.26	53.0	4.74	2.2
1540				11.94	91	6.15	56.1	4.72	1.6
Lw ~~1550~~ 1545				11.91	90	6.04	61.2	4.71	1.39
1550				11.93	90	5.95	65.0	4.72	1.02
1555				11.91	90	5.83	67.7	4.72	0.95
1600				12.01	90	5.87	71.0	4.71	1.62
1605				12.01	90	5.87	72.9	4.69	5.8
1610				12.03	90	5.84	75.7	4.71	1.5
1615				12.14	90	5.83	77.2	4.71	2.1
1620				12.11	90	5.83	77.9	4.71	1.7

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-04-GW03 Page 1 of 1 Field Staff: _____

Date Sampled 1/22/01
Stick-up Height 1.19 feet
Depth to Water 6.35 feet below top of casing
Total Depth 28.5 feet below top of casing
Depth of Tubing (sample interval) 26.5 feet below top of casing

Start purge 1300
Start parameters 1340
End purge 1455
Total purge time: 1 hours, 55 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1340		400		12.33	265	5.74	-186.5	2.74	464
1345				12.12	265	5.73	-175.5	2.76	116
1350				12.07	263	5.73	-160.1	2.72	32.5
1355				12.17	263	5.71	-154.5	2.73	32.2
1400				12.02	263	5.71	-151.6	2.73	34.5
1405				12.05	263	5.71	-148.1	2.72	35.0
1410				12.00	263	5.70	-144.7	2.73	24.5
1415				12.10	263	5.72	-140.6	2.71	24.6
1420				12.20	263	5.72	-135.5	2.70	14.4
1425				12.41	262	5.71	-131.4	2.69	11.3
1430				12.45	263	5.70	-122.5	2.69	8.53
1435				12.41	263	5.71	-121.8	2.70	7.32
1440				12.41	263	5.71	-120.0	2.69	15.34
1445				12.44	263	5.72	-117.7	2.69	4.66
1450				12.46	263	5.72	-116.5	2.70	4.02
1455				12.43	262	5.71	-110.7	2.77	2.79

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-04-6W04 Page 1 of 2 Field Staff: _____

Date Sampled 1/22/01
Stick-up Height 0.35 feet
Depth to Water 4.88 feet below top of casing
Total Depth 38.5 feet below top of casing
Depth of Tubing (sample interval) 36.5 feet below top of casing

Start purge 0915
Start parameters 1000
End purge 1230
Total purge time: 3 hours, 15 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1000		400		12.02	614	5.98	-272.7	0.82	61.8
1005				11.86	615	5.98	-343.1	0.45	64.0
1010				11.80	615	5.95	-365.4	0.40	66.9
1015				11.83	615	5.94	-359.2	0.31	44.5
1020				11.82	615	5.94	-358.2	0.30	20.5
1025				11.84	616	5.94	-357.4	0.30	23.4
1030				11.86	616	5.93	-351.5	0.29	18.1
1035				11.90	616	5.95	-351.5	0.29	15.9
1040				11.89	616	5.96	-356.3	0.29	15.3
1045				11.93	616	5.96	-343.9	0.29	17.3
1050				11.94	615	5.96	-367.2	0.28	41.9
1055				11.91	615	5.94	-372.2	0.26	29.4
1100				11.93	615	5.94	-363.5	0.26	18.3
1105				11.90	615	5.94	-366.5	0.26	14.7
1110				11.99	615	5.93	-367.5	0.25	18.3
1115				12.00	615	5.94	-367.7	0.25	21.4
1120				12.01	616	5.94	-365.0	0.24	18.4
1125				11.99	616	5.94	-366.1	0.24	22.7
1130				11.95	616	5.94	-367.4	0.23	15.6

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-04-GW04 Page 2 of 2 Field Staff: _____

Date Sampled 1/22/01
Stick-up Height 0.35 feet
Depth to Water 4.88 feet below top of casing
Total Depth 38.5 feet below top of casing
Depth of Tubing (sample interval) 36.5 feet below top of casing

Start purge 0915
Start parameters 1000
End purge 1230
Total purge time: 3 hours, 15 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1135		400		11.97	615	5.94	-366.7	0.23	16.5
1140		↓		11.96	616	5.93	-362.1	0.23	17.4
1145				12.01	616	5.93	-375.4	0.22	23.7
1150				12.00	616	5.92	-369.3	0.22	18.5
1155				12.01	616	5.92	-366.3	0.22	14.1
1200				12.02	615	5.93	-363.1	0.21	16.1
1205				11.95	616	5.92	-365.0	0.21	47.9
1210				12.01	616	5.92	-363.3	0.21	14.0
1215				12.03	616	5.93	-360.2	0.21	5.07
1220				12.05	617	5.92	-361.3	0.20	3.28
1225				12.06	617	5.92	-360.5	0.20	—
1230		↓		11.98	616	5.93	-358.3	0.20	4.18

Comments

H2-04-GW-05

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Well Designation H-GW-72-4-05 Page 1 of ___ Field Staff: LC/MH

Date Sampled 1/25/01
Stick-up Height 1.61' feet
Depth to Water 6.62' feet below top of casing
Total Depth 45.5' feet below top of casing
Depth of Tubing (sample interval) 44.5' feet below top of casing

Start purge 1050
Start parameters 1115
End purge 1205
Total purge time: 1 hours, 15 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1115		400		11.39	726.0	5.99	-406.8	1.04	103.3
1120	5	400		11.24	727.0	5.97	-412.5	0.71	123.3
1125	10	400		11.28	727.0	5.97	-411.3	0.60	155.0
1130	15	400		11.41	726.0	5.97	-410.2	0.49	173.0
1135	20	400		11.51	726.0	5.96	-409.7	0.46	153.0
1140	25	400		11.52	726.0	5.96	-408.2	0.41	145.0
1145	30	400		11.51	727.0	5.96	-404.5	0.40	139.0
1150	35	400		11.53	726.0	5.96	-404.2	0.39	117.0
1155	40	400		11.53	726.0	5.97	-401.8	0.38	80.5
1200	45	400		11.54	726.0	5.96	-396.6	0.37	88.2
1205	50	400		11.55	726.0	5.96	-397.9	0.37	81.6

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Well Designation H2-04GW06 Page 1 of 1 Field Staff: MH

Date Sampled 1/26/01
Stick-up Height 0.8 feet
Depth to Water 30.01 feet below top of casing
Total Depth 55 feet below top of casing
Depth of Tubing (sample interval) 54 feet below top of casing

Start purge 1136
Start parameters —
End purge 1220
Total purge time: ____ hours, ~~3~~ 44 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

UNPRODUCTIVE WELL. PURGED 1 GALLON. SAMPLED FOR FULL SUITE.
UNABLE TO PERFORM SULFIDE AND FERROUS IRON TESTING

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-04GW07 Page 1 of 1 Field Staff: HT

Date Sampled 2/13/01
Stick-up Height 0.43 feet
Depth to Water 5.04 feet below top of casing
Total Depth 68.25 feet below top of casing
Depth of Tubing (sample interval) 67.25 feet below top of casing

Start purge 1315
Start parameters 1350
End purge 1420
Total purge time: 1 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1350	~~35~~	400		11.12	932	6.66	-20.6	1.25	41.0
1355	5 ~~40~~	400		11.21	952	6.64	-49.7	0.66	8.98
1400	10 ~~45~~	400		11.23	954	6.65	-62.4	0.53	6.52
1405	15 ~~50~~	400		11.26	952	6.65	-72.9	0.43	5.43
1410	20 ~~55~~	400		11.21	952	6.64	-82.0	0.39	5.68
1415	25 ~~60~~	400		11.22	953	6.64	-88.3	0.37	6.10
1420	30 ~~65~~	400		11.25	952	6.64	-94.8	0.34	6.03
	2C								

Comments
- purged for 1hr 40min on 2/12

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well H2-05GW01 Date 10OCT 00

Screen Setting 8-3 Measuring Point Description TOC Casing Diameter (inches) 1"

Static Water Level 5.80 Measured Width W/L #3 Well Materials PVC ✓ SS. Steel

Total depth 9.75 Pump On: 835 Pump Rate: 100mL min

stickup 0.75

Purge Method Pump Off: 1000 Volumes Purged

Centrifugal Sample Time: 910-1000 Weather:

Submersible Sampled By: Diane Masker

Other ✓ DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
840							550					
845							65				Connected	to Cell
850					6.06	15	3.6	51	5.31	13.2		
855					6.20	15	10.0	31	4.37	13.4		
900					6.28	14	10.0	21	3.89	13.8		
905					6.34	14	10.00	20	3.79	14.0		
910					6.35	14	10.0	22	3.82	14.1		
											0.14	0.99

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO3
D Metals	plas	1	HNO3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH - 4.01 tubing 1' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well H205GW02 Date 10/12/00

Screen Setting 17-12 Measuring Point Description TOC Casing Diameter (inches) 1

Static Water Level 7.39 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 19.60 Pump On: 1155 Pump Rate: 200

stickup 2.11 Purge Method Pump Off: 1215 Volumes Purged

Centrifugal ✓ Sample Time: 1140 Weather:

Submersible Sampled By: SD

Other DUP / MS / MSD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1150				1g with check valve								
~~1205~~		200			6.07							
1210					5.55	18	74.2	18	5.53	16.12		
1215					5.97	17	31.6	31	5.74	15.77		
1220					5.93	15	25.4	39	5.97	15.67		
1225					5.88	15	16.8	47	6.19	15.54		
1230					5.84	14	12.7	55	6.18	15.70		
1235					5.83	13	11.8	57	6.25	15.55		
1240					5.81	13	11.2	60	6.37	15.62	0.00	1.45

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH-4.01 tubing 2.5' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample 142-056W03 Page 1 of 1 Field Staff: _____

Date Sampled 1/18/01
Stick-up Height _____ feet
Depth to Water 6.79 feet below top of casing
Total Depth NM feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 1405
Start parameters 1435
End purge 1535
Total purge time: 1 hours, 30 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1435		400		10.45	128	5.82	15.6	3.96	61.1
1440				10.38	129	5.76	17.6	3.88	31.1
1445				10.42	129	5.75	21.1	3.86	19.6
1450				10.43	128	5.74	23.8	3.86	11.4
1455				10.39	128	5.73	27.7	3.88	21.2
1500				10.31	128	5.73	30.1	3.87	15.2
1505				10.36	128	5.73	33.9	3.87	9.55
1510				10.38	128	5.72	34.8	3.87	7.29
1515				10.26	128	5.72	37.5	3.87	15.0
1520				10.35	128	5.72	34.6	3.88	6.02
1525				10.36	128	5.71	35.3	3.93	4.35
1530				10.29	128	5.72	34.5	3.87	4.91
1535				10.23	128	5.71	36.5	4.02	3.49

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-05GW04 Page 1 of 1 Field Staff: _____

Date Sampled 1/18/01
Stick-up Height _____ feet
Depth to Water ~~[illegible]~~ 5.65' feet below top of casing
Total Depth _____ feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 0905
Start parameters 0950
End purge 1035
Total purge time: 1 hours, 30 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0950		400		10.12	489	5.93	-0.7	0.88	29.0
0955		↓		10.14	489	5.93	-6.2	0.83	42.9
1000				10.23	488	5.93	-9.1	0.80	34.1
1005				10.30	487	5.94	-10.3	0.80	45.4
1010				10.10	487	5.94	-10.8	0.79	71.6
1015				10.35	488	5.94	-11.0	0.79	54.2
1020				10.09	489	5.94	-10.7	0.78	34.0
1025				10.07	488	5.94	-10.9	0.81	38.1
1030				10.18	487	5.94	-10.9	0.77	35.3
1035		↓		10.32	488	5.94	-10.5	0.76	37.5

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-05GW05 Page 1 of 1 Field Staff: _____

Date Sampled 1/24/01
Stick-up Height ~1 feet
Depth to Water 7.51 feet below top of casing
Total Depth NM feet below top of casing
Depth of Tubing (sample interval) _____ feet below top of casing

Start purge 0915
Start parameters 1005
End purge 1040
Total purge time: 1 hours, 25 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1005		400		10.71	629	6.5	-42.4	0.72	9.77
1010		↓		10.48	630	5.82	-46.4	0.68	4.51
1015				10.26	629	5.83	-51.3	0.58	2.39
1020				10.28	629	5.84	-57.9	0.56	2.42
1025				10.28	629	5.83	-63.8	0.52	1.55
1030				10.29	628	5.84	-68.0	0.51	2.48
1035				10.38	628	5.83	-73.5	0.49	1.35
1040		↓							

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-056W06 Page 1 of ___ Field Staff: LC

Date Sampled 1/31/01
Stick-up Height 0.78' feet
Depth to Water 5.48' feet below top of casing
Total Depth 57.5' feet below top of casing
Depth of Tubing (sample interval) 56.5' feet below top of casing

Start purge 0900
Start parameters 0940
End purge 1040
Total purge time: 1 hours, 40 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0940		400		10.76	635.0	6.16	-430.2	0.16	140
0945	5	400		10.78	634.0	6.15	-430.2	0.12	170
0950	10	400		10.75	634.0	6.15	-431.7	0.15	120
0955	15	400		10.73	632.0	6.14	-429.6	0.06	35
1000	20	400		10.75	632.0	6.14	-429.2	0.05	23
1005	25	400		10.74	631.0	6.13	-427.9	0.03	14
1010	30	400		10.75	631.0	6.13	-428.1	0.02	9.8
1015	35	400		10.77	631.0	6.13	-425.7	0.01	8.4
1020	40	400		10.80	631.0	6.13	-426.2	0.01	9.0
1025	45	400		10.82	631.0	6.13	-423.1	0.01	6.2
1030	50	400		10.87	631.0	6.13	-423.7	0.00	7.5
1035	55	400		10.88	631.0	6.13	-423.9	0.00	8.0
1040	60	400		10.87	631.0	6.13	-421.3	0.00	8.0

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample 112-05GW087 Page 1 of 1 Field Staff: LC

Date Sampled 2/12/01
Stick-up Height 0.60' feet
Depth to Water 4.87' feet below top of casing
Total Depth 57.75' feet below top of casing
Depth of Tubing (sample interval) 56.75' feet below top of casing

Start purge 0930
Start parameters 1005
End purge 1125
Total purge time: 1 hours, 55 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1005		400		10.43	597.0	6.34	-398.1	0.44	600
1010	5	400		10.45	597.0	6.33	-395.6	0.83	~~600~~ 550
1015	10	400		10.56	595.0	6.32	-406.1	0.55	450
1020	15	400		10.57	596.0	6.31	-405.1	0.52	130
1025	20	400		10.49	596.0	6.31	-398.1	0.44	450
1030	25	400		10.51	596.0	6.30	-406.0	0.40	260
1035	30	400		10.45	596.0	6.30	-401.4	0.40	320
1040	35	400		10.52	596.0	6.31	-394.4	0.39	310
1045	40	400		10.55	596.0	6.31	-398.5	0.41	60
1050	45	400		10.54	595.0	6.30	-396.5	0.40	50
1055	50	400		10.51	595.0	6.32	-395.2	0.41	45
1100	55	400		10.68	595.0	6.30	-392.1	0.40	34
1105	60	400		10.75	596.0	6.31	-393.5	0.41	38
1110	65	400		10.65	596.0	6.31	-388.5	0.40	31
1115	70	400		10.68	596.0	6.31	-390.9	0.39	31
1120	75	400		10.88	596.0	6.31	-389.4	0.38	32
1125	80	400		10.89	596.0	6.31	-386.0	0.39	30

Comments

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

Project/No. MA000646.0001.00002 Well H206GW01 Date 10/19/00 1 1

Screen Setting 7-2 Measuring Point Description TOC Casing Diameter (inches) 1

Static Water Level 5.35 Measured Width Well Materials PVC ✓ ST. Steel

Total depth 9.60 Pump On: 845 Pump Rate: 175

stickup 1.99 Purge Method Pump Off: 1000 Volumes Purged

Centrifugal ✓ Sample Time: 930 Weather: 40° Cloudy

Submersible Other DUP / MS / MSD Sampled By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
855		175			5.83	32	67.6	-3	1.59	14.07		
900					5.56	28	36.4	24	1.24	14.89		
905					5.41	23	21.8	48	0.94	14.99		
910					5.30	21	11.0	64	0.71	14.96		
915					5.23	20	7.97	75	0.71	15.01		
920					5.18	19	6.47	83	0.70	14.99		
925					5.15	19	6.11	88	0.69	14.97		
930					5.13	19	6.60	90	0.72	14.89	0.00	3.30 limit

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH-4.01 tubing 1.5' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ARCADIS GERAGHTY & MILLER

Groundwater Sampling Form

1 1

Project/No. MA000646.0001.00002 Well H206GW02 Date 10/12/00

Screen Setting 17-12 Measuring Point Description ToC Casing Diameter (inches) 1

Static Water Level 5.81 Measured Width Well Materials PVC / ✓ ST. Steel

Total depth 19.72 Pump On: 1040 Pump Rate: 250

stickup 1.99

Purge Method Pump Off: 1145 Volumes Purged

Centrifugal ✓ Sample Time: 1115 Weather: Sunny 60

Submersible Sampled

Other DUP / MS / MSD By: SD

Time	Minutes Elapsed	Rate (gpm) (ML)	DTW	Gallons Purged	pH	Cond. umhos ms/cm	TURB (NTUs)	Redox (mV)	Diss. O2 (mg/L)	TEMP. (C) (F)	Sulfide	Ferrous Iron
1020				≈1.5g	with	check	valve					
						(5)						
1050		250			6.15	0.10	78.0	-18	4.17	15.38		
1055					6.02	77mS	40.9	-12	1.40	14.76		
1100					5.96	69	27.5	-5	1.00	14.52		
1105					5.95	67	23.6	-3	0.91	14.52		
1110					5.94	65	19.5	0	0.99	14.55		
1115					5.93	65	14.8	3	0.90	14.54	0.04	3.26
				≈3.5								

Constituents Sampled	Container Description	Number	Preservative
T Metals	plas	1	HNO_3
D Metals	plas	1	HNO_3
T Arsenic	amber	1	none
D Arsenic	amber	1	none
Benzene Toluene	VOA	3	HCL
TSS	plas	1	none

Sampling Personnel pH - 4.01 tubing 2.5' from bottom

F:\stds2000\forms\LOWFLO646.xls
8/18/2000

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-06GW03 Page 1 of 1 Field Staff: _____

Date Sampled 1/18/01
Stick-up Height 1.44 feet
Depth to Water 5.34 feet below top of casing
Total Depth 27.5 feet below top of casing
Depth of Tubing (sample interval) 25.5 feet below top of casing

Start purge 1330
Start parameters 1415
End purge 1520
Total purge time: 1 hours, 50 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1415		400		10.17	519	6.17	-387.6	0.44	60.2
1420				10.12	518	6.16	-364.8	0.56	21.9
1425				9.99	518	6.15	-366.2	0.37	21.1
1430				9.93	519	6.15	-363.4	0.31	17.2
1435				9.92	515	6.16	-355.0	0.32	13.3
1440				9.81	519	6.16	-354.1	0.28	9.38
1445				9.74	519	6.16	-340.0	0.25	8.24
1450				9.82	519	6.15	-333.7	0.25	7.57
1455				9.72	520	6.14	-329.6	0.24	6.23
1500				9.62	519	6.15	-329.1	0.23	6.10
1505				9.72	518	6.14	-326.5	0.23	5.64
1510				9.64	519	6.15	-312.6	0.22	4.25
1515				9.72	518	6.15	-312.1	0.22	4.15
1520		↓		9.78	518	6.15	-313.7	0.21	4.10

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-06GW04 Page 1 of 1 Field Staff: _____

Date Sampled 1/18/01
Stick-up Height 0.53 feet
Depth to Water 5.76 feet below top of casing
Total Depth 37.5 feet below top of casing
Depth of Tubing (sample interval) 35.5 feet below top of casing

Start purge 0845
Start parameters 0925
End purge 1100
Total purge time: 2 hours, 15 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0925		400		9.86	546	6.19	-414.8	0.42	318
0930				9.81	547	6.17	-416.0	0.42	107
0935				9.71	547	6.17	-411.8	0.39	43.7
0940				9.46	547	6.17	-406.4	0.37	31.4
0945				9.50	548	6.17	-401.1	0.31	39.0
0950				9.57	547	6.16	-387.0	0.30	33.0
0955				9.75	547	6.16	-393.8	0.29	24.0
1000				9.90	547	6.16	-392.1	0.30	21.0
1005				9.67	548	6.17	-389.8	0.31	19.0
1010				9.82	548	6.16	-387.9	0.31	14.0
1015				9.81	548	6.17	-384.6	0.34	12.0
1020				9.70	548	6.16	-382.6	0.28	9.4
1025				8.41	551	6.16	-346.8	0.29	20.6
1030				9.92	548	6.16	-377.6	0.27	11.2
1035				10.02	548	6.16	-375.4	0.31	14.2
1040				9.89	547	6.17	-376.2	0.26	6.5
1045				9.66	549	6.16	-372.1	0.27	5.1
1050				9.75	549	6.16	-369.3	0.25	4.9
1055				9.76	549	6.16	-368.0	0.25	4.9
1100				9.76	549	6.16	-366.2	0.25	4.6

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample HZ-06GW05 Page 1 of 1 Field Staff: _____

Date Sampled 1/24/01
Stick-up Height 1.35 feet
Depth to Water 5.30 feet below top of casing
Total Depth 44.6 feet below top of casing
Depth of Tubing (sample interval) 42.6 feet below top of casing

Start purge 1340
Start parameters 1355
End purge 1500
Total purge time: 1 hours, 20 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1355		400		9.11	576	6.24	-346.6	1.47	168
1400				9.49	580	6.24	-370.9	0.93	185
1405				9.97	587	6.22	-396.7	0.71	127
1410				10.09	528	6.21	-406.3	0.72	75.5
1415				10.22	587	6.21	-400.4	0.29	23.8
1420				10.23	587	6.20	-402.5	0.67	21.7
1425				10.18	587	6.20	-392.6	0.32	10.8
1430				10.20	587	6.20	-362.7	0.32	13.5
1435				10.23	582	6.20	-309.3	0.34	8.07
1440				10.23	587	6.20	-290.0	0.31	7.44
1445				10.25	586	6.20	-308	0.30	5.89
1450				10.25	587	6.20	-310.9	0.23	3.86
1455				10.24	587	6.19	-304.7	0.28	3.88
1500				10.26	587	6.20	-314.9	0.27	3.59

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-06-GW06 Page 1 of 1 Field Staff: _____

Date Sampled 1/24/01
Stick-up Height 0.66 feet
Depth to Water 4.43 feet below top of casing
Total Depth 57.5 feet below top of casing
Depth of Tubing (sample interval) 55.5 feet below top of casing

Start purge 0900
Start parameters 0955
End purge 1055
Total purge time: 1 hours, 55 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0955		400		10.19	566.0	6.29	-424.0	0.70	290
1000		↓		10.23	5[illegible]0	6.29	-425.1	0.45	166
1005				10.33	554	6.23	-399.3	0.39	31.9
1010				10.34	554	6.22	-364.7	0.34	20.6
1015				10.39	552	6.21	-383.3	0.32	14.4
1020				10.51	552	6.22	-402.0	0.32	11.5
1025				10.46	553	6.21	-397.8	0.32	10.1
1030				10.49	553	6.20	-361.1	0.31	6.73
1035				10.49	553	6.20	-374.8	0.30	6.01
1040				10.48	553	6.20	-371.4	0.30	6.71
1045				10.50	554	6.20	-379.4	0.29	4.92
1050				10.53	553	6.20	-378.4	0.29	4.88
1055		↓		10.54	554	6.20	-376.9	0.29	4.11

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample H2-06GW07 Page 1 of 1 Field Staff: LC

Date Sampled 1/30/01
Stick-up Height 0.75' feet
Depth to Water 4.48' feet below top of casing
Total Depth 45' feet below top of casing
Depth of Tubing (sample interval) 45' feet below top of casing

Start purge 0900
Start parameters 0940
End purge 1130
Total purge time: 2 hours, 30 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0940		400		9.80	548.0	6.22	-253.8	5.10	3.42
0945	5	400		9.93	553.0	6.18	-206.2	5.12	0.98
0950	10	400		9.91	554.0	6.16	-179.7	4.21	0.88
0955	15	400		9.95	553.0	6.14	-195.8	2.33	0.60
1000	20	400		9.83	553.0	6.11	-219.0	0.84	0.45
1005	25	400	3.5	9.85	553.0	6.11	-208.8	0.74	0.45
1010	30	400		9.84	554.0	6.10	-199.8	0.69	0.40
1015	35	400		9.82	554.0	6.10	-201.4	0.41	0.30
1020	40	400		9.90	554.0	6.10	-211.9	0.38	0.60
1025	45	400	5.0	9.93	554.0	6.09	-196.5	0.36	0.40
1030	50	400		9.91	554.0	6.09	-241.2	0.18	0.70
1035	55	400		9.89	554.0	6.09	-216.6	0.13	0.35
1040	60	400		9.80	553.0	6.08	-200.3	0.07	0.45
1045	65	400		9.82	554.0	6.09	-187.6	0.06	0.35
1050	70	400		9.81	554.0	6.09	-190.1	0.04	0.22
1055	75	400		9.86	554.0	6.09	-196.0	0.03	0.35
1100	80	400		9.79	553.0	6.10	-186.5	0.02	0.55
1105	85	400		9.81	553.0	6.10	-181.7	0.02	0.45
1110	90	400		9.80	554.0	6.10	-184.1	0.02	1.0

Comments

- Encounter refusal of tubing at 45', possibly joint in casing
- Collect duplicate H2-06GW0799

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample L2-016W01 Page 1 of 1 Field Staff: LC

Date Sampled 2/15/01
Stick-up Height 1.5' feet
Depth to Water 7.43' feet below top of casing
Total Depth 12.0' feet below top of casing
Depth of Tubing (sample interval) 11.0' feet below top of casing

Sulfide: 0.07mg/L
Ferrous Iron: 0.07mg/L

Start purge 1030
Start parameters 1055
End purge 1125
Total purge time: 0 hours, 55 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1055		400		8.56	569	6.20	112.6	3.59	9.76
1100	5	400		8.27	575	6.18	109.0	3.76	1.87
1105	10	400		8.19	576	6.18	109.9	3.60	0.75
1110	15	400		8.19	576	6.16	110.7	3.57	0.52
1115	20	400		8.18	577	6.16	111.6	3.50	0.46
1120	25	400		8.20	575	6.17	112.3	3.55	0.27
1125	30	400		8.21	576	6.16	113.9	3.44	0.36

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample L2-01GW02 Page 1 of 1 Field Staff: MH

Date Sampled 2/15/01
Stick-up Height 1.0' feet
Depth to Water 6.75' feet below top of casing
Total Depth 22.0' feet below top of casing
Depth of Tubing (sample interval) 21.0' feet below top of casing

Sulfide: 0.0 mg/L
Ferrous Iron: 0.91 mg/L

Start purge 1030
Start parameters 1055
End purge 1140
Total purge time: 1 hours, 10 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1055		400		11.62	916	5.73	36.9	1.79	108.5
1100	5	400		11.63	933	5.71	24.1	1.48	34.1
1105	10	400		11.68	918	5.71	11.3	1.38	21.0
1110	15	400		11.69	919	5.72	8.3	1.43	17.3
1115	20	400		11.72	919	5.71	5.1	1.49	12.6
1120	25	400		11.71	920	5.71	3.2	1.55	5.36
1125	30	400		11.68	920	5.71	-4.2	MH 1.23	6.17
1130	35	400		11.72	921	5.70	-2.4	1.11	5.76
1135	40	400		11.74	921	5.72	-6.5	1.15	5.61
1140	45	400		11.75	921	5.72	-4.4	1.14	5.61

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample L2-01GW03 Page 1 of 1 Field Staff: LC

Date Sampled 2/20/01
Stick-up Height 1.56' feet
Depth to Water 7.51' feet below top of casing
Total Depth 31.7' feet below top of casing
Depth of Tubing (sample interval) 30.7' feet below top of casing

Sulfide: 0.02mg/L
Ferrous Iron: 1.66mg/L

Start purge 0910
Start parameters 0950
End purge 1025
Total purge time: 1 hours, 15 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0950		400		12.71	467	6.20	16.9	2.79	8.65
0955	5	400		12.30	469	6.01	-167.8	1.25	3.73
1000	10	400		12.29	468	6.01	-182.6	1.11	3.18
1005	15	400		12.26	456	6.02	-178.3	0.92	3.21
1010	20	400		12.23	456	6.02	-181.5	0.94	3.25
1015	25	400		12.23	455	6.02	-175.2	0.87	3.12
1020	30	400		12.22	454	6.00	-170.4	0.80	3.16
1025	35	400		12.22	454	6.02	-166.1	0.81	2.76

Comments
collect sample and duplicate L2-01GW0399

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample L2-016W04 Page 1 of 1 Field Staff: MH

Date Sampled 2/20/01
Stick-up Height 0.73' feet
Depth to Water 6.20' feet below top of casing
Total Depth 41.25' feet below top of casing
Depth of Tubing (sample interval) 40.25' feet below top of casing

Sulfide : 0.03 mg/L
Ferrous Iron : 1.06 mg/L

Start purge 0910
Start parameters 0950
End purge 1055
Total purge time: 1 hours, 45 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
0950		400		11.66	425	6.04	31.1	3.47	7.1
0955	5	400		11.56	423	5.96	14.4	1.98	7.02
1000	10	400		11.59	422	5.94	12.5	1.23	7.59
1005	15	400		11.59	423	5.94	13.2	0.32	9.80
1010	20	400		11.57	423	5.94	14.0	0.15	9.28
1015	25	400		11.57	423	5.95	14.2	0.07	11.0
1020	30	400		11.58	422	5.96	15.7	0.05	10.67
1025	35	400		11.61	423	5.95	17.1	0.05	8.24
1030	40	400		11.61	423	5.95	17.5	0.05	7.26
1035	45	400		11.61	423	5.95	18.4	0.05	6.05
1040	50	400		11.64	422	5.95	18.3	0.05	5.28
1045	55	400		11.60	422	5.94	19.3	0.04	4.70
1050	60	400		11.64	422	5.94	18.8	0.04	4.12
1055	65	400		11.65	423	5.94	19.3	0.04	3.68

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample L2-01GW05 Page 1 of 1 Field Staff: LC

Date Sampled 2/23/01
Stick-up Height 1.9' feet
Depth to Water 7.30' feet below top of casing
Total Depth 51.5' feet below top of casing
Depth of Tubing (sample interval) 50.5' feet below top of casing

Sulfide: 0.0 mg/L
ferrous iron: 1.87 mg/L

Start purge 1000
Start parameters 1040
End purge 1140
Total purge time: 1 hours, 40 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1040		400		11.92	532	5.63	-18.9	2.29	4.54
1045	5	400		11.11	531	5.47	-13.6	3.51	2.86
1050	10	400		11.05	532	5.46	-10.5	3.61	3.83
1055	15	400		11.00	632	5.44	-9.2	3.60	9.38
1100	20	400		11.02	633	5.44	-7.8	3.59	20.6
1105	25	400		10.98	532	5.44	-3.6	3.58	19.2
1110	30	400		10.95	632	5.43	-0.4	3.63	15.4
1115	35	400		10.97	531	5.43	1.3	3.60	12.4
1120	40	400		10.87	532	5.43	5.0	3.70	9.50
1125	45	400		10.98	532	5.43	7.3	3.72	6.39
1130	50	400		10.98	532	5.43	10.5	3.72	4.94
1135	55	400		10.88	530	5.41	12.6	3.78	4.61
1140	60	400		10.96	530	5.44	13.8	3.75	3.6

Comments
collect sample and duplicate, L2-01GW0599

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample L2-01GW06 Page 1 of 1 Field Staff: MH

Date Sampled 2/23/01
Stick-up Height 0.8" feet
Depth to Water 6.30' feet below top of casing
Total Depth 62.0' feet below top of casing
Depth of Tubing (sample interval) 61.0' feet below top of casing

sulfide: 0.03 mg/L
ferrous iron: 3.30 mg/L

Start purge 1000
Start parameters 1040
End purge 1125
Total purge time: 1 hours, 25 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1040		400		11.55	263	6.09	-65.9	0.04	11.2
1045	5	400		11.25	264	6.06	-63.1	0.02	10.93
1050	10	400		11.27	264	6.05	-60.4	0.01	7.48
1055	15	400		11.2	264	6.05	-60.2	0.01	9.19
1100	20	400		11.26	264	6.04	-54.7	0.01	10.63
1105	25	400		11.27	263	6.03	-51.4	0.01	9.52
1110	30	400		11.24	264	6.03	-52.3	0.01	9.04
1115	35	400		11.25	264	6.02	-52.1	0.01	6.44
1120	40	400		11.15	263	6.02	-52.4	0.01	6.43
1125	45	400		11.27	263	6.02	-49.1	0.01	6.46

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample L2-01GW07 Page 1 of 1 Field Staff: HT

Date Sampled 2/1/01
Stick-up Height 1.2' feet
Depth to Water 6.73' feet below top of casing
Total Depth 75.0' feet below top of casing
Depth of Tubing (sample interval) 72.0' feet below top of casing

sulfide = 0.06 mg/L
Ferrous iron = 3.30 mg/L

Start purge 1320
Start parameters 1330
End purge 1440
Total purge time: 1 hours, 20 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1330	0	400		10.67	440	6.25	-34.4	7.77	608
1335	Stopped to fix.								
1340	0	400		10.87	438	6.18	-43.2	6.98	201
1345	5			10.90	433	6.19	-48.1	6.59	200
1350	10			10.92	427	6.12	-53.2	5.22	105.4
1355	15			10.85	426	6.19	-57.0	5.22	84.5
1400	20			11.05	426	6.22	-57.8	4.90	38.6
1405	25			10.91	425	6.23	-55.5	5.08	28.4
1410	30			10.77	424	6.25	-53.7	4.80	25.7
1415	35			10.63	425	6.26	-52.0	5.41	19.3
1420	40			10.66	424	6.26	-50.1	5.02	15.8
1425	45			10.60	424	6.25	-49.0	5.11	14.3
1430	50			10.51	424	6.25	-47.7	5.65	~~[illegible]~~ 14.6 HAT
1435	55			10.32	424	6.25	-47.8	6.13	13.8
1440	60			10.35	424	6.26	-46.2	6.09	13.6
~~1~~ HAT									

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample L2-02GW01 Page ___ of ___ Field Staff: MH

Date Sampled 2/9/01
Stick-up Height 1.8' feet
Depth to Water 12.09' feet below top of casing
Total Depth 14.8' feet below top of casing
Depth of Tubing (sample interval) 13.8' feet below top of casing

Start purge 1040
Start parameters 1115
End purge 1145
Total purge time: 1 hours, 5 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1115	5	400		10.08	1367	6.35	50.0	2.08	0.70
1120	10			10.38	1420	6.26	43.0	3.31	0.25
1125	15			10.36	1432	6.22	40.8	3.53	0.00
1130	20			10.31	1445	6.21	38.8	3.69	0.00
1135	25			10.23	1452	6.20	36.7	3.80	0.10
1140	30			10.19	1455	6.20	37.0	3.84	0.00
1145	35			10.12	1457	6.20	37.2	3.82	0.15

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample L2-02GW02 Page 1 of ___ Field Staff: LC

Date Sampled 2/9/01
Stick-up Height 0.75' feet
Depth to Water 10.91' feet below top of casing
Total Depth 24.3' feet below top of casing
Depth of Tubing (sample interval) 23.3' feet below top of casing

Start purge 1040
Start parameters 1105
End purge 1135
Total purge time: ____ hours, 55 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1105		400		14.54	847.0	6.27	-247.7	0.54	0.50
1110	5	400		14.00	846.0	6.27	-269.5	0.52	0.10
1115	10	400		14.04	845.0	6.27	-257.5	0.50	0.45
1120	15	400		13.91	845.0	6.26	-228.0	0.50	0.15
1125	20	400		13.88	845.0	6.26	-213.5	0.49	0.45
1130	25	400		13.81	845.0	6.26	-210.9	0.49	0.20
1135	30	400		13.78	844.0	6.26	-205.7	0.48	0.25

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample L2-026W03 Page 1 of 1 Field Staff: LC

Date Sampled 2/15/01
Stick-up Height 2.0' feet
Depth to Water 11.85' feet below top of casing
Total Depth 35.0' feet below top of casing
Depth of Tubing (sample interval) 34.0' feet below top of casing

Sulfide: 0.06 mg/L
Ferrous Iron: 0.93 mg/L

Start purge 1340
Start parameters 1435
End purge 1505
Total purge time: 1 hours, 25 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1435		400		14.37	1056	5.96	-37.4	2.23	13.4
1440	5	400		14.40	1067	5.97	-58.3	2.20	6.80
1445	10	400		14.45	1070	5.98	-67.3	2.28	4.47
1450	15	400		14.58	1073	5.99	-71.5	2.05	2.79
1455	20	400		14.52	1072	5.99	-77.7	2.27	3.10
1500	25	400		14.47	1072	6.00	-83.1	2.17	4.48
1505	30	400		14.44	1073	6.00	-83.3	2.21	3.15

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample L2-02GW04NS Page 1 of 1 Field Staff: LC

Date Sampled 2/20/01
Stick-up Height 0.85' feet
Depth to Water 10.61' feet below top of casing
Total Depth 44.5' feet below top of casing
Depth of Tubing (sample interval) 43.5' feet below top of casing

Sulfide: 0.69 mg/L
Ferrous Iron: 3.30 mg/L

Start purge 1215 (on 2/20), 1340 (2/16)
Start parameters —
End purge 1530 (2/20), 1530 (2/16)
Total purge time: 5 hours, 5 minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)

Comments

- purge water extremely silty, purged 1hr 50min on 2/16 and 3hr 15min on 2/20 w/out change in silt levels
- Collected sample L2-02GW04NS

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample L2-026W05 Page 1 of 1 Field Staff: LC/MH

Date Sampled 2/23/01
Stick-up Height 0.91' feet
Depth to Water 9.81' feet below top of casing
Total Depth 52.3' feet below top of casing
Depth of Tubing (sample interval) 51.3' feet below top of casing

sulfide: 0.03mg/L
ferrous iron: 0.68mg/L

Start purge 1400
Start parameters 1435
End purge 1510
Total purge time: 1 hours, 10 minutes
Parameters Stabilized? Y

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1435		400		14.21	999	5.80	-10.2	3.91	317
1440	5	400		14.06	1000	5.87	-16.5	3.85	178
1445	10	400		14.14	1001	5.87	-18.8	3.66	152
1450	15	400		14.20	1001	5.90	-20.1	3.51	21.3
1455	20	400		14.16	1002	5.90	-19.1	3.35	5.96
1500	25	400		14.26	1002	5.90	-18.8	3.33	2.74
1505	30	400		14.25	1001	5.92	-18.4	3.37	2.58
1510	35	400		14.16	1001	5.91	-17.7	3.26	0.92

Comments

ROUX ASSOCIATES, INC.
Final GSIP SOW Soil/Groundwater Investigation
Groundwater Sampling Form

Sample L2-03GW01NS Page 1 of ___ Field Staff: LC

Date Sampled 2/6/01
Stick-up Height 1.17' feet
Depth to Water 14.45' feet below top of casing
Total Depth 16.5' feet below top of casing
Depth of Tubing (sample interval) 15.5' feet below top of casing

Start purge 1130
Start parameters 1240, 1435
End purge 1530
Total purge time: 4 hours, ___ minutes
Parameters Stabilized? N

Purging Information

Time of Day	Elapsed Time (min)	Purge Rate (mL/min)	Cumulative Volume Purged (gallons)	Temperature (degrees C)	Spec. Cond. (uS)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
1240				12.41	1221.0	5.53	119.0	1.32	307
1245				12.37	1208.0	5.49	56.0	0.79	—
discontinue parameters → too much sand in cell, continue purging to clear silt									
1435		400		12.22	1221.0	5.50	165.8	0.96	165
1440				12.22	1219.0	5.49	146.3	0.79	261
1445				12.16	1214.0	5.47	102.3	0.70	124
1450				12.05	1211.0	5.47	72.3	0.69	232
1455				12.08	1210.0	5.46	61.3	0.68	259
1500				12.08	1210.0	5.47	60.2	0.68	224
1505				12.08	1213.0	5.48	57.8	0.68	193
1510				12.10	1212.0	5.48	55.9	0.70	175
1515				12.05	1210.0	5.47	52.3	0.69	97.4
1520				12.03	1209.0	5.47	53.5	0.68	82.1
1525				12.03	1208.0	5.47	54.5	0.68	76.5
1530				11.95	1208.0	5.46	54.5	0.68	63.9
~~15~~									

Comments
- extremely turbid purge water – purged 4 hours, extreme turbidity did not stabilize
- sample collected