52 Federal Road, Suite 2C
Danbury, CT 06810
Tele: (203) 205-9000
Fax: (203) 205-9011
www.unicornmgt.com

Unicorn Management Consultants, LLC

April 13, 2012
Refer to OP-2800

Mr. David Szymanski
Project Manager
New York State Department of Environmental Conservation, Region 9
270 Michigan Avenue
Buffalo, New York 14203-2999

Subject: Groundwater Monitoring Report; Closure Year 15 (2011); Annual Sampling
Union Road Site, Erie County, Cheektowaga, NY
Inactive Hazardous Waste Disposal Site No. 915128

Dear Mr. Szymanski:

On behalf of American Premier Underwriters, Inc., Unicorn Management Consultants, LLC (UMC) hereby submits the Groundwater Monitoring Report for the Annual Sampling of Closure year 15 (2011) for the subject site.

Also enclosed is the completed NYSDEC Institutional and Engineering Controls Certification form for 2011.

If you have any questions regarding this report, please call me at 203-205-9000, ext. 13.

Sincerely,

Unicorn Management Consultants, LLC

Michael J. O'Connor, LEP, P.G.
Project Manager
Union Road Remediation Project

Attachments

cc: M. Doster: Regional Director, NYSDEC, Region 9
M. Cioffi
L. Lackner (w/o attachment)
J. Periconi
M. Hill, Esq.

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **915128**

Site Name Union Road Site

Site Address: Losson Road Zip Code: 14110
City/Town: Cheektowaga
County: Erie
Site Acreage: 23.0

Reporting Period: December 26, 2010 to December 26, 2011

	YES	NO
1. Is the information above correct?	☒	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Closed Landfill	☒	☐
7. Are all ICs/ECs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

SITE NO. 915128 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
114.17-1-3.1	Universal Marion Corp.	Ground Water Use Restriction Landuse Restriction Monitoring Plan O&M Plan
114.17-1-3.1	Universal Marion Corp.	
114.17-1-2	Witben Realty C/O Universal Marion Corp.	Ground Water Use Restriction Landuse Restriction Monitoring Plan O&M Plan
114.17-1-2	Witben Realty C/O Universal Marion Corp.	

Box 4

Description of Engineering Controls

Parcel	Engineering Control
114.17-1-3.1	Cover System Fencing/Access Control Pump & Treat
114.17-1-2	Cover System Fencing/Access Control Pump & Treat

Engineering Control Details for Site No. 915128

Parcel: 114.17-1-2
Site O&M Plan & Reporting per Order on Consent.

Parcel: 114.17-1-3.1
Site O&M Plan & Reporting per Order on Consent.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

_____ _____

Signature of Owner, Remedial Party or Designated Representative Date

IC CERTIFICATIONS
SITE NO. 915128

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Michael O'Connor (print name) at 52 Federal Rd. Suite 2C Danbury CT 06810 (print business address)

am certifying as Remedial Party (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Mkl O'Cnr
Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

5/31/12
Date

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Michael O'Connor (print name) at 52 Federal Rd Suite 2C Danbury CT 06810 (print business address)

am certifying as a Qualified Environmental Professional for the Remedial Party (Owner or Remedial Party)

Michael O'Con
Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

5/31/12
Date

52 Federal Road, Suite 2C
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Unicorn Management Consultants, LLC

ANNUAL GROUNDWATER MONITORING REPORT
CLOSURE YEAR 15 (2011)

UNION ROAD SITE
TOWN OF CHEEKTOWAGA
ERIE COUNTY, NEW YORK
(SITE REGISTRY NO. 9-15-128)

Prepared for:

AMERICAN PREMIER UNDERWRITERS, INC.
(FORMERLY THE PENN CENTRAL CORPORATION)
ONE EAST FOURTH STREET
CINCINNATI, OHIO 45202

Prepared by:

UNICORN MANAGEMENT CONSULTANTS, LLC
52 FEDERAL ROAD, SUITE 2C
DANBURY, CT 06810

April 13, 2012

Document Authorization Form

Annual Groundwater Monitoring Report
Closure Year 15 (2011)

Union Road Site
Town of Cheektowaga
Erie County, New York
(Site Registry No. 9-15-128)

Prepared for:

American Premier Underwriters, Inc.
(Formerly The Penn Central Corporation)
One East Fourth Street
Cincinnati, Ohio 45202

Prepared by:

UNICORN MANAGEMENT CONSULTANTS, LLC
52 FEDERAL ROAD, SUITE 2C
DANBURY, CT 06810

April 13, 2012

AUTHORIZATIONS:

Michael J. O'Connor, LEP, PG.
Manager of Environmental Projects

4/13/12
Date

Table of Contents

List of Figures

List of Tables

1. INTRODUCTION

This Groundwater Monitoring Report has been prepared by Unicorn Management Consultants, LLC (UMC) on behalf of American Premier Underwriters, Inc. The purpose of this document is to demonstrate compliance with Section 12.4.1 of the Union Road Site Remedial Design Report (Design Report), approved by the NYSDEC in May, 1995. Section 12.4.1 of the Design Report discusses the Groundwater Monitoring Plan (GMP). The GMP consists of these elements:

- Installation of groundwater monitoring wells inside and outside the slurry wall around the landfill closure;
- Collection and analyses of groundwater samples; and
- Determination of groundwater elevations.

Please note that pursuant to letter dated October 18, 2001, from Blank Rome Comisky and McCauley, LLP (APU's legal counsel), effective October 19, 2001, APU designated UMC as their environmental consultants.

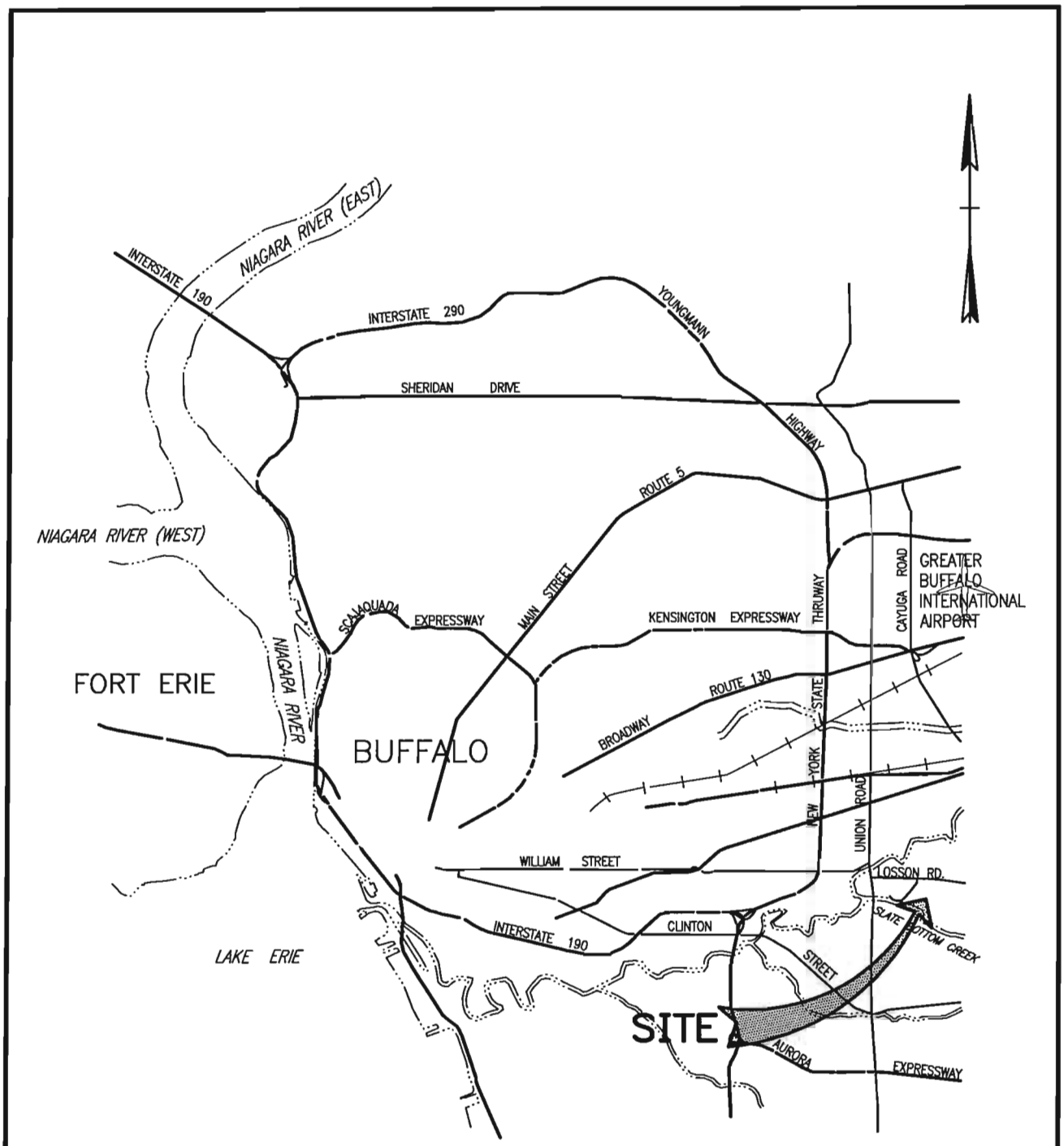
The Union Road site ("the Site") is a Class 2 Site as defined by the New York State Department of Environmental Conservation (NYSDEC). The Site registry number is 915128. The Site is located at 333 Losson Road in Cheektowaga, New York (see Figure 1-1). A Record of Decision (ROD) for the Site was signed on March 9, 1992. Order on Consent Index No. B9-0148-92-03 was signed by The Penn Central Corporation (currently, American Premier Underwriters, Inc.) and the New York State Department of Environmental Conservation (NYSDEC); the effective date of the Order is April 12, 1994. Appendix "B" of the Order is the Final Remedial Action Work Plan (the "Work Plan"), dated June 18, 1993.

As required in Section 4.2 of the Work Plan, the design documents, including the Union Road Site Remedial Design Report, were submitted in May 1995 to the NYSDEC and were subsequently approved. After approval, work commenced and the landfill closure was completed in December 1996. Figure 1-2 illustrates a plan view of the Site closure.

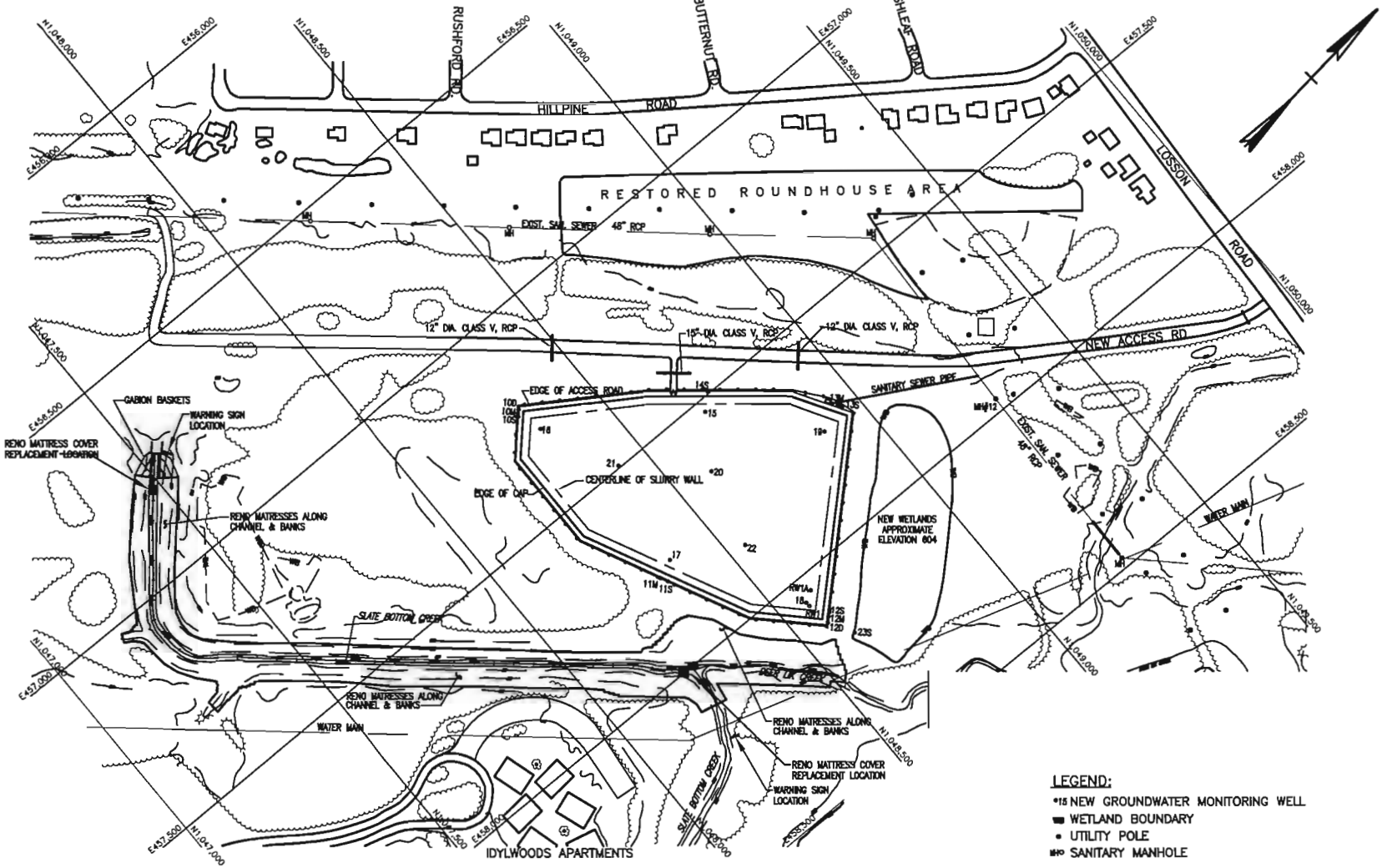
The GMP, Inspection and Operation and Maintenance activities for the Site went into effect following the landfill closure. This report presents and summarizes the groundwater monitoring data for the Annual Monitoring of Closure Year 14 (2011). This is the 14th sampling event since the landfill closure (December 1997).

The purpose of GMP is as follows:

- Monitor the groundwater gradient of the three hydrogeologic units in and around the closure area; and
- Evaluate the groundwater quality to assess the effectiveness of the remedial action performed in accordance with 1995 Design Report.



REVISION NO.					
NO.	DATE	PROJECT	UNION ROAD SITE TOWN OF CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200 FILENAME: UNION_RD SCALE: 1" ~ 2mi DATE: 1/16/02 BY: AD CK:
		DRAWING	LOCATION MAP		FIGURE # 1-1



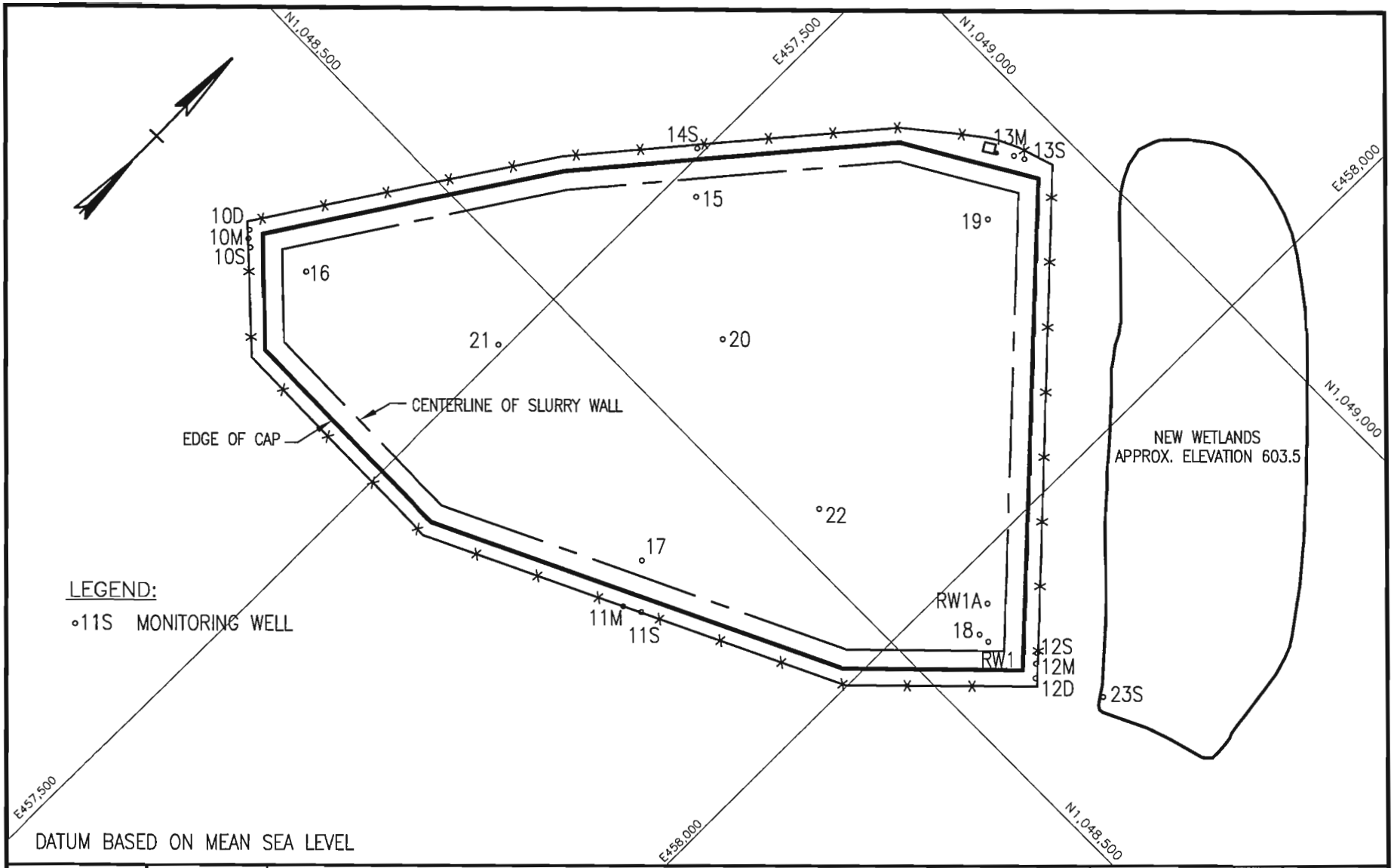
REVISIONS		PROJECT	UNION ROAD SITE TOWN OF CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200 FILENAME: 2045100B SCALE: 1" =400' DATE: 8/23/06 BY: AD CK:
NO.	DATE				
		DRAWING	SITE LOCATION		FIGURE # 1-2

2. WELL INSTALLATION

As proposed in the GMP, five well clusters were installed along the outside perimeter of the slurry wall. These exterior wells are identified as MW-10S-M-D, MW-11S-M, MW-12S-M-D, MW-13S-M, and MW-14S. Adjacent to these wells, along the inside perimeter of the slurry wall, five shallow wells identified as MW-15, MW-16, MW-17, MW-18, and MW-19 were installed.

Three additional shallow wells (not originally proposed) were also installed. These wells (MW-20, MW-21, and MW-22) were installed in the center of the landfill to monitor the elevation of groundwater inside the landfill closure. Proposed well MW-20S adjacent to the outfall of the new wetland was installed; however, the identification of this well was changed from MW-20S to MW-23S. As discussed in the Groundwater Monitoring Report for the Second Quarter 1997, the original Monitoring Well 14S (MW-14S) was decommissioned and the replacement was reinstalled nine (9) feet southwest (along the fence line). The MW-14S replacement was installed, surveyed and developed on August 19, 1997. Well designations and locations are shown on Figure 2-1.

Installation of monitoring wells proceeded according to Section 02170 of the Technical Specifications. Installation of the interior wells occurred from February 19-23, 1996. Installation of the exterior wells took place from December 10, 1996 through January 6, 1997 and August 19, 1997. Copies of the Boring Logs and Well Construction Drawings are included as Appendix A.



REVISIONS		PROJECT	UNION ROAD SITE TOWN OF CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200 FILENAME: 2045100B SCALE: 1" = 160' DATE: 1/15/02 BY: AD CK: FIGURE # 2-1
NO.	DATE	DRAWING	GROUNDWATER MONITORING WELL LOCATIONS		

3. GROUNDWATER SAMPLING AND ANALYSES

The purpose of groundwater sampling and analyses is to assess the effectiveness of the remedial action by evaluating the groundwater quality.

According to the GMP, groundwater samples will be collected from the outside perimeter monitoring wells by the following schedule:

- Quarterly the first year (1997);
- Semi-annually the second year (1998); and
- Annually (during the dry season) thereafter.

The parameters and applicable methods for the analyses are as follows:

- Total petroleum hydrocarbons (TPH) by EPA Method 1664*;
- Volatile organic compounds (VOCs) by EPA Method 8260;
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270; and
- Soluble metals (lead and arsenic) by EPA Method 6010B, respectively.

The sampling frequency, analytical parameters, and/or sampling of specific wells will be modified based on the results of previous sampling events (since the landfill closure) and with written approval from the NYSDEC.

To evaluate the immediate effects of remedial activities on the groundwater around the landfill closure, the results of this sampling event are compared to results gathered from previous investigation reports performed by Dvirka and Bartilucci prior to the landfill closure. The data from the reports dated June, 1991 and August, 1991 are summarized in Table 3-1. Comparison between the averages prior to closure with post closure in the shallow wells shows significant decreases in all of the contaminants analyzed. To determine the continued effectiveness of the containment system, future sampling will be compared to the pre-closure concentrations.

Groundwater sampling for the annual monitoring event of 2011 was conducted on August 23, 2011. Table 3-2 summarizes the water depth measurements and well purging operations completed on the wells along the outside perimeter of the slurry wall during the annual sampling event. Analysis was performed by Columbia Analytical Services of Rochester, New York. Tables 3-3 through 3-8 present the analytical results from this sampling event.

*EPA Method 1664 has replaced EPA Method 418.1 because of the concerns and availability of Freon.

TABLE 3-1
UNION ROAD GROUNDWATER MONITORING REPORT
YEAR 15 (2011)

Unicorn Management Consultants, LLC

PRE-CONSTRUCTION SAMPLIN OF SHALLOW WELLS
(JUNE - AUGUST, 1991)

(Concentrations in ug/L)

	MW-4S	MW-4S	MW-5S	MW-6S	MW-6S	
ANALYTE	**PHASE I**	**PHASE II**	**PHASE I**	**PHASE I**	**PHASE II**	**AVERAGE**
SVOC's (Base Neutrals)	17	16	120	290	100	109
Total VOC's	ND	5.9	ND	42	3	10
TPH	4,400	1,800	2,200	5,800	ND	2,840
Soluble Arsenic	34.8	35.5	14.7	27.1	5.7	24
Soluble Lead	10,100	8,090	4,450	3,560	367	5,313

ND- analyte not detected

Prepared by: MO
Date: 1/3/11
Checked by: MP
Date: 4/13/12

TABLE 3-2
UNION ROAD
GROUNDWATER MONITORING REPORT

Unicorn Management Consultants, LLC

August 23, 2011
WELL PURGING SUMMARY

Well Number	(1) Riser Elev. (Feet)	Orginal Bottom Elev. (Feet)	Depth to Water (Feet)	Water Elev. (Feet)	Water Height in Well (Feet)	Water Volume in Well (Gallons)	Water Removed from Well (Gallons)	Notes
10S	623.09	599.9	10.36	612.73	12.83	2.1	6.5	
10M	622.50	589.6	13.93	608.57	18.97	3.0	9.5	
10D	622.02	574.1	16.97	605.05	30.95	5.0	7.0	Purged to nearly dry -Slow Recovery
11S	622.74	597.1	15.76	606.98	9.88	1.6	5.0	
11M	622.86	578.4	22.01	600.85	22.45	3.6	11.25	
12S	622.62	595.8	22.69	599.93	4.13	0.7	1.50	Purged to nearly dry -Slow Recovery
12M	622.97	578.8	23.07	599.90	21.10	3.4	10.5	
12D	621.18	557.8	20.16	601.02	43.22	6.9	21.5	
13S	622.96	599.1	13.23	609.73	10.63	1.7	5.25	
13M	621.66	585.8	13.18	608.48	22.68	3.6	7.0	Purged to nearly dry -Slow Recovery
14S[(2)]	621.61	602.1	11.49	610.12	8.02	1.3	4.0	

(1) Elevations were surveyed by Douglas C. Meyers P.L.S., P.C. on March 17, 1997
(2) Reinstalled, developed and resurveyed on August 19, 1997
All Elevations are referenced to Mean Sea Level
All wells are two (2) inches in diameter
Well development was performed on 1/16/1997

Prepared by: MO
Date: 1/3/11
Checked by: MP
Date: 4/13/12

TABLE 3-3
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2011

Unicorn Management Consultants, LLC

SHALLOW WELL SVOCs

	ANALYTICAL RESULTS (ug/L)					Detection Limit
ANALYTE	MW-10S	MW-11S	MW-12S	MW-13S	MW-14S	
Dilution	1.00	1.00	1.00	1.00	1.00	
acenapthene	ND	ND	ND	ND	ND	9.4
acenapthylene	ND	ND	ND	ND	ND	9.4
anthracene	ND	ND	ND	ND	ND	9.4
benzo(a)anthracene	ND	ND	ND	ND	ND	9.4
benzo(a)pyrene	ND	ND	ND	ND	ND	9.4
benzo(b)fluoranthene	ND	ND	ND	ND	ND	9.4
benzo(g,h,i)perylene	ND	ND	ND	ND	ND	9.4
benzo(k)fluoranthene	ND	ND	ND	ND	ND	9.4
benzyl alcohol	ND	ND	ND	ND	ND	9.4
butly benzyl phthalate	ND	ND	ND	ND	ND	9.4
di-n-butlyphthalate	ND	ND	ND	ND	ND	9.4
carbazole	ND	ND	ND	ND	ND	9.4
indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	9.4
4-chloroaniline	ND	ND	ND	ND	ND	9.4
bis(-2-chloroethoxy)methane	ND	ND	ND	ND	ND	9.4
bis(2-chloroethyl)ether	ND	ND	ND	ND	ND	9.4
2-chloronapthalene	ND	ND	ND	ND	ND	9.4
2-chlorophenol	ND	ND	ND	ND	ND	9.4
2,2'-oxybis(1-chloropropane)	ND	ND	ND	ND	ND	9.4
chrysene	ND	ND	ND	ND	ND	9.4
dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	9.4
dibenzofuran	ND	ND	ND	ND	ND	9.4
1,2-dichlorobenzene	ND	ND	ND	ND	ND	9.4
1,3-dichlorobenzene	ND	ND	ND	ND	ND	9.4
1,4-dichlorobenzene	ND	ND	ND	ND	ND	9.4
3,3'-dichlorobenzidine	ND	ND	ND	ND	ND	9.4
2,4-dichlorophenol	ND	ND	ND	ND	ND	9.4
diethylphthalate	ND	ND	ND	ND	ND	9.4
dimethyl phthalate	ND	ND	ND	ND	ND	9.4
2,4-dimethlyphenol	ND	ND	ND	ND	ND	9.4
2,4-dinitrophenol	ND	ND	ND	ND	ND	47
2,4-dinitrotoluene	ND	ND	ND	ND	ND	9.4
2,6-dinitrotoluene	ND	ND	ND	ND	ND	9.4
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	ND	9.4
fluoranthene	ND	ND	ND	ND	ND	9.4
fluorene	ND	ND	ND	ND	ND	9.4
hexachlorobenzene	ND	ND	ND	ND	ND	9.4
hexachlorobutadiene	ND	ND	ND	ND	ND	9.4
hexachlorocyclopentadiene	ND	ND	ND	ND	ND	9.4
hexachloroethane	ND	ND	ND	ND	ND	9.4
isophorone	ND	ND	ND	ND	ND	9.4

Prepared by: MO
Date: 1/3/11
Checked by: MP
Date: 4/13/12

TABLE 3-3
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2011

Unicom Management Consultants, LLC

SHALLOW WELL SVOCs

2-methlynapthalene	ND	ND	ND	ND	ND	9.4
4,6-dinitro-2-methylphenol	ND	ND	ND	ND	ND	47
4-chloro-3-methlyphenol	ND	ND	ND	ND	ND	9.4
2-methylphenol	ND	ND	ND	ND	ND	9.4
3+4-methylphenol	ND	ND	ND	ND	ND	9.4
napthalene	ND	ND	ND	ND	ND	9.4
2-nitroaniline	ND	ND	ND	ND	ND	47
3-nitroaniline	ND	ND	ND	ND	ND	47
4-nitroaniline	ND	ND	ND	ND	ND	47
nitrobenzene	ND	ND	ND	ND	ND	9.4
2-nitrophenol	ND	ND	ND	ND	ND	9.4
4-nitrophenol	ND	ND	ND	ND	ND	47
n-nitrosodimethylamine	ND	ND	ND	ND	ND	9.4
n-nitrosodiphenylamine	ND	ND	ND	ND	ND	9.4
di-n-octyl phthalate	ND	ND	ND	ND	ND	9.4
pentachlorophenol	ND	ND	ND	ND	ND	47
phenanthrene	ND	ND	ND	ND	ND	9.4
phenol	ND	ND	ND	ND	ND	9.4
4-bromophenyl-phenylether	ND	ND	ND	ND	ND	9.4
4-chlorophenyl-phenylether	ND	ND	ND	ND	ND	9.4
n-nitroso-di-n-propylamine	ND	ND	ND	ND	ND	9.4
pyrene	ND	ND	ND	ND	ND	9.4
1,2,4-trichlorobenzene	ND	ND	ND	ND	ND	9.4
2,4,5-trichlorophenol	ND	ND	ND	ND	ND	9.4
2,4,6-trichlorophenol	ND	ND	ND	ND	ND	9.4
TOTALS	ND	ND	ND	ND	ND	

Average Outside Landfill (MW 10S - 14S)		ND
Average Inside Landfill (Table 3-1)		109

ND - Not Detected, above the laboratory detection limit

Prepared by: MO
Date: 1/3/11
Checked by: MP
Date: 4/13/12

TABLE 3-4
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2011

Unicorn Management Consultants, LLC

SHALLOW WELL VOCs, TPH, and METALs

ANALYTE	ANALYTICAL RESULTS (ug/L)					Detection Limit
	MW-10S	MW-11S	MW-12S	MW-13S	MW-14S	
Dilution	1.00	1.00	1.00	1.00	1.00	
acetone	ND	ND	ND	ND	ND	20
benzene	ND	ND	ND	ND	ND	5.0
bromodichloromethane	ND	ND	ND	ND	ND	5.0
bromoform	ND	ND	ND	ND	ND	5.0
bromomethane	ND	ND	ND	ND	ND	5.0
2-butanone (MEK)	ND	ND	ND	ND	ND	10
carbon disulfide	ND	ND	ND	ND	ND	10
carbon tetrachloride	ND	ND	ND	ND	ND	5.0
chlorobenzene	ND	ND	ND	ND	ND	5.0
chloroethane	ND	ND	ND	ND	ND	5.0
chloroform	ND	ND	ND	ND	ND	5.0
chloromethane	ND	ND	ND	ND	ND	5.0
dibromochloromethane	ND	ND	ND	ND	ND	5.0
1,1-dichloroethane	ND	ND	ND	ND	ND	5.0
1,2-dichloroethane	ND	ND	ND	ND	ND	5.0
1,1-dichloroethene	ND	ND	ND	ND	ND	5.0
cis-1,2-dichloroethene	ND	ND	ND	ND	ND	5.0
trans-1,2-dichloroethene	ND	ND	ND	ND	ND	5.0
1,2-dichloropropane	ND	ND	ND	ND	ND	5.0
cis-1,3-dichloropropene	ND	ND	ND	ND	ND	5.0
trans-1,3-dichloropropene	ND	ND	ND	ND	ND	5.0
ethlybenzene	ND	ND	ND	ND	ND	5.0
2-hexanone	ND	ND	ND	ND	ND	10
methylene chloride	ND	ND	ND	ND	ND	5.0
4-methyl-2-pentanone (MIBK)	ND	ND	ND	ND	ND	10
styrene	ND	ND	ND	ND	ND	5.0
1,1,2,2-tetrachloroethane	ND	ND	ND	ND	ND	5.0
tetrachloroethene	ND	ND	ND	ND	ND	5.0
toluene	ND	ND	ND	ND	ND	5.0
1,1,1-trichloroethane	ND	ND	ND	ND	ND	5.0
1,1,2-trichloroethane	ND	ND	ND	ND	ND	5.0
trichloroethene	ND	ND	ND	ND	ND	5.0
vinyl chloride	ND	ND	ND	ND	ND	5.0
m+p xylene	ND	ND	ND	ND	ND	5.0
o-xylene	ND	ND	ND	ND	ND	5.0
TOTAL VOC'S	ND	ND	ND	ND	ND	
TPH	ND	ND	ND	ND	ND	4,700
SOLUBLE ARSENIC	ND	ND	ND	ND	ND	10
SOLUBLE LEAD	ND	ND	ND	ND	ND	50

Average Outside Landfill (MW 10S - 14S)	Average Inside Landfill (Table 3-1)
ND	10
0.0	2,840
0.0	24
0.0	5,313

ND - Not Detected, above the laboratory detection limit

Prepared by: MO
Date: 1/3/11
Checked by: MP
Date:4/13/12

TABLE 3-5
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2011

Unicorn Management Consultants, LLC

MEDIUM WELL SVOCs

ANALYTE	ANALYTICAL RESULTS (ug/L)				Detection Limit
	MW-10M	MW-11M	MW-12M	MW-13M	
Dilution	1.00	1.00	1.00	1.00	
acenapthene	ND	ND	ND	ND	9.4
acenapthylene	ND	ND	ND	ND	9.4
anthracene	ND	ND	ND	ND	9.4
benzo(a)anthracene	ND	ND	ND	ND	9.4
benzo(a)pyrene	ND	ND	ND	ND	9.4
benzo(b)fluoranthene	ND	ND	ND	ND	9.4
benzo(g,h,i)perylene	ND	ND	ND	ND	9.4
benzo(k)fluoranthene	ND	ND	ND	ND	9.4
benzyl alcohol	ND	ND	ND	ND	9.4
butly benzyl phthalate	ND	ND	ND	ND	9.4
di-n-butlyphthalate	ND	ND	ND	ND	9.4
carbazole	ND	ND	ND	ND	9.4
indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	9.4
4-chloroaniline	ND	ND	ND	ND	9.4
bis(-2-chloroethoxy)methane	ND	ND	ND	ND	9.4
bis(2-chloroethyl)ether	ND	ND	ND	ND	9.4
2-chloronapthalene	ND	ND	ND	ND	9.4
2-chlorophenol	ND	ND	ND	ND	9.4
2,2'-oxybis(1-chloropropane)	ND	ND	ND	ND	9.4
chrysene	ND	ND	ND	ND	9.4
dibenzo(a,h)anthracene	ND	ND	ND	ND	9.4
dibenzofuran	ND	ND	ND	ND	9.4
1,2-dichlorobenzene	ND	ND	ND	ND	9.4
1,3-dichlorobenzene	ND	ND	ND	ND	9.4
1,4-dichlorobenzene	ND	ND	ND	ND	9.4
3,3'-dichlorobenzidine	ND	ND	ND	ND	9.4
2,4-dichlorophenol	ND	ND	ND	ND	9.4
diethylphthalate	ND	ND	ND	ND	9.4
dimethyl phthalate	ND	ND	ND	ND	9.4
2,4-dimethlyphenol	ND	ND	ND	ND	9.4
2,4-dinitrophenol	ND	ND	ND	ND	47
2,4-dinitrotoluene	ND	ND	ND	ND	9.4
2,6-dinitrotoluene	ND	ND	ND	ND	9.4
bis(2-ethylhexyl)phthalate	ND	ND	ND	ND	9.4
fluoranthene	ND	ND	ND	ND	9.4
fluorene	ND	ND	ND	ND	9.4
hexachlorobenzene	ND	ND	ND	ND	9.4
hexachlorobutadiene	ND	ND	ND	ND	9.4
hexachlorocyclopentadiene	ND	ND	ND	ND	9.4
hexachloroethane	ND	ND	ND	ND	9.4
isophorone	ND	ND	ND	ND	9.4
2-methlynapthalene	ND	ND	ND	ND	9.4
2-methylphenol	ND	ND	ND	ND	47
4,6-dinitro-2-methylphenol	ND	ND	ND	ND	9.4

Prepared by: MO
Date: 1/3/11
Checked by: MP
Date:4/13/12

TABLE 3-5
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2011

Unicorn Management Consultants, LLC

MEDIUM WELL SVOCs

4-chloro-3-methlyphenol	ND	ND	ND	ND	9.4
3+4-methylphenol	ND	ND	ND	ND	9.4
napthalene	ND	ND	ND	ND	9.4
2-nitroaniline	ND	ND	ND	ND	47
3-nitroaniline	ND	ND	ND	ND	47
4-nitroaniline	ND	ND	ND	ND	47
nitrobenzene	ND	ND	ND	ND	9.4
2-nitrophenol	ND	ND	ND	ND	9.4
4-nitrophenol	ND	ND	ND	ND	47
n-nitrosodimethylamine	ND	ND	ND	ND	9.4
n-nitrosodiphenylamine	ND	ND	ND	ND	9.4
di-n-octyl phthalate	ND	ND	ND	ND	9.4
pentachlorophenol	ND	ND	ND	ND	47
phenanthrene	ND	ND	ND	ND	9.4
phenol	ND	ND	ND	ND	9.4
4-bromophenyl-phenylether	ND	ND	ND	ND	9.4
4-chlorophenyl-phenylether	ND	ND	ND	ND	9.4
n-nitroso-di-n-propylamine	ND	ND	ND	ND	9.4
pyrene	ND	ND	ND	ND	9.4
1,2,4-trichlorobenzene	ND	ND	ND	ND	9.4
2,4,5-trichlorophenol	ND	ND	ND	ND	9.4
2,4,6-trichlorophenol	ND	ND	ND	ND	9.4
TOTALS	ND	ND	ND	ND	

Prepared by: MO
Date: 1/3/11
Checked by: MP
Date: 4/13/12

TABLE 3-6
UNION ROAD
ANNUAL GROUNDWATER MONITORNG
for 2011

Unicorn Management Consultants, LLC

MEDIUM WELL VOCs, TPH, and METALs

ANALYTE	ANALYTICAL RESULTS (ug/L)				Detection Limit
	MW-10M	MW-11M	MW-12M	MW-13M	
Dilution	1.00	1.00	1.00	1.00	
acetone	ND	ND	ND	ND	20
benzene	ND	ND	ND	ND	5.0
bromodichloromethane	ND	ND	ND	ND	5.0
bromoform	ND	ND	ND	ND	5.0
bromomethane	ND	ND	ND	ND	5.0
2-butanone (MEK)	ND	ND	ND	ND	10
carbon disulfide	ND	ND	ND	ND	10
carbon tetrachloride	ND	ND	ND	ND	5.0
chlorobenzene	ND	ND	ND	ND	5.0
chloroethane	ND	ND	ND	ND	5.0
chloroform	ND	ND	ND	ND	5.0
chloromethane	ND	ND	ND	ND	5.0
dibromochloromethane	ND	ND	ND	ND	5.0
1,1-dichloroethane	ND	ND	ND	ND	5.0
1,2-dichloroethane	ND	ND	ND	ND	5.0
1,1-dichloroethene	ND	ND	ND	ND	5.0
cis-1,2-dichloroethene	ND	ND	ND	ND	5.0
trans-1,2-dichloroethene	ND	ND	ND	ND	5.0
1,2-dichloropropane	ND	ND	ND	ND	5.0
cis-1,3-dichloropropene	ND	ND	ND	ND	5.0
trans-1,3-dichloropropene	ND	ND	ND	ND	5.0
ethlybenzene	ND	ND	ND	ND	5.0
2-hexanone	ND	ND	ND	ND	10
methylene chloride	ND	ND	ND	ND	5.0
4-methyl-2-pentanone (MIBK)	ND	ND	ND	ND	10
styrene	ND	ND	ND	ND	5.0
1,1,2,2-tetrachloroethane	ND	ND	ND	ND	5.0
tetrachloroethene	ND	ND	ND	ND	5.0
toluene	ND	ND	ND	ND	5.0
1,1,1-trichloroethane	ND	ND	ND	ND	5.0
1,1,2-trichloroethane	ND	ND	ND	ND	5.0
trichloroethene	ND	ND	ND	ND	5.0
vinyl chloride	ND	ND	ND	ND	5.0
m+p xylene	ND	ND	ND	ND	5.0
o-xylene	ND	ND	ND	ND	5.0
TOTAL VOC'S	ND	ND	ND	ND	
TPH	ND	ND	ND	ND	4,700
SOLUBLE ARSENIC	ND	ND	ND	ND	10
SOLUBLE LEAD	ND	ND	ND	ND	50

ND - Not Detected, above the laboratory detection limit

Prepared by: MO
Date: 1/3/11
Checked by: MP
Date: 4/13/12

TABLE 3-7
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2011
DEEP WELL SVOCs

Unicorn Management Consultants, LLC

ANALYTE	ANALYTICAL RESULTS (ug/L)		Detection Limit
	MW-10D	MW-12D	
Dilution	1.00	1.00	
acenapthene	ND	ND	9.4
acenapthylene	ND	ND	9.4
anthracene	ND	ND	9.4
benzo(a)anthracene	ND	ND	9.4
benzo(a)pyrene	ND	ND	9.4
benzo(b)fluoranthene	ND	ND	9.4
benzo(g,h,i)perylene	ND	ND	9.4
benzo(k)fluoranthene	ND	ND	9.4
benzyl alcohol	ND	ND	9.4
butly benzyl phthalate	ND	ND	9.4
di-n-butlyphthalate	ND	ND	9.4
carbazole	ND	ND	9.4
indeno(1,2,3-cd)pyrene	ND	ND	9.4
4-chloroaniline	ND	ND	9.4
bis(-2-chloroethoxy)methane	ND	ND	9.4
bis(2-chloroethyl)ether	ND	ND	9.4
2-chloronapthalene	ND	ND	9.4
2-chlorophenol	ND	ND	9.4
2,2'-oxybis(1-chloropropane)	ND	ND	9.4
chrysene	ND	ND	9.4
dibenzo(a,h)anthracene	ND	ND	9.4
dibenzofuran	ND	ND	9.4
1,2-dichlorobenzene	ND	ND	9.4
1,3-dichlorobenzene	ND	ND	9.4
1,4-dichlorobenzene	ND	ND	9.4
3,3'-dichlorobenzidine	ND	ND	9.4
2,4-dichlorophenol	ND	ND	9.4
diethylphthalate	ND	ND	9.4
dimethyl phthalate	ND	ND	9.4
2,4-dimethlyphenol	ND	ND	9.4
2,4-dinitrophenol	ND	ND	47
2,4-dinitrotoluene	ND	ND	9.4
2,6-dinitrotoluene	ND	ND	9.4
bis(2-ethylhexyl)phthalate	ND	ND	9.4
fluoranthene	ND	ND	9.4
fluorene	ND	ND	9.4
hexachlorobenzene	ND	ND	9.4

Prepared by: MO
Date: 1/3/11
Checked by: MP
Date: 4/13/12

TABLE 3-7
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2011
DEEP WELL SVOCs

Unicorn Management Consultants, LLC

hexachlorobutadiene	ND	ND	9.4
hexachlorocyclopentadiene	ND	ND	9.4
hexachloroethane	ND	ND	9.4
isophorone	ND	ND	9.4
2-methlynapthalene	ND	ND	9.4
2-methylphenol	ND	ND	47
4,6-dinitro-2-methylphenol	ND	ND	9.4
4-chloro-3-methlyphenol	ND	ND	9.4
3+4-methylphenol	ND	ND	9.4
napthalene	ND	ND	9.4
2-nitroaniline	ND	ND	47
3-nitroaniline	ND	ND	47
4-nitroaniline	ND	ND	47
nitrobenzene	ND	ND	9.4
2-nitrophenol	ND	ND	9.4
4-nitrophenol	ND	ND	47
n-nitrosodimethylamine	ND	ND	9.4
n-nitrosodiphenylamine	ND	ND	9.4
di-n-octyl phthalate	ND	ND	9.4
pentachlorophenol	ND	ND	47
phenanthrene	ND	ND	9.4
phenol	ND	ND	9.4
4-bromophenyl-phenylether	ND	ND	9.4
4-chlorophenyl-phenylether	ND	ND	9.4
n-nitroso-di-n-propylamine	ND	ND	9.4
pyrene	ND	ND	9.4
1,2,4-trichlorobenzene	ND	ND	9.4
2,4,5-trichlorophenol	ND	ND	9.4
2,4,6-trichlorophenol	ND	ND	9.4
TOTALS	ND	ND	

ND - Not Detected, above the laboratory detection limit

Prepared by: MO
Date: 1/3/11
Checked by: MP
Date: 4/13/12

TABLE 3-8
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2011
DEEP WELL VOCs, TPH, and METALs

Unicorn Management Consultants, LLC

ANALYTE	ANALYTICAL RESULTS (ug/L)		Detection Limit
	MW-10D	MW-12D	
Dilution	1.00	1.00	
acetone	ND	ND	20
benzene	ND	ND	5.0
bromodichloromethane	ND	ND	5.0
bromoform	ND	ND	5.0
bromomethane	ND	ND	5.0
2-butanone (MEK)	ND	ND	10
carbon disulfide	ND	ND	10
carbon tetrachloride	ND	ND	5.0
chlorobenzene	ND	ND	5.0
chloroethane	ND	ND	5.0
chloroform	ND	ND	5.0
chloromethane	ND	ND	5.0
dibromochloromethane	ND	ND	5.0
1,1-dichloroethane	ND	ND	5.0
1,2-dichloroethane	ND	ND	5.0
1,1-dichloroethene	ND	ND	5.0
cis-1,2-dichloroethene	ND	ND	5.0
trans-1,2-dichloroethene	ND	ND	5.0
1,2-dichloropropane	ND	ND	5.0
cis-1,3-dichloropropene	ND	ND	5.0
trans-1,3-dichloropropene	ND	ND	5.0
ethlybenzene	ND	ND	5.0
2-hexanone	ND	ND	10
methylene chloride	ND	ND	5.0
4-methyl-2-pentanone (MIBK)	ND	ND	10
styrene	ND	ND	5.0
1,1,2,2-tetrachloroethane	ND	ND	5.0
tetrachloroethene	ND	ND	5.0
toluene	ND	ND	5.0
1,1,1-trichloroethane	ND	ND	5.0
1,1,2-trichloroethane	ND	ND	5.0
trichloroethene	ND	ND	5.0
vinyl chloride	ND	ND	5.0
m+p xylene	ND	ND	5.0
o-xylene	ND	ND	5.0
TOTAL VOC'S	ND	ND	
TPH	ND	ND	4,700
SOLUBLE ARSENIC	ND	ND	10
SOLUBLE LEAD	ND	ND	50

ND - Not Detected, above the laboratory detection limit

File: 2011 Annual Report Tables.xlsx
Sheet: Table 3-8 D-Well VOCs TPH Metal

Printed: 4/13/2012

4. GROUNDWATER ELEVATION MONITORING

The purpose of Groundwater Elevation Monitoring is to determine the groundwater gradient of the three hydrogeologic units in and around the closure area. The three hydrogeologic units (layers) are:

1) The overburden layer (shallow), which is above the clay layer;
2) The till layer (medium), which is beneath the clay layer; and
3) Bedrock (deep), which is beneath the till layer.

As stated in the NYSDEC approved Design Report, the frequency of groundwater elevation measurements are as follows:

- Monthly for the first six months after closure (Jan – June 1997);
- Quarterly thereafter until the end of year two (July 1997 – December 1998); and
- Annually (during the dry season) thereafter.

As stated previously, the sampling frequency, sampling parameters, and/or sampling of specific wells will be modified based on the results of previous sampling events (since the landfill closure) and with written approval from the NYSDEC.

The objective for collecting groundwater elevation measurements is to gain knowledge of the groundwater flows and hydraulic gradients in and around the closure. This information is used to generate groundwater flow maps and demonstrate an inward gradient of groundwater around the closure.

On August 23, 2011, UMC measured the depth to groundwater in the monitoring wells. Table 4-1 summarizes the results of these measurements. The data from Table 4-1 were used to create Groundwater Contour Maps (Figures 4-1 through 4-3), which depict groundwater elevations and inferred groundwater flow directions in the three hydrogeologic units. Figure 4-1 shows an inward gradient of shallow (overburden) groundwater across the slurry wall and towards the dewatering trench at the east corner of the closure.

Figures 4-2 and 4-3 depict groundwater elevations in the medium and deep units. The inferred groundwater flow direction for the medium unit is toward the southeast. The inferred groundwater flow direction for the deep unit is easterly. However, since only two (2) monitoring wells intercept the deep unit, a groundwater contour map cannot be produced. Flow is generally toward the southeast and east respectfully and has not been affected by the placement of the landfill closure.

Prepared by: MO
Date: 1/3/11
Checked by: MP
Date: 4/13/12

TABLE 4-1
UNION ROAD
GROUNDWATER MONITORING REPORT

Unicorn Management Consultants, LLC

GROUNDWATER WELL MEASUREMENTS
August 23, 2011

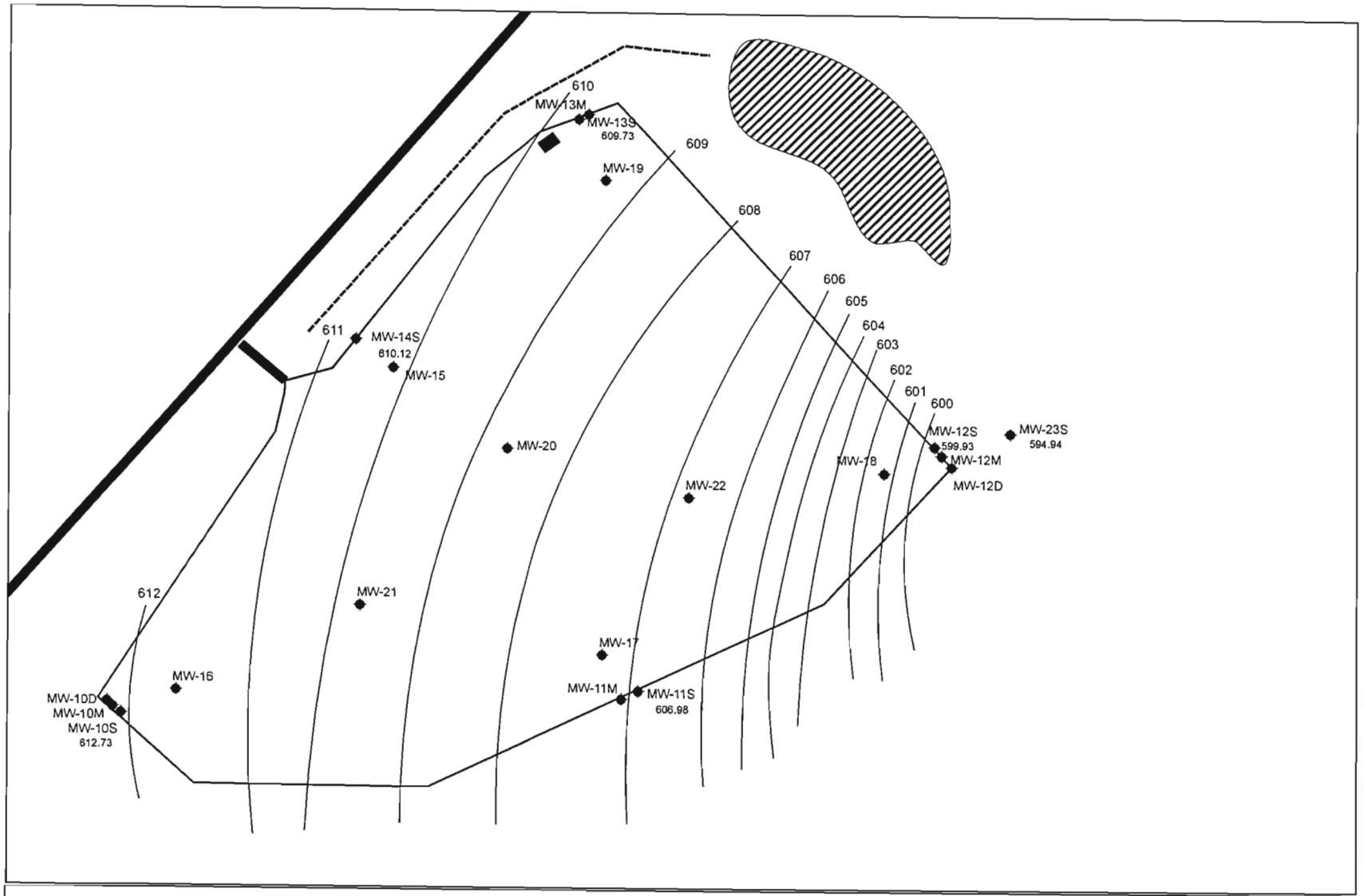
Well Number	Riser Elev.[1] (Feet)	Depth to Water (Feet)	Water Elev. (Feet)
10S	623.09	10.36	612.73
10M	622.50	13.93	608.57
10D	622.02	16.97	605.05
11S	622.74	15.76	606.98
11M	622.86	22.01	600.85
12S	622.62	22.69	599.93
12M	622.97	23.07	599.90
12D	621.18	20.16	601.02
13S	622.96	13.23	609.73
13M	621.66	13.18	608.48
14S[2]	621.61	11.49	610.12
15	624.67	16.11	608.56
16	624.51	15.20	609.31
17	624.44	20.71	603.73
18[3]	624.67	Dry	<602.75
19	625.08	21.41	603.67
20[4]	631.98	20.72	611.26
21	629.25	25.61	603.64
22[4]	629.24	25.86	603.38
23S	607.45	12.51	594.94
RW1[5]	623.76	NM	

[1] Elevations were surveyed by Douglas C. Meyers P.L.S., P.C. on March 17, 1997.
[2] MW-14S was reinstalled and resurveyed on August 19, 1997.
[3] MW-18 is dry; measuring tape stopped without indicating water.
[4] Depth measured to free product.
[5] Groundwater measurement was not taken in RW1. The assumed elevation is at the pump inlet (598.76).

NM/NR: Not Measure/Not Recorded

MW-20 and MW-22 have free product on water surface; therefore water level measurement conservatively assumed as the top of the oil layer (Because of the less dense oil, the actual water elevation would be lower).

All Elevations are referenced to Mean Sea Level



Union Road- Shallow Groundwater Elevation Contour Map for 8/23/11

Unicorn Management Consultants, LLC

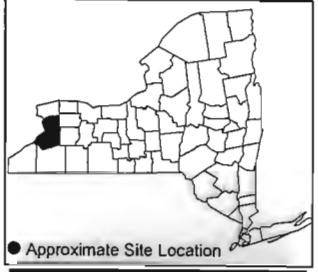
52 Federal Road
Suite 2C
Danbury, CT
06810

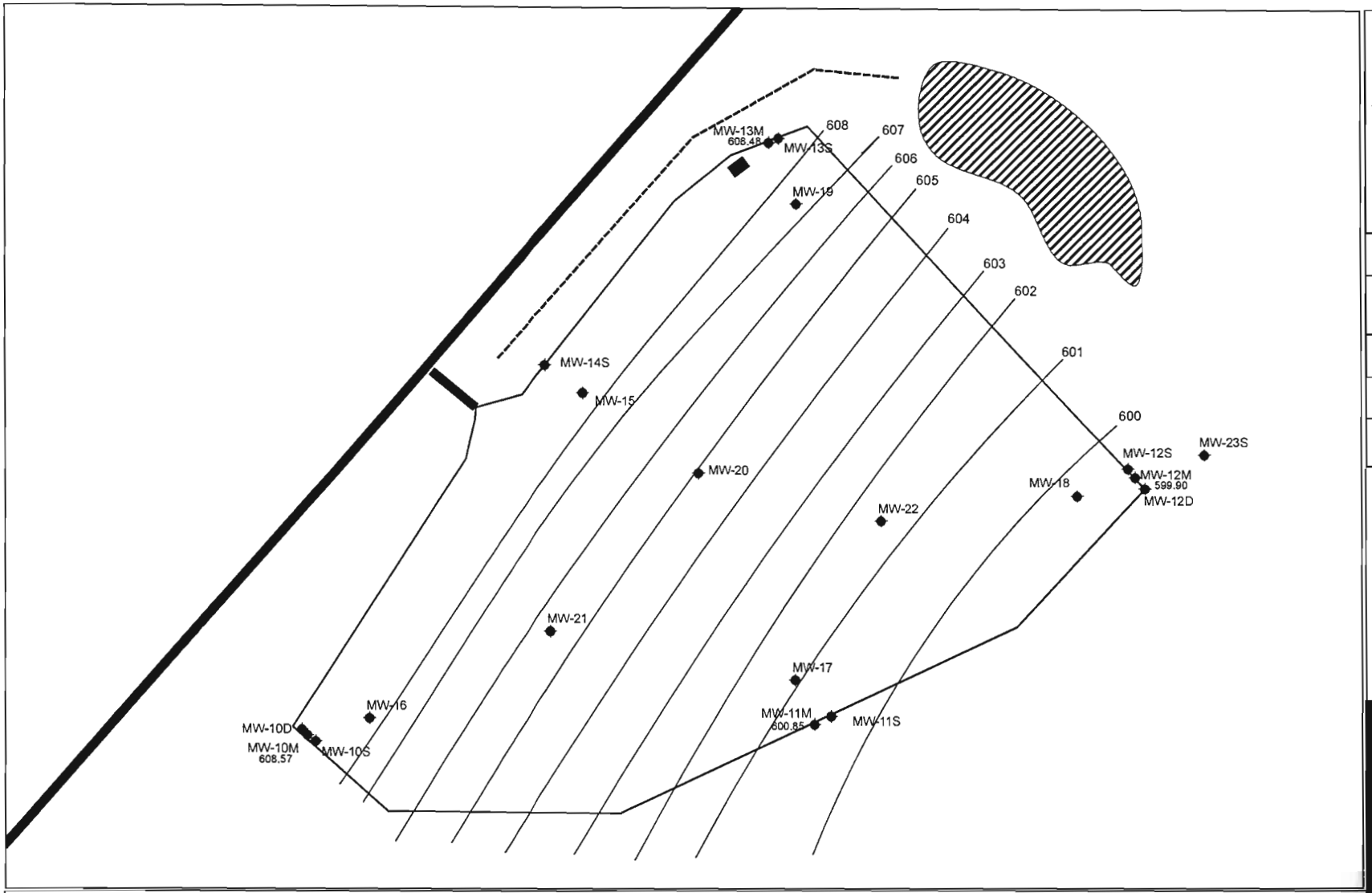
(203) 205-9000

Project Name: Union Road

Figure 4-1

Author: RTM	Checked By: —
Project #: 2011	Created: 10/10/2011
	Revised: 1/6/2012
Scale: 1 in:104 ft	File: GWContour_S_2011





0 65 130 260 390 520 Feet

N W E S

Union Road- Middle Groundwater Elevation Contour Map for 8/23/11

Unicorn Management Consultants, LLC

52 Federal Road
Suite 2C
Danbury, CT
06810

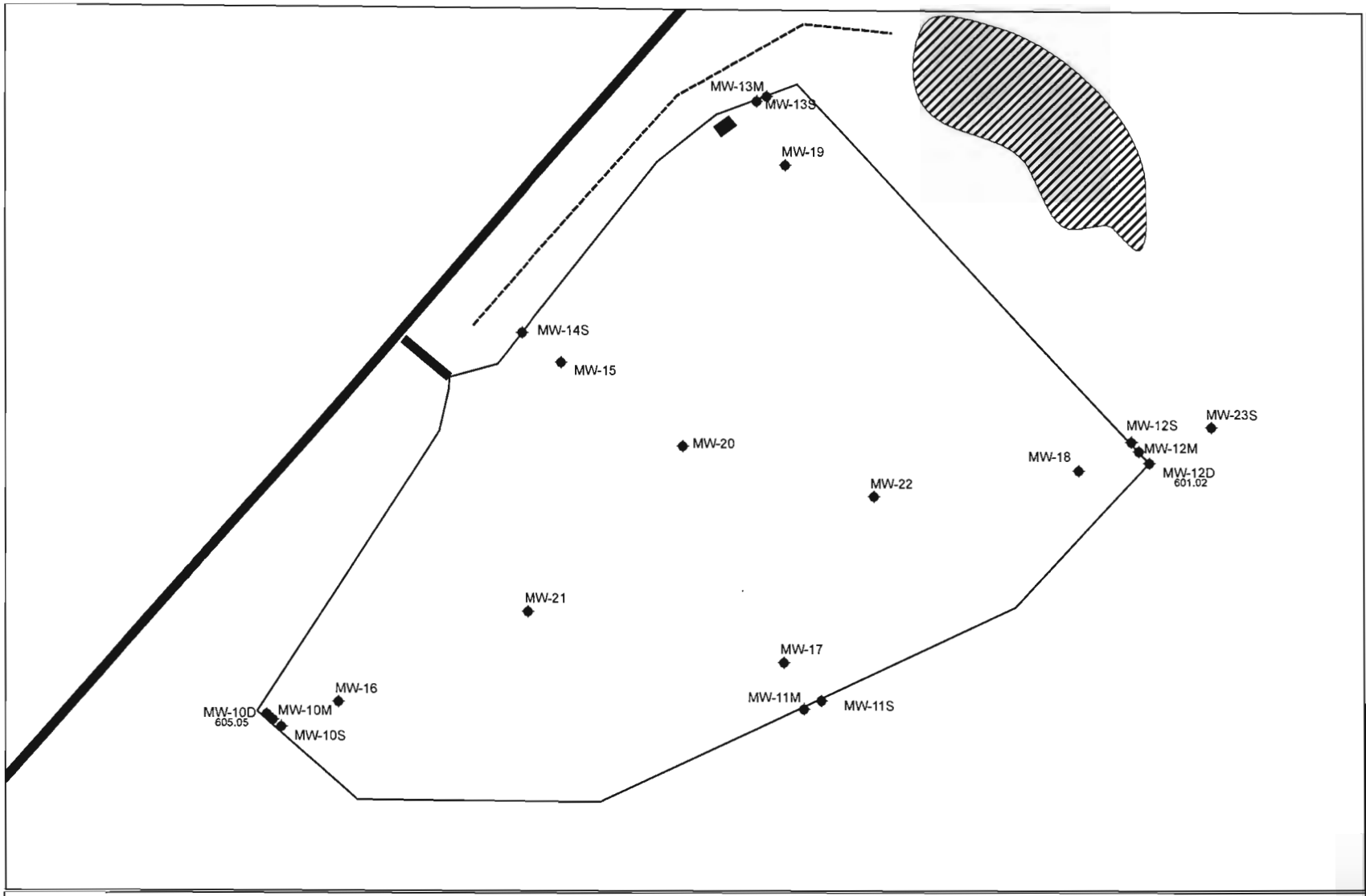
(203) 205-9000

Project Name: Union Road

FIGURE 4-2

Author: RTM	Checked By: ---
Project #: 2011	Created: 10/10/2011 Revised: 1/6/2012
Scale: 1 in:105 ft	File: GWContour_M_2011

● Approximate Site Location



0 62.5 125 250 375 500 Feet

Union Road-Deep Groundwater Elevation Map 8/23/11

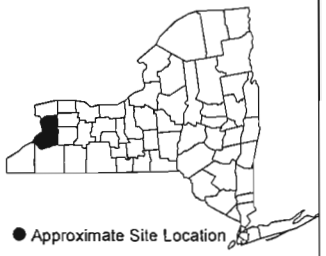
N
W E
S

Unicorn Management Consultants, LLC
52 Federal Road
Suite 2C
Danbury, CT
06810
(203) 205-9000

Project Name: Union Road

FIGURE 4-3

Author: RTM	Checked By: ---
Project #: 2011	Created: 10/10/2011 Revised: 1/9/2011
Scale: 1 in:100 ft	File: GWContour_D_2011



● Approximate Site Location

5. CONCLUSION

5.1 SITE INSPECTION AND MAINTENANCE

UMC performed an annual site inspection on April 21, 2011. Mr. David Szymanski of the NYSDEC accompanied UMC on the inspection. The inspections consisted of walking the site and documenting the observations. Following is a summary of the inspection and maintenance activities that have occurred this year:

Roundhouse Area: The area is well vegetated and stabilized. During the inspection, several large holes were observed where the concrete of the former roundhouse has collapsed. These holes are large enough for a person to fall into. However, this land is not owned by APU. Numerous property owners adjacent to this area have encroached on it and are maintaining it with the rest of their properties. No action is needed.

Landfill Closure: There are no signs of erosion, no areas of distressed vegetation, and no evidence of any outbreak of any substance (slurry wall material or oil) on the landfill. Erie County Water Company was notified that a small quantity of contaminated soil is located northeast of the new wetland area and beneath the existing water pipe. UMC has an account with Dig Safely New York so when someone needs to dig in the area and calls Dig Safely, UMC will be notified. Except for periodic grass cutting, annual groundwater monitoring, and quarterly groundwater discharge monitoring required by the Erie County Sewer Authority, no action is needed.

A woodchuck eradication program was implemented during 2009 and continued in 2011. During 2009, woodchuck burrows were noted at several locations on the cap and around the pump control building. The woodchucks were captured and removed. During the 2011 site inspection, no woodchuck burrows were noted. However, it was observed that woodchucks had burrowed under the perimeter fence at several locations. UMC filled the holes during September 2011.

As requested by the NYSDEC, grass on the landfill area was mowed only once during September. Also during September, ruts outside the fence area caused by ATVs were repaired by filling with stone.

Wetland Restoration: The wetlands north of the landfill closure, which was created during the remediation activities has continued to reestablish itself. The wetlands has completely revegetated itself and wildlife (e.g., ducks, geese and deer) have returned to the area. No action is needed.

Stream Restoration: A letter to the Town of Cheektowaga (Town) was sent by APU's Legal Counsel on October 7, 2005. This letter informs the Town that it must notify the NYSDEC (David Locey or Martin Doster at 716-851-7220) prior to any activity in those creeks where the reno mattresses are located (see Figure 1-2).

The reno mattresses installed in 1995/1996 and repaired in 2006 on the creek channel has stabilized and vegetation has established itself through the reno mattresses. There is some sediment accumulation within the creek channels, but at some locations the reno mattress wire mesh was visible at the base of the channel. The gabion basket wing-walls are stable. No other action is needed.

Downstream Area: Though some of the trees planted in this area have died, there are no signs of erosion in this area. Grass has established itself in this area. No action is needed.

UMC will continue to inspect and repair all closure areas to ensure that the closure remains intact and successful.

5.2 GROUNDWATER QUALITY

The groundwater quality within the exterior wells and the groundwater elevation measurements during the annual 2011 monitoring event demonstrate that remedial activities at the Union Road Site are successful. The groundwater quality outside the landfill closure is better than groundwater quality in the interior of the closure.

The groundwater elevation measurements indicate that an inward gradient of shallow groundwater flow has been established across the slurry wall. This inward gradient in combination with the groundwater quality outside the closure demonstrates that the contamination is contained within the slurry wall.

No TPH, Arsenic, Lead, VOCs, or SVOCs were detected in the any of the monitoring wells during this annual sampling event.

Though samples collected from Monitoring wells MW-11S and MW-14S did not contain detectable concentrations of TPH during this monitoring period, detectable concentrations of TPH have existed in samples from both MW-11S and MW-14S since their construction in 1997. As discussed in previous monitoring reports, the contamination appears to be isolated and stabilized within those areas of the site (northwest and south sides) and there are inward groundwater gradient into the landfill closure at MW-11S and MW-14S areas.

Though arsenic has been detected in several wells over the duration of the groundwater monitoring activities, during this sample event, arsenic was not detected in any of the wells.

UMC will continue to monitor and evaluate the groundwater surrounding the landfill in accordance with the GMP.

APPENDIX A

BORING LOGS AND WELL CONSTRUCTION DRAWINGS (ON CD)

APPENDIX A

BORING LOGS AND WELL CONSTRUCTION DRAWINGS

TEST BORING LOG

BORING NO. 10-S

PROJECT NO. NAME Union Road - 2035-200 | LOCATION Buffalo NY

DRILLING CONTRACTOR/DRILLER Maxim

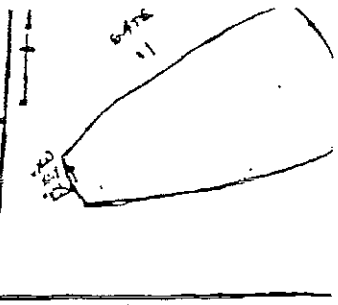
GEOLOGIST. OFFICE John J Zacher JR

DRILLING EQUIPMENT. METHOD HSA | SIZE TYPE OF BIT 6" HSA | SAMPLING METHOD Split Spoon | START. FINISH

WELL INSTALLED? YES ☒ NO ☐ | CASING MAT./DIA. Stainless Steel / 2" | SCREEN: TYPE Slot MAT. Stainless LENGTH 10' DIA. 2" SLOT SIZE .02

ELEVATION OF: GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GW SURFACE DATE (FT. ABOVE M.S.L.)

REMARKS: Hole to 21', Samples to 20'

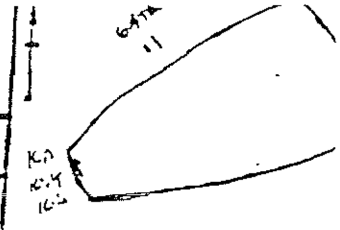


DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING — DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
				Sampling Starts At 4' B.G.			
5	4 4 6 8	21"	6 6 8 10	Blk to Tan/Grey Clay w/ little Angular Rocks to 1/2"	Stiff, Dry		
	6 8 4	21"	6 15 20 15	0-3" Black to Tan/Grey Clay some Rocks to 3/4" 3-15" Cinders w/some Rocks. - Dry	Stiff Dry		
				15-21" Brown/Tan Clay some Sand, Little Silt Trace Rocks	Cohesive Little H2O		
10	10 10	24"	8 9 10 10	Tan/Lt Brown Clay	Stiff, Little H2O		
	10 12	12"	2 3 4 3	Tan/Lt Brown Clay	Med Stiff some H2O		
	12 14	16"	2 3 3 4	Tan/Lt Brown Clay - Trace Silts	Med Stiff some H2O		
15	14 16	20"	2 2 3 4	Grey to Lt Brown Clay some Little Rounded Rocks	Med Stiff some H2O		
	16 18	15"	2 3 4 5	Tan to Lt Brown Clay	Med Stiff some H2O		
	18 20	20"	2 3 3 5	Grey/Tan Brown Clay Trace Organics.	Med Stiff some H2O		
				End Boring 21' BGS - ~~20'~~			

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

TEST BORING LOG



BORING NO.	10-M
PROJECT NO./NAME	UNION ROAD - 2035 - 200
LOCATION	BUFFALO NY
DRILLING CONTRACTOR/DRILLER	MAXIM
GEOLOGIST, OFFICE	JOHN J ZACHER JR
DRILLING EQUIPMENT, METHOD	HSA
SIZE/TYPE OF BIT	6" HSA
SAMPLING METHOD	SPLIT SPOON
START, FINISH	1/3/97
WELL INSTALLED?	YES ☒ NO ☐
CASING MAT./DIA.	STAINLESS STEEL / 2"
SCREEN: TYPE	SLOT
MAT.	STAINLESS
LENGTH	10'
DIA.	2"
SLOT SIZE	0.02
ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE / TOP OF WELL CASING / TOP & BOTTOM SCREEN / GW SURFACE / DATE
REMARKS:	

LOG OF TEST BORING

SAMPLING STARTS 4' BG.

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/.5 FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LOG
4–6		20"	6 6 8 8	BLK TO TAN/GREY CLAY W/LITTLE ROCKS TO 1/4"	STIFF, DAMP		
6–8		22"	6 8 10 12	0-7" BLACK TO TAN/GREY CLAY SOME ROCKS 7-14" CINDERS 14-22" BROWN/TAN CLAY LITTLE ROCKS	STIFF DAMP DRY MED STIFF, LITTLE H2O	Cont. Gr.	
8–10		24"	7 8 8 8	TAN/LT BROWN CLAY	STIFF, LITTLE H2O		
10–12		15"	4 3 4 5	TAN/LT BROWN CLAY	MED STIFF SOME H2O		
12–14		18"	3 4 3 5	TAN/LT BROWN CLAY	MED STIFF SOME H2O		
14–16		20"	3 4 4 4	TAN/LT BROWN CLAY, LITTLE GREY LITTLE ROUND ROCKS	MED STIFF SOME H2O		
16–18		19"	3 3 4 4	TAN TO LT BROWN CLAY	MED STIFF SOME H2O	Bent.	
18–20		20"	3 3 3 4	GREYISH BROWN CLAY, SOME ORGANICS	MED STIFF SOME H2O	Sand	

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

TEST BORING LOG

BORING NO.	10 M
PROJECT NO. NAME	UNION ROAD · 2035 · 200
LOCATION	BUFFALO NY
DRILLING CONTRACTOR/DRILLER	MAHM
GEOLOGIST, OFFICE	JOHN J ZACHER JR.
DRILLING EQUIPMENT, METHOD	HSA
SIZE/TYPE OF BIT	6" HSA
SAMPLING METHOD	SPLIT SPOON
START, FINISH	1/3/97
WELL INSTALLED?	YES ☒ NO ☐
CASING MAT./DIA.	STAINLESS STEEL / 2"
SCREEN: TYPE	SLOT
MAT.	STAINLESS
LENGTH	10'
DIA.	2"
SLOT SIZE	0.02
ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE / TOP OF WELL CASING / TOP & BOTTOM SCREEN / GW SURFACE / DATE
REMARKS:	

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
20–22		21	1, 3, 2, 8	DARK GREY W/ ~~SOME~~ LITTLE ORGANICS	MED STIFF, SOME H2O
22–24		21	4, 5, 4, 9	GREY W/ SOME BROWN CLAYS	MED STIFF, LITTLE H2O
24–26		20	2, 3, 3, 3	GREY CLAY	SOFT, WET
26–28		21	1, 2, 7, 10	TOP 14" GREY CLAY BOT 7" GREY/LT BROWN CLAY, SOME ROCK FRAGS, LITTLE SAND	SOFT WET WET, NOT COHESIVE
28–30		17'	12, 8, 4, 2	LT BROWN SILTS W/ SOME SAND ~0-6" LT BROWN/TAN CLAY, SOME ROCKS 1/2-1" ~17"	WET, LOOSE SOFT-WET

BOB @ 31' BGL

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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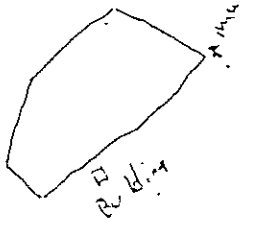
TEST BORING LOG



BORING NO. MW-10D

PROJECT NO., NAME: Union Road | LOCATION: Buffalo NY

DRILLING CONTRACTOR/DRILLER: Maxim (Dick Miller, Ron Brown)

GEOLOGIST, OFFICE: James Dunn

DRILLING EQUIPMENT, METHOD	SIZE, TYPE OF BIT	SAMPLING METHOD	START, FINISH DATE
Air Rotary / HSA	8¼" HSA / 7⅞"	Split Spoon	12/10 - 12/17/86

WELL INSTALLED?	CASING MAT./DIA.	SCREEN: TYPE	MAT.	LENGTH	DIA.	SLOT SIZE
YES ☒ NO ☐	Stainless / 2"	slot	stainless	10'	2"	.020

ELEVATION OF: GROUND SURFACE | TOP OF WELL CASING | TOP & BOTTOM SCREEN | GW SURFACE | DATE (FT. ABOVE M.S.L.)

REMARKS:

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
				Sampling started @ 4' BG.			
5		21"	5 6 8 10	~~Blk to tan/Grey clay w/ Trace angular~~ Fragmented Rock upto 1" in size	~~Stiff~~, Damp		
		22"	7 30 18 11	Top 8" Blk, tan/Grey Clay w/ Trace angular Fragmented Rock next 6" 1" in size Blk Cinder like material w/ ~~Some~~ w/ angular Fragmented Rock's Bottom 6" Brown/Tan Sand/Silty Clay w/ 10%-20% Rx Frag. 2"	Stiff, Damp Dry Not Cohesive, little H_2O		
10		24"	7 8 10 9	Tan to Lt Brown clay, No Rocks	m. stiffness w/ some H_2O		
		16"	2 2 3 3	Tan to lt Brown clay w/o Rocks	m. Stiffness w/ some H_2O		
15		15"	1 3 3 5	tan to lt Brown Clay w/o Rocks Possibly Some Silts	m. stiffness w/ Some H_2O		
		20"	2 2 3 4	Grey to lt Brown Mottled clay w/ trace rounded Rocks, ¼ - ½" diameter.	m. stiffness w/ Some H_2O		
		18"	1 3 4 6	Tan to lt Brown Clay w/o Rxs	m. stiffness w/ Some H_2O		
		21"	2 2 3 4	Grayish/Brown/Blk clay w/ 10-20% organics	m. stiffness w/ some H_2O		

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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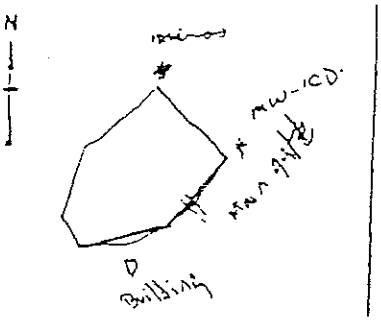
TEST BORING LOG



BORING NO. MW- 1D

PROJECT NO., NAME: Union Road 2035-200

LOCATION: Buffalo NY

DRILLING CONTRACTOR/DRILLER: Maxim (Dick Miller, Ron Brown)

GEOLOGIST, OFFICE: James Dean

DRILLING EQUIPMENT, METHOD: HSA / Air Rotary

SIZE, TYPE OF BIT: HSA 8 1/4" / 7 7/8"

SAMPLING METHOD: Split SPOON

START, FINISH DATE:

WELL INSTALLED? YES ☑ NO ☐

CASING MAT., DIA.: Stainless Steel 2"

SCREEN: TYPE SLOT MAT. Stainless LENGTH 10' DIA. 2" SLOT SIZE .02C

ELEVATION OF: GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GW SURFACE DATE
(FT. ABOVE M.S.L.)

REMARKS:

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY LOG
	20-22'	21"	1 3 5 8	Greyish/Blk/Drk Grey clays w/ Traces organics	M. stiffness w/ Some H_2O		
	22-24'	20"	3 5 8 9	Grey + Brown Clays	M. stiffness w/ Trace H_2O		
	24-26'	0"	2 2 3 2	The inside of the spoon was V. wet, No Basket.			
	26-28'	22"	1 1 3 17	Top 16" Grey clays mid 4" Grey clays, w/ trace organics Bottom 2" Grey/Lt Brown/ clays w/ some Frag. Rks, Sands	soft wet soft wet Not cohesive wet		
	30-32	17"	3 3 3 3	Lt Brown/Tan clays w/ silts 20% Rock Frags. 1/4" - 2"	Sof wet		
	28-30'	18"	6 2 2	Top 3" Sands w/ Lt Brown/Tan silts + clays Bottom 15" Lt Brown/Tan Clays w/ silts, 20% Rock Fragments 1/4" - 2" in size	Not Cohesive Wet Soft Wet		
	32-34'	4"	2 3"/50	Lt Brown/Tan clays w/ silts, 20% Rx2 Frags 1/4"-2" in size	Soft Wet		
				Bed Rock.			
				@ 38' BG Bottom of Protectiv casing.	Bottem of The Protective Casing		

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

SS = Split Spoon, CSC = Continuous Soil Core

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TEST BORING LOG

BORING NO. MW-10D

PROJECT NO.. NAME Union Road 2035-200

LOCATION Buffalo NY

DRILLING CONTRACTOR/ DRILLER Maxim

GEOLOGIST, OFFICE James Doan

DRILLING EQUIPMENT, METHOD HSA

SIZE, TYPE OF BIT

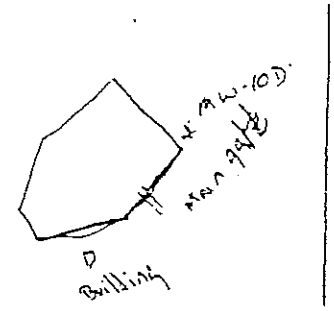
SAMPLING METHOD Split SPOON

START, FINISH DATE

WELL INSTALLED? YES ☑ NO ☐ | CASING MAT./DIA. Stainless Steel/2" | SCREEN: TYPE SLOT MAT. Stainless LENGTH 10' DIA. 2" SLOT SIZE .020

ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE | TOP OF WELL CASING | TOP & BOTTOM SCREEN | GW SURFACE | DATE

REMARKS:

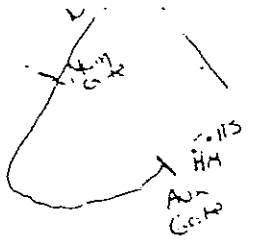


DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
5				@ 45 the water bearing zone The hole has collapsed The Rock isn't very consolidated	B.O.B 45.5' BG		
10							
15							

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

ST - Shelby Tube, CSC = Continuous Soil Core

TEST BORING LOG



BORING NO. MW-115

PROJECT NO. NAME Niagara 2025-200 | LOCATION Buffalo NY

DRILLING CONTRACTOR/DRILLER MANN

GEOLOGIST. OFFICE JOHN J ZACHER JR

DRILLING EQUIPMENT. METHOD HSA | SIZE TYPE OF BIT 6" HSA | SAMPLING METHOD SPLIT SPOON | START. FINISH DAT 11/2/17

WELL INSTALLED? YES ☑ NO ☐ | CASING MAT./DIA. STAINLESS STEEL 2" | SCREEN: TYPE SLOT MAT. STAINLESS LENGTH 10' DIA. 2" SLOT SIZE 0.010 | DATE

ELEVATION OF: GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GW SURFACE (FT. ABOVE M.S.L.)

REMARKS:

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT-0.5FT	LOG OF TEST BORING DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
				SAMPLING STARTED AT 4' B.G.			
4'			10	BROWN/DRK BROWN SILTS & CLAYS	STIFF		
		15"	9	TRACE RX FRAGMENTS < 1/8"	DRY - LITTLE TO H2O		
5			10				Conc
6'			10				
6'			4	BROWN/DRK BROWN SILTS AND CLAYS	STIFF		
		15"	9	NO RXS	LITTLE TO NO H2O		
			12				
8'			11	FILL			
8'			12	BROWN/DRK BROWN CLAYS	STIFF		
		10"	12	TRACE RX FRAGS	LITTLE TO NO H2O		Brick
			12	FILL			
10'			12				
10			4	TOP 9" DRK BROWN CLAYS W/SOME ORGANICS	STIFF - LITTLE H2O		
10'			6	BOTTOM 4" - GREY SILTS/CLAYS AND ORGANICS	SOFT/STIFF - LITTLE H2O MED		
		13"	6				
12'			8				Sand
12'			8	GREY CLAYS LITTLE ORGANICS	MEDIUM STIFFNESS SOME H2O		
			9				
		20"	10				
14'			13				
14'			9	TOP 6" GREY CLAYS, LITTLE ORGANICS	MED STIFFNESS W/SOME H2O		Bent
15		15"	11				
			10	BOTTOM 12" - REDDISH BROWN CLAY NO RXS ORGANICS	STIFF - LITTLE TO NO H2O		
16'			13				
16'			19	REDDISH BROWN CLAYS W/GREY LAYERS	STIFF - LITTLE TO NO H2O		
		21"	28	GREY LAYERS MAY BE EVIDENCE OF VARVED CLAYS			
			22				
18'			5				
18'			5	REDDISH BROWN CLAYS W/GREY LAYERS	M. STIFFNESS		
		12"	21	GREY LAYERS MAY BE EVIDENCE OF VARVED CLAYS	DAMP		
20'			4				

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

TEST BORING LOG

BORING NO. MW-11S	
PROJECT NO., NAME: Union Road - 2035-200	LOCATION: Buffalo NY
DRILLING CONTRACTOR/DRILLER: Maxim	
GEOLOGIST, OFFICE: John J Zacher Jr	

DRILLING EQUIPMENT, METHOD	SIZE, TYPE OF BIT	SAMPLING METHOD	START, FINISH DATE
HSA	6" HSA	Split Spoon	1/2/97

WELL INSTALLED?	CASING MAT./DIA.	SCREEN: TYPE	MAT.	LENGTH	DIA.	SLOT SIZE
YES ☒ NO ☐	SS / 2"	Slot	Stainless	10'	2"	0.020

ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE | TOP OF WELL CASING | TOP & BOTTOM SCREEN | GW SURFACE | DATE

REMARKS:

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY LOG
20	20	24"	3, 5, 6, 5	Brown / Dark Brown Clays, no 2xs.	Stiff, Little - no H_2O		
22	22 / 22	23"	2, 4, 5, 4	Brown w/ some Grey Clays	Stiff, Trace H_2O		
	24	-		BxBe 24' Bgl			
5							
10							
15							

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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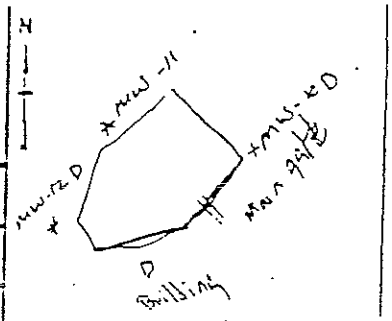
TEST BORING LOG



BORING NO. MW-11M

PROJECT NO.. NAME Union Road 2035-200

LOCATION Buffalo NY

DRILLING CONTRACTOR/DRILLER Maxim

GEOLOGIST, OFFICE James Dean

DRILLING EQUIPMENT. METHOD HSA

SIZE. TYPE OF BIT

SAMPLING METHOD Split SPOON

START. FINISH DATE 12/18 - 12/19/96

WELL INSTALLED? YES ☒ NO ☐

CASING MAT./DIA. Stainless Steel/2"

SCREEN: TYPE SLOT MAT. Stainless LENGTH 10' DIA. 2" SLOT SIZE .02C

ELEVATION OF: GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GW SURFACE DATE
(FT. ABOVE M.S.L.)

REMARKS:

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
				Sampling started @ 4' BG			
4'			10				
5			8	Brown/DRK Brown silts + clays w/ Trace amounts of Rx Fragments. less than ½"	Stiff little to No H_2O		
6'		14"	10				
6'			10		Stiff		
			8	Brown/Drk Brown silts + clays, w/o Rxs	little to No H_2O		
		13"	12				
8'			12	Most likely Fill			
8'			14		Stiff		
		4"		~~Bro~~ Drk Brown clays w/ Trace amounts of Rx frags.	little to No H_2O		
10'				most likely Fill			
10					Stiff		
10'			3	Top 8" Drk Brown clays w/ some Organics	little to No H_2O		
		10"	5		~~little to No H_2O~~		
12'			7	Bottom 2" Grey silts + clays w/ some Organics	soft w/ some H_2O		
12'			9	Top 4" discarded looked as if they fell into hole			
			5				
		18"	18		m. stiffness		
			15	Bottom 14" Grey clays w/ some organics + Trace ashes or soot.	some H_2O		
14'			7		Stiff		
14'			11	Reddish Brown clay ? w/ No Rxs or organics	little to No H_2O		
15		19"	11				
16'			20				
16'			19		Stiff		
		24"	25	Reddish Brown clays w/ Grey layers evidence of	little to No H_2O		
			18	The grey layers may be varbed clays.			
18'			20		m. Stiffness		
18'			3	Reddish Brown clays w/ Grey layers			
			3		Dama		
20			5	The Grey layers may be evedence of varbed clays			

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Continuous Soil Core

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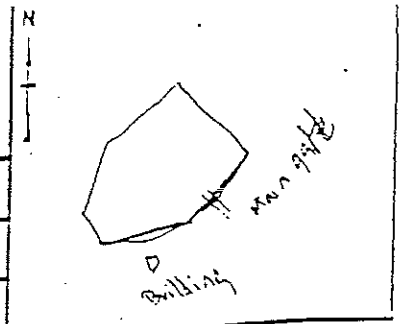
TEST BORING LOG



BORING NO. MW-11M

PROJECT NO., NAME: Union Road 2035-200

LOCATION: Buffalo NY

DRILLING CONTRACTOR/DRILLER: Maxim

GEOLOGIST, OFFICE: James Doan

DRILLING EQUIPMENT, METHOD: HSA

SIZE, TYPE OF BIT:

SAMPLING METHOD: Split Spoon

START, FINISH DATE:

WELL INSTALLED? YES ☒ NO ☐

CASING MAT./DIA.: Stainless Steel 2"

SCREEN: TYPE SLOT MAT. Stainless LENGTH 10' DIA. 2" SLOT SIZE .020

ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GW SURFACE DATE

REMARKS:

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
20'		24"	3 3 3 6	- Reddish brown varbed clays w/ Red, Grey, and dark Brown layers.	Soft Wet		
22'							
22'		12"	3 3 2 4	Reddish/Brown clays	Soft Wet		
24'							
24'		18"	1 1 3 3	Reddish Brown (Fleshy Color) clays 1/4" - 1/2" Rx frags. w/ rounded edges.	Soft Wet		
26'							
26'		18	3 4 3 6	Reddish Brown (Fleshy Color) clays 1/4" - 2" Rx frags w/ rounded edges.	Soft Wet		
28'							
28'		13"	2 2 2 2	Reddish Brown (Fleshy Color) clays + 40%-50% Rock fragments w/ some rounded edges	Soft Wet		
30'							
30'		4"	5 6 7 8	- Mostly Rocks ~~70%~~ w/ some Reddish Brown (Fleshy color) clays	Soft Wet		
32'							
32'		14"	3 3 3 3	- Reddish Brown (Flesh color) clays & silts - Some sands 20-30% rock mostly sm. to med pebbles 1/4" - 1"	Soft Wet		
34'							
34'		13"	1 8 15 22	Reddish Brown/Grey Silts & clays 40% Rocks & Sands	The sample Ranged from Soft → Hard Wet Soft → Hard		
36'							
36		5"	24 50/2"	Reddish Brown/Grey silts, clays, Sands & Rocks.	Wet		
35							
				Bed Rock @ 39' BG			

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

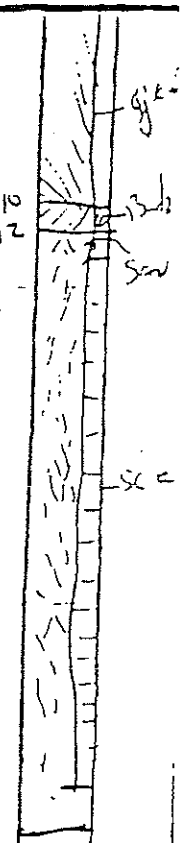
ST - Shelby Tube, CSC = Continuous Soil Core

TEST BORING LOG

BORING NO.	17-S
PROJECT NO., NAME	UNBURCIAD - 2035 - 200
LOCATION	BUFFALO NY
DRILLING CONTRACTOR/DRILLER	MAHM
GEOLOGIST, OFFICE	JOHN J ZACHER JR.
DRILLING EQUIPMENT, METHOD	HSA
SIZE/TYPE OF BIT	6" 8" 4" HSA
SAMPLING METHOD	SPLIT SPOON
START, FINISH DA	1-2-97
WELL INSTALLED?	YES ☒ NO ☐
CASING MAT./DIA.	STAINLESS STEEL / 2"
SCREEN: TYPE	SLOT
MAT.	STAINLESS
LENGTH	10'
DIA.	2"
SLOT SIZE	0.020
ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE / TOP OF WELL CASING / TOP & BOTTOM SCREEN / GW SURFACE / DATE
REMARKS:	

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
0–12				SAMPLING START AT 15' BG	
15	15–17	21"	6 8 9 9	BROWN CLAYS - FILL	STIFF - LITTLE H_2O
	17–19	24"	7 4 4 5	BROWN CLAYS FILL	STIFF - TRACE H_2O
20	19–21	23	6 6 7 8	BROWN TO DARK BROWN CLAYS	STIFF LITTLE H_2O
	21–23	24"	4 5 5 5	BROWN TO TAN CLAY W/LITTLE GREY	STIFF SOME TO LITTLE H_2O
25	23–25	24"	5 6 5 4	BROWN & GREY CLAY 0-12 12-24	STIFF / MOIST
				BOB 25'	



Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

TEST BORING LOG

BORING NO. 12-M	
PROJECT NO., NAME (Woodlawn - 2035-200)	LOCATION BUFFALO NY
DRILLING CONTRACTOR/DRILLER MANN	
GEOLOGIST, OFFICE JOHN J ZACHER JR.	

DRILLING EQUIPMENT, METHOD HSA	SIZE, TYPE OF BIT 6" ~~4 1/4~~ 8" HSA	SAMPLING METHOD SPLIT SPOON	START, FINISH DA 12/31/96

WELL INSTALLED? YES ☒ NO ☐	CASING MAT./DIA. STAINLESS STEEL / 2"	SCREEN: TYPE SLOT	MAT. STAINLESS	LENGTH 10'	DIA. 2"	SLOT SIZE 0.020

ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	DATE

REMARKS: NO SAMPLES 0-20', FILL MATERIAL, CUTTINGS BROWN DRY SAMPLE 40-42 - NO RECOVERY refusal 42.5'

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
20			9		
22		22"	5	BROWN TO DARK BROWN CLAYS	STIFF - LITTLE TO NO H_2O
22			4	BROWN TO TAN CLAY SOME GREY	STIFF SOME TO TRACE H_2O
24		24"	4		
24			4		
25			2	GREY TO RED BROWN CLAY, TRACE ROCKS	SOFT, MOIST
26		24"	1		
26			4	RED BROWN CLAY	STIFF, LITTLE H_2O
28		19"	7		
28			8		
28			2	LT BROWN/TAN CLAY, TRACE SILTS, LITTLE ROCKS (1/4")	SOFT, DAMP
30		18	4		
30			2		
30			2	LT BROWN/TAN CLAY, LITTLE GREY, LITTLE ROCKS (1/8-1/4)	SOFT DAMP
32		16	3		
32			4	TOP 12" - LT BROWN/TAN CLAY - SOME GREYS, LITTLE ROCKS	SOFT DAMP, SOME H_2O
32		18	3		
34			5	BOT 6" - GREY CLAY AND SAND, NO COHESIVE STRENGTH	WET
34			12		
34			10	GREY CLAY AND SAND	NO STRENGTH, WET
35			1		
36		24"	2		
36			2		
36			1	GREY CLAY AND SAND 0-15"	NO STRENGTH WET
38		20"	1		
38			1	15-20" - GREY CLAY AND ROCKS 1/4-1/2"	WET
38			1		
38			7	MOSTLY ROCK - WISPS GREY/TAN CLAY	WET, STIFF
NO		6"	50/3"		

LOG OF TEST BORING

WELL CONST.

GRAPHIC LOG

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

Weather Bad Rain

BOB - 42.5

44 SHELTER ROCK ROAD
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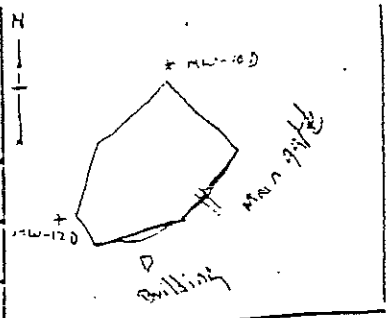
TEST BORING LOG



BORING NO. MW-12D

LOCATION Buffalo NY

PROJECT NO.. NAME Union Road 2035-200

DRILLING CONTRACTOR/DRILLER Maxim (Ron Brown, Dick Miller)

GEOLOGIST, OFFICE James Doan

DRILLING EQUIPMENT, METHOD HSA / Air Rotary

SIZE, TYPE OF BIT 8¼" HSA / 7⅞" Air/5⅞" Split Spoon

SAMPLING METHOD

START, FINISH DATE 12/12-12/16/96

WELL INSTALLED? YES ☑ NO ☐

CASING MAT./DIA. Stainless Steel/2"

SCREEN: TYPE SLOT MAT. Stainless LENGTH 10' DIA. 2" SLOT SIZE .020

ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GW SURFACE DATE

REMARKS:

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOG
				No samples taken until 20' BG. The material is all Fill untill then.			
5							
				Grout Seal			
10							
15							

Little = 10-20%, Some = 20-35%, And = 35-50%

Continuous Soil Core

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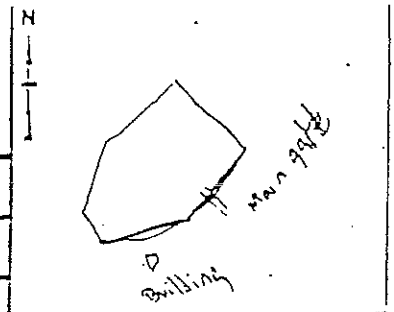
201

TEST BORING LOG



BORING NO. MW-12D

PROJECT NO.. NAME: Union Road 2035-200

LOCATION: Buffalo NY

DRILLING CONTRACTOR/ DRILLER: Maxim

GEOLOGIST. OFFICE: James Doan

DRILLING EQUIPMENT. METHOD: HSA

SIZE. TYPE OF BIT:

SAMPLING METHOD: Split Spoon

START. FINISH DATE:

WELL INSTALLED? YES ☑ NO ☐

CASING MAT./DIA.: Stainless Steel/2"

SCREEN: TYPE SLOT MAT. Stainless LENGTH 10' DIA. 2" SLOT SIZE .020

ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GW SURFACE DATE

REMARKS:

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING — DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
20'		24"	3 5 6 8	Brown to Drk Brown Clays, No Rxs	Stiff little to No H_2O		
22'							
22'		24"	3 5 4 4	Brown/Tan/w/ some Greys	Stiff w/ trace H_2O		
24'					Soft Damp		
24'		24"	1 1 1 1	Greyish/ Red Brown Clays, Trace Rx Fragments Y8" - Y4"			
26'					Stiff		
26'		17"	4 6 14 20	Top 6" Red Brown Clay, No Rxs Bottom 11" lt Brown/Tan (Fleshy color) Clays, Trace silts some Rx Fragments	Soft w/ Some H_2O		
28'					Soft		
28'		15"	1 4 2 3	lt Brown/Tan (Fleshy color) clays, Trace silts + some rock fragments Y8" - Y4"	Some H_2O		
30'					Soft		
D'		14"	1 1 3 4	lt Brown/Tan (Flesh color) clays, Trace silts + some Rock fragments	Some H_2O		
32'					Soft, Damp		
32'		24"	1 8 16 50	Top 12" lt Brown/Tan, w/ some Grey clays some Rx fragments. Bottom 1" Grey 1sh lt Brown/Tan (Flesh Colo) clays + silts Bottom 11" Grey 50% Sands No Rxs	No Cohesive Strength Wet to Damp		
34'							
				Sample skipped the augers into hard unconsolidated Rocks			
37'		5"/6"	5"	lt Brown/Tan/Grey Clays w/ silts + Angular Rock Fragments 40-50% Y8" - 1"	Soft Wet		
39'							

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

SS = Split Spoon, CSC = Continuous Soil Core

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SOT 5

TEST BORING LOG

BORING NO. MW-12D

PROJECT NO.. NAME Union Road 2035-200

LOCATION Buffalo NY

DRILLING CONTRACTOR/ DRILLER Maxim

GEOLOGIST, OFFICE James Doan

DRILLING EQUIPMENT. METHOD HSA

SIZE. TYPE OF BIT

SAMPLING METHOD Split SPOON

START. FINISH DATE

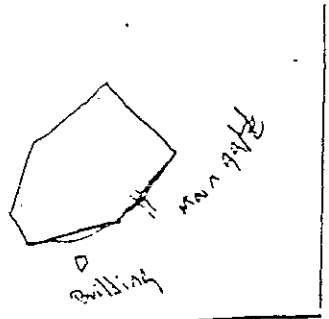
WELL INSTALLED? YES ☒ NO ☐

CASING MAT./ DIA. Stainless Steel / 2"

SCREEN: TYPE SLOT MAT. Stainless LENGTH 10' DIA. 2" SLOT SIZE .020

ELEVATION OF: GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GW SURFACE DATE
(FT. ABOVE M.S.L.)

REMARKS:



DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
40-42'	2'	50/2"		Mostly RX ¼"-2" in size w/ a matrix of lt Brown/Tan/Grey Clays & silts -Bed Rock @ -41' BG	Wet Stiff		
					Cement Boot		
5				Bottom of Protective casing @ 46' BG	Bentonite seal		
				Stainless Steal Riser			
10				Stainless Steal Screen			
15				Sand			
				Bottom of hole 61.5' BG			

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Type CSC = Continuous Soil Core

61.5'

TEST BORING LOG

BORING NO. MW-135

PROJECT NO. NAME: UNION ROAD 2035-200

LOCATION: BUFFALO NY

DRILLING CONTRACTOR/DRILLER: MAXIM

GEOLOGIST, OFFICE: JOHN J ZACHER JR

DRILLING EQUIPMENT, METHOD: HSA

SIZE/TYPE OF BIT: 6" HSA

SAMPLING METHOD: SPLIT SPOON

START, FINISH DATE: 12/20/96.

WELL INSTALLED? YES ☒ NO ☐

CASING MAT./DIA.: STAINLESS STEEL/2"

SCREEN: TYPE SLOT MAT. STAINLESS LENGTH 10' DIA. 2" SLOT SIZE 0.02C.

ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GW SURFACE DATE

REMARKS: BORING TO 21', last 1' NOT SPLIT SPOONED Well ~~RISER~~ RISER AT 20.5' B.G.

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGIC LOG
				SAMPLING STARTED AT 4' B.G.			
5	4	14"	15	DARK BROWN CLAYS NO ROCKS SOME CINDERS	STIFF LITTLE NO H2O		
	6'		12				
	6	12	12	DARK BROWN CLAYS SOME CINDERS	STIFF TRACE H2O		
	8'		10				
10	8'	10"	12	5' → DARK BROWN CLAYS, LITTLE CINDERS	STIFF, LITTLE H2O		
	10'		13	8.5' - BLACK SAND/CINDERS WET NATIVE	WET		
	10		15	TOP 3" - BLACK SAND CINDERS	DRY		
		11'	10	BOTTOM 3" - WOOD LOG CREOSOTE SIX 2			
	12		7				
	12	16"	8	BLACK SAND / CINDERS.	WET		
	14		7				
15	14	12"	7	BLACK SAND/CINDERS SOME BRICK AND WOOD	WET		
	16		6				
	16	7"	5	BLACK SAND CINDERS W/SOME RED CLAY	DAMP		
	18		4				
	18	21"	3	TOP 6" BLACK CINDERS	WET		
			5	6"-15" RED CLAY, NO ROCKS	MEDSTIFF SOME H2O.		
	20		8				

BOB 21'

Proportions Used: Trace = 0-10%. Little = 10-20%. Some = 20-35%. And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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TEST BORING LOG

BORING NO. MW-13M

PROJECT NO., NAME: Union Road 2025-200

LOCATION: Buffalo NY

DRILLING CONTRACTOR/DRILLER: Maxim

GEOLOGIST, OFFICE: James Doan

DRILLING EQUIPMENT, METHOD: HSA

SIZE, TYPE OF BIT:

SAMPLING METHOD: Split Spoon

START, FINISH DATE: 12/19/96

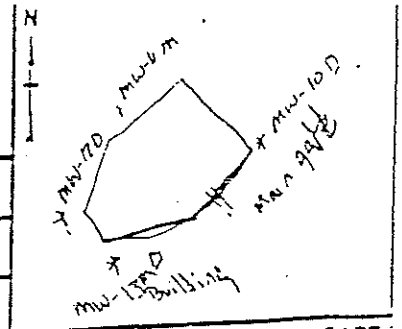
WELL INSTALLED? YES ☒ NO ☐

CASING MAT./DIA.: Stainless Steel 2"

SCREEN: TYPE SLOT MAT. Stainless LENGTH 10' DIA. 2" SLOT SIZE .020

ELEVATION OF: GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GW SURFACE DATE
(FT. ABOVE M.S.L.)

REMARKS:



DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
5	5'	12"	18 12 8 17	-Drk Brown clays w/o RKS	Stiff little to No H2O		
	7'						
10	10'	8"	15 14 11 5	Blk sands + Oshes or cinders - Not a native material	No Cohesive strength DRY		
	12'						
	12'	11"	7 9 14 5	Top 9" Blk sand + ashes or cinder some organics Bottom 2" Wood, Hobby from a RR tie.	No Cohesive strength DRY		
	14'				Damp		
15	14'	5"	50/5"	Top 2" Blk ash w/ some ~~as~~ organics Next 1" Brick (Red Bottom 2" Wood			
	16'						
	16'	3"	50/3"	Wood Next Sample will be 19'-21'			
	18'						
	19'	3"	50/3"	Wood			

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-60%

CSC = Continuous Soil Core

44 SHELTER ROCK ROAD
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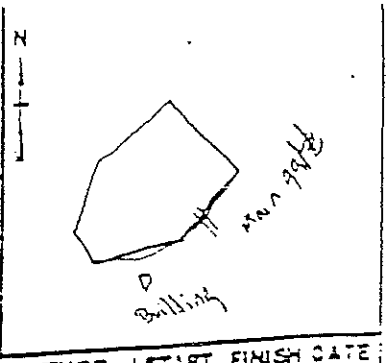
2 of 2

TEST BORING LOG



BORING NO. MW-13M

PROJECT NO.. NAME Union Road 2035-200

LOCATION Buffalo NY

DRILLING CONTRACTOR/ DRILLER Maxim

GEOLOGIST, OFFICE James Dean

DRILLING EQUIPMENT. METHOD HSA

SIZE TYPE OF BIT

SAMPLING METHOD Split Spoon

START. FINISH DATE

WELL INSTALLED? YES ☑ NO ☐

CASING MAT./DIA. Stainless Steel/2"

SCREEN: TYPE SLOT MAT. Stainless LENGTH 10' DIA. 2" SLOT SIZE .020

ELEVATION OF: GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GW SURFACE DATE
(FT. ABOVE M.S.L.)

REMARKS:

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
	24'		7				
			5	Top 5" Wood	Stiff → soft		
5		24"	5	Bottom 19" Greyish red clays, No Rocks	little to No H_2O		
	26'		5	~~reddish Grey clays w/ some rocks~~			
10	30'			Top 2" Wood – maybe from a plug in Bottom of auger			
		12"		Bottom 10" Reddish/Grey Clays w/ some Rx Frag Pebbles	Soft Wet.		
	32'		2	There wasn't a basket in the spoon.			
	32	0"	5				
			8				
	34		6				
	34'				Bottom of Boring		
15		0"	50/10"	Bed Rock			
	36'						

Little = 10–20%, Some = 20–35%, And = 35–50%

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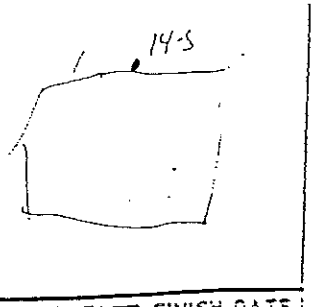
TEST BORING LOG



BORING NO. 14-S

PROJECT NO.. NAME: UNION ROAD | LOCATION: Buffalo NY

DRILLING CONTRACTOR/DRILLER: Maxim Technologies

GEOLOGIST, OFFICE: Mark Cambria NES Danbury, Ct

DRILLING EQUIPMENT, METHOD: HSA | SIZE, TYPE OF BIT: 6" HSA | SAMPLING METHOD: AF | START, FINISH DATE: 8/19/97

WELL INSTALLED? YES ☑ NO ☐ | CASING MAT./DIA.: Steel 4" | SCREEN: TYPE: Slotted MAT.: Stainless Steel LENGTH: 10 DIA.: 2" SLOT SIZE: 020

ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE | TOP OF WELL CASING | TOP & BOTTOM SCREEN | GW SURFACE | DATE: 8/19/97

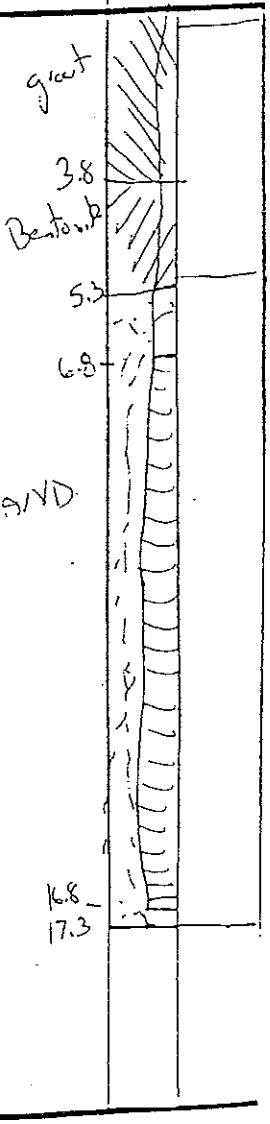
REMARKS: Replaced Previous 14-S well.

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
				Topsoil	
				Fill - Reddish brown Sandy Clay	
5					
				Reddish Brown Clay	
10					
15				End of Boring	

See 14-S - Previous

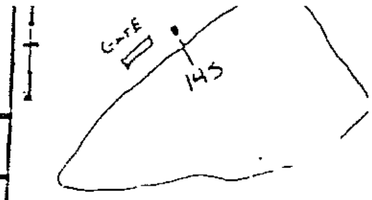
WELL CONST. / GRAPHIC LITHO LOG



Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

TEST BORING LOG



BORING NO. 14-S

PROJECT NO., NAME: UNION ROAD 2035-200

LOCATION: BUFFALO NY

DRILLING CONTRACTOR/DRILLER: MANIM

GEOLOGIST, OFFICE: JOHN J. ZACHER JR

DRILLING EQUIPMENT, METHOD: HSA | SIZE/TYPE OF BIT: 6" HSA | SAMPLING METHOD: SPLIT SPOON | START, FINISH DATE: 12-30-96

WELL INSTALLED? YES ☒ NO ☐ | CASING MAT./DIA.: STAINLESS STEEL/2" | SCREEN: TYPE SLOT MAT. STAINLESS LENGTH 10' DIA. 2" SLOT SIZE 0.020

ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE | TOP OF WELL CASING | TOP & BOTTOM SCREEN | GW SURFACE | DATE

REMARKS:

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
				SAMPLING STARTS AT 4' B.G.	
				ABANDON 8/19/97	
4'–6'		20"	7, 14, 17, 12	TOP 1" - WOOD 1-11" - BROWN CLAY W/ LITTLE GRAVEL 11-17" CINDERS 17-20 BROWN CLAY W/ SOME ORGANIC	STIFF, DRY DRY STIFF, DRY
6'–8'		19"	19, 14, 17, 23	0-7" - FILL - CINDERS, STONES, BRICK 7-19" - BROWN CLAY W/ GREY VARBING	STIFF, TRACE H_2O
8'–10'		22"	5, 7, 8, 10	0-7" BROWN CLAY W/ LITTLE ROOTS (1/4") 7-22" RED/BROWN CLAY	STIFF, LITTLE/NO H_2O STIFF, LITTLE/NO H_2O
10–12'		22"	16, 12, 13, 14	RED/BROWN CLAY, TRACE ORGANICS (ROOTS)	STIFF - LITTLE/NO H_2O
12–14		24"	5, 7, 8, 10	RED/BROWN CLAY - SOME GREY VARBING	STIFF LITTLE/NO H_2O LAST 4" - SOME H_2O
14–16'		24"	3, 5, 5, 4	RED/BROWN CLAY SOME GREY VARBING	STIFF/LITTLE H_2O
16–18		24"	12, 13, 15, 13	RED/BROWN CLAY W/ SOME GREY	STIFF - LITTLE H_2O
18–20		24"	0, 3, 5, 7	0-4" MIX BROWN/GREY CLAY 4-24" GREY SANDY CLAY (40-50%)	RED STIFF SOME H_2O SOFT, WET

WELL CONST. / GRAPHIC LOG: 15, -Bent, 17, -S

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

TEST BORING LOG

BORING NO. 145

PROJECT NO., NAME | LOCATION

DRILLING CONTRACTOR/DRILLER

GEOLOGIST, OFFICE

DRILLING EQUIPMENT, METHOD | SIZE, TYPE OF BIT | SAMPLING METHOD | START, FINISH DA

WELL INSTALLED? YES ☐ NO ☐ | CASING MAT./DIA. | SCREEN: TYPE MAT. LENGTH DIA. SLOT SIZE

ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE | TOP OF WELL CASING | TOP & BOTTOM SCREEN | GW SURFACE | DATE

REMARKS:

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING: DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGIC
20'			6 9	GREY CLAY	SOFT, WET		
22'		18"	8 7				
22			weight of rod	GREY CLAY	VERY SOFT, WET		
24		8"					
24			0	GREY CLAY	SOFT, WET		
25		18"	0 3				
26			2				
26			2	GREY CLAY	SOFT		
		24"	3 3		SATURATED		
28			3		SATURATED, SOFT		
28			0	G-B GREY CLAY			
		26"	0 1				
30			4	~28' GREY CLAY, SOME ROCKS BOB	VERY WET - DRY		
30							
15							

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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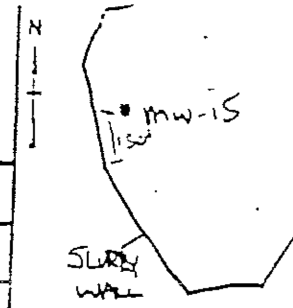
TEST BORING LOG



BORING NO. MW-15.

PROJECT NO., NAME UNION ROAD

LOCATION ON LANDFILL CAP

DRILLING CONTRACTOR/DRILLER MAXIM-EMPIRE · P. JENCE

GEOLOGIST, OFFICE HANLON / SZWAKA DANBURY

DRILLING EQUIPMENT, METHOD 855 B5A HSA

SIZE/TYPE OF BIT 6.25" H.S.A

SAMPLING METHOD SS

START, FINISH DATE 2/20/96

WELL INSTALLED? YES ☒ NO ☐ | **CASING MAT., DIA.** SS 2" | **SCREEN: TYPE** | **MAT.** SS | **LENGTH** 10' | **DIA.** 2" | **SLOT SIZE** 0.10

ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE 618.8 | TOP OF WELL CASING 620.0' | TOP & BOTTOM SCREEN 610'-600' | GW SURFACE NA | DATE 2/20

REMARKS: ELEVATION AND DEPTHS RELATIVE TO PRECAP SURFACE

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
0–2		2'	26/8	Brush graded clay/silt & gravel. Trace organic. TAN/BROWN. Hard/firm. Moist (frozen) + little 1/4" gravel.	
2–4		1'	13/4	TAN/BROWN CLAY, FIRM. NO COARSE MATERIALS FOSSIL?.	
4–6		1.5'	27/8	COARSE FILL MAT'L COARSE. BLACK SUBANGULAR ROCK SAND & GRAVEL W/ TRACE FINES. TAN. 1" ~~cobbles~~ FRAG. TAN FIRM SILT CLAY. NO COARSE MAT'L	Grout →
6–8		1.5'	11/54	GREY/GREEN CLAY, NO COARSE MATERIAL, SOFT. TRACE SILT	Fine sand →
8–10		1.8	8/4	~~Bl~~ SAME BUT BLACK. SILTY CLAY. TRACE GRAVEL SAME BUT GREEN/GREY. SILTY CLAY.	Consol. grout →
10–12		2'	5/86	Green/grey silt. ~~some~~ some clay. soft.	
12–14		1.5'	6/56	SAME	
14–16		1.5'	4/86	SAME	
16–18		2'	4	SAME	

EOB 19.0'

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%
Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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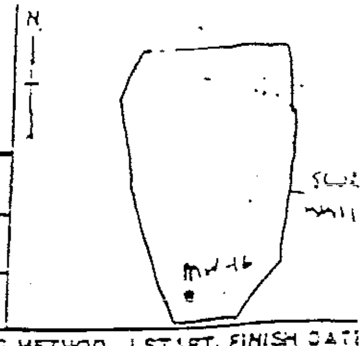
TEST BORING LOG



BORING NO.	MW-16
PROJECT NO., NAME	UNION ROAD
LOCATION	CAP INTERIOR
DRILLING CONTRACTOR/DRILLER	MAXIM/EMPIRE BENCE
GEOLOGIST/OFFICE	HANDEX/SZURAVA Danbury
DRILLING EQUIPMENT, METHOD	CME 650 HSA
SIZE/TYPE OF BIT	6 1/4"
SAMPLING METHOD	SS
START/FINISH DATE	2/21/96
WELL INSTALLED?	YES ☑ NO ☐
CASING MAT./DIA.	2" SS
SCREEN: TYPE	0.020
MAT.	SS
LENGTH	10
DIA.	2"
SLOT SIZE	0.020
ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE	~~618.8~~ 618.9
TOP OF WELL CASING	620.0
TOP & BOTTOM SCREEN	~~18.8~~ 610.0 - 600.0
GW SURFACE	NA
DATE	2/21/96
REMARKS:	ALL ELEVATIONS AND DEPTHS RELATIVE TO PRE-CAP GRADE

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHO LOG
0-2'		2.0'	35	Hard Brown Clay, 10% Gravel	Frozen		
2'-4'		1.5'	20	Upper 12" Same Bottom 6" CINDERS	DRY		
4'-6'		1.0'	0/ft	SAME	DRY	Grout →	
6'-8'		9"	12/ft	TAN SAND, SILT, SUBANGULAR ROCK FRAGS. WELL GRADED 1" of BLACK CINDER FILL		Fine Sand →	
8'-10'		2'	5/ft	TAN CLAYS, NO ORGANIC MATERIAL SOFT TAN/BROWN CLAY, NO ORGANIC MATERIAL. SLIGHT Fe STAINING			
10'-12'		1.5'	5/ft	SAME but gray/green SAME + TRACE ORGANICS.			
12'-14'		1.5'	5/ft	SAME			
14'-16'		1.5'	4/ft	SAME + ~~some~~ some (20%) ROCK FRAGS. to 1/4", ANGULAR. IN BOTTOM 6"			
16'-18'		1.5'	12/ft	SAME.	MOIST		
18'				EOB 19.0'		Coarse Sand →	

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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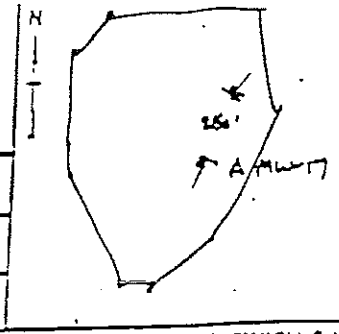
TEST BORING LOG



BORING NO. MW-17	
PROJECT NO., NAME: Union Road	LOCATION: Landfill Cap
DRILLING CONTRACTOR/DRILLER: Marin-Environ / P. Bence	
GEOLOGIST, OFFICE: M. Sbrana / Danbury	
DRILLING EQUIPMENT, METHOD	SIZE, TYPE OF BIT: 6.25" HSA
SAMPLING METHOD: 2" SS	START, FINISH DATE: 2/22/96
WELL INSTALLED? YES ☒ NO ☐	CASING MAT./DIA.: 2" SS
SCREEN: TYPE	MAT.: SS
LENGTH: 10'	DIA.: 2
SLOT SIZE: 20	
ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE	TOP OF WELL CASING
TOP & BOTTOM SCREEN	GW SURFACE DATE
REMARKS:	

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
2'		1.25'	20/ft	TAN/BROWN CLAY. FROZEN. NO COARSE MATERIAL	FROZEN
		.25'	42/4"	2' BLACK/DARK RED SILTY SAND. GRAVEL PRESENT. FE STAINING. 4'	WET
4'		1.0'	11/ft	TAN/BROWN CLAY SOFT. NO COARSE MATERIAL, FE STAINING	DRY
5				5' BROWN/BLACK CLAY. TRACE ORGANICS. FE STAINING. ROOT FRAGS.	
6'		1.25'	24/ft	6.5' BLACK CLAY. 30% ORGANICS (WOOD), TRACE COARSE MATERIAL (GRAVEL, GRAVEL). 6.8'	
8'		1.5'	11/ft	8' SOFT BROWN CLAY. FE STAINING. NO COARSE MATL. TRACE BLACK CINDER FILL MATL.	
10		0.5'	11/ft	SAME	
12'		0	7/ft	NO RECOVERY	WET
14'		0	8/ft	15 NO RECOVERY	
16		0.8'	11/ft	SAME. NO FILL MATL. TRACE BOULDERS / ANGULAR GRAVEL.	
18		1.5	14/ft	18.5' GRAY/BROWN CLAY W/ BLACK STAINING. TRACE ORGANICS (WOOD) NO COARSE MATL. FE STAINING (SLIGHT)	

WELL CONST. / GRAPHIC LITHOLOGY

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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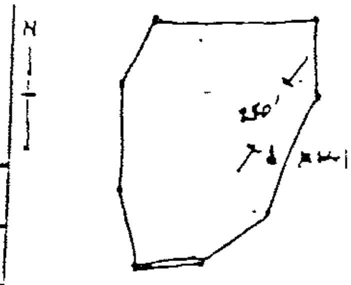
TEST BORING LOG



BORING NO. MW-17

PROJECT NO., NAME: [illegible] Road

LOCATION: Landfill cap

DRILLING CONTRACTOR/DRILLER: Mercia-Empire D. Beng

GEOLOGIST, OFFICE: M. [illegible] - Danbury

DRILLING EQUIPMENT, METHOD: 858 HSA

SIZE, TYPE OF BIT: 6.25" HSA

SAMPLING METHOD: 2" SS

START, FINISH DATE: 2/22/96

WELL INSTALLED? YES ☒ NO ☐

CASING MAT./DIA.: 2" SS

SCREEN: TYPE MAT. SS LENGTH 10' DIA. 2" SLOT SIZE 20

ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	DATE
	619.1	620'	605' - 595'	~605'	2/22

REMARKS: Elevations & depths relative to precap tops.

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHO LOG
20–22'		2'	14/ft.	(SAME) Gray/black [illegible] black staining. Trace organic [illegible] material. Sulfide? staining	WET ↓		
22–24'		1.5'	15/ft	23.0' ——— Black silt & sand. Trace organic mat'l.			
24'				EOB 24.0'			

Depth scale: 20, 22', 24', 25, 10, 15

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

A DIVISION OF TIES
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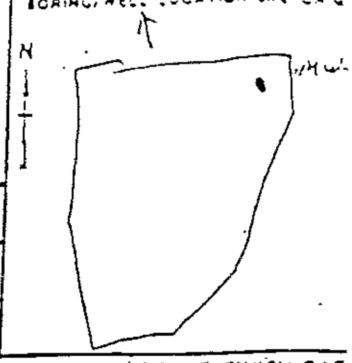
TEST BORING LOG

BORING/WELL LOCATION SKETCH



BORING NO.	MW-8
PROJECT NO., NAME	Union Road
LOCATION	Cap Interior
DRILLING CONTRACTOR/DRILLER	Maxim Empire Phil Bence
GEOLOGIST, OFFICE	Hanlon/Szwarty, Danbury
DRILLING EQUIPMENT, METHOD	CME 750
SIZE, TYPE OF BIT	HSA
SAMPLING METHOD	SS
START, FINISH DATE	2/10/96
WELL INSTALLED?	YES ☒ NO ☐
CASING MAT./DIA.	SS 2"
SCREEN: TYPE	MAT. SS LENGTH 10' DIA. 2" SLOT SIZE 0.20
ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE	619.1
TOP OF WELL CASING	620.0
TOP & BOTTOM SCREEN	605.0 - 595.0
GW SURFACE	NA
DATE	2/10/96
REMARKS:	ELEVATIONS AND DEPTHS RELATIVE TO PRE-CAP SURFACE

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHO LOG
		2'	32/FT	Tan Clay, Hard, No Coarse, Dry	(Frozen)		
		1'	10/FT	Tan Clay, ~~Stiff~~ Firm, No Coarse, Dry			
5		1'	12/FT	Tan/Gray Clay, Firm, No Coarse, Dry	grout →		
		2'	15/FT	Brown Clay, ~~Stiff~~ Firm, No Coarse, Dry Fe staining			
		1'	12/FT	Same			
10		1.5'	24/FT	Same w/ trace organics + Silt bottom 6"	Fine Sand →		
		1.5'	27/FT	Same w/ trace rock frags (angular, gravel)			
15		1.5'	20/FT	Same (Silt closer to 10%)	Coarse Sand →		
		2'	35/FT	Same			
		1.5	4/FT	Same but Soft + Moist			

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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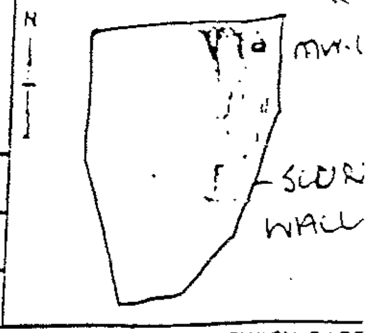
TEST BORING LOG

BORING/WELL LOCATION SKETCH



BORING NO.	MW-18
PROJECT NO., NAME	UNION ROAD
LOCATION	INSIDE CAP AREA
DRILLING CONTRACTOR/DRILLER	MAXIM/EMPIRE P. BENKE
GEOLOGIST, OFFICE	HANDEX/SEWARD DANOZZI
DRILLING EQUIPMENT, METHOD	CME 850 HSA
SIZE, TYPE OF BIT	6 1/4 HSA
SAMPLING METHOD	SS
START, FINISH DATE	2/19/96
WELL INSTALLED?	YES X NO
CASING MAT./DIA.	SS 2"
SCREEN: TYPE / MAT.	SS
LENGTH	10'
DIA.	2"
SLOT SIZE	0.20

ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	DATE
	619.1	620.0	605.0 - 595.0	NA	2/19/96

REMARKS: ELEVATIONS AND DEPTHS RELATIVE TO PRE-CAP SURFACE

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHO LOG
20'	1	1'	9/FT	Same, Trace Black Shale Chips	Coarse sand →		
	2	2'	3/FT	Brown Sand, Clay, 20% organic Very Soft Trace Rock Frags Bottom 6" Very Soft Wet Brown Clay trace Rock fragments angular largest ~1"			
25				EOB 24.5'			
10							
15							

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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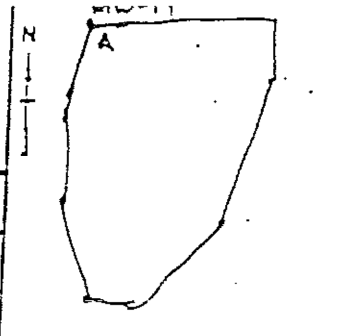
TEST BORING LOG



BORING NO.	MW-19
PROJECT NO., NAME	UNION ROAD
LOCATION	LANDFILL CAP
DRILLING CONTRACTOR/DRILLER	MAXIM-EMPIRE, P. BENCE
GEOLOGIST, OFFICE	S. LUKA, DANBURY
DRILLING EQUIPMENT, METHOD	B58 HSA
SIZE, TYPE OF BIT	6.25" HSA
SAMPLING METHOD	2" S.S.
START, FINISH DATE	2/22/96
WELL INSTALLED?	YES ☒ NO ☐
CASING MAT./DIA.	2" SS
SCREEN: TYPE	MAT. SS, LENGTH 10', DIA. 2", SLOT SIZE 20
ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE	618.5'
TOP OF WELL CASING	617.5'
TOP & BOTTOM SCREEN	605' - 595'
GW SURFACE	UNK.
DATE	2/22/96
REMARKS:	ELEVATION & DEPTH RELATIVE TO PRE-CAP SURFACE

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHO LOG
0–2'		1.25	18/ft	WELL-GRADED SAND, SILT, GRAVEL, TAN/BROWN, FROZEN/FIRM	FROZEN		
2'		1.0'	12/ft	2' FIRM BROWN/TAN CLAY, FE+ BLACK STAINING, NO COARSE MAT'L.	DRY.		
4' – 5		1.5	11/ft	SAME			
6'		1.5'	26/ft	7.0' — 8.0 SAME WITH TRACE 1/4" GRAVEL (ROUNDED), V. HARD	DRY.		
8'		0.5'	62/ft	TAN, DRY, HARD, CLAY & SILT. FE+ STAINING. TRACE GRAVEL. BLACK SMALL BLACK WOOD MAT'L & STAINING	Fine Sand		
10		1.75'	24/ft	11 — BLACK, FIRM, DRY CLAY. TRACE ORGANICS. ANGULAR SILVER... 12' SAND ... MAT'L. GRAVEL, BRICK FRAGS.	WET	Coarse Sand	
12'		1.0'	14/ft	BLACK, WET, SILTY SAND. SOME GRAVEL ... BOTTOM ... TRACE ORGANICS			
14 – 15		1.0'	10/ft	SAME. SLIGHT SWEET ODOR, BRICK BASE(?) FRAGS, PLASTIC.			
16		1.0'	6/ft	16' SOFT, WET, GRAY/GREY CLAY, BLACK MOTTLING FROM ORGANIC. TRACE ORGANIC MAT'L. FE+ STAINING. NO COARSE MAT'L.			
18'		1.25'	11/ft	18.5 SAME BUT TAN/BROWN CLAY, SILTY STREAKS, NO COARSE MAT'L. FE+ STAINING, FIRM.	E.O.B @ 20'		

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%
Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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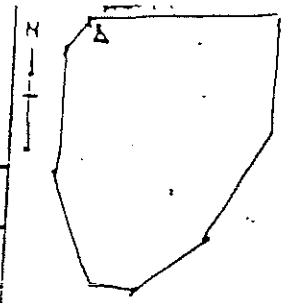
TEST BORING LOG



BORING NO. MW-19				
PROJECT NO., NAME: UNION ROAD	LOCATION: LANDFILL CAP			
DRILLING CONTRACTOR/DRILLER: MAXIM - LIMITED, P. BENCE				
GEOLOGIST, OFFICE: S&W/H&, DANBURY				
DRILLING EQUIPMENT, METHOD: 3 SB HSA	SIZE/TYPE OF BIT: 6.25" HSA	SAMPLING METHOD: 2" SS.	START, FINISH DATE: 2/23/96	
WELL INSTALLED? YES ☒ NO ☐	CASING MAT./DIA.: 2" SS	SCREEN: TYPE	MAT. SS	LENGTH 10' DIA. 2" SLOT SIZE 20
ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE: 618.5'	TOP OF WELL CASING: 617.5	TOP & BOTTOM SCREEN: 605'-595'	GW SURFACE: DRY	DATE: 2/23/96
REMARKS: ELEVATIONS & DEPTHS RELATIVE TO TOP OF CAP ELEV.				

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING: DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
				← 20' E.O.B. →			
5							
10							
15							

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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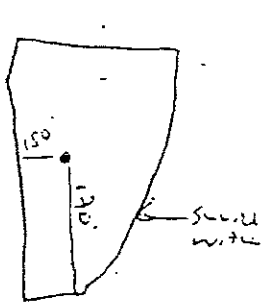
TEST BORING LOG



BORING NO.	MW-20
PROJECT NO., NAME	UNION RD
LOCATION	INTERIM CAP
DRILLING CONTRACTOR/DRILLER	MAXIM/EMPIRE BENCE/BOITNOTT
GEOLOGIST, OFFICE	HANSON/SUMMA DANBURY
DRILLING EQUIPMENT, METHOD	CME 850 HSA
SIZE, TYPE OF BIT	6¼"
SAMPLING METHOD	SS
START, FINISH DATE	2/2/96
WELL INSTALLED?	YES ☒ NO ☐
CASING MAT./DIA.	SS 7"
SCREEN: TYPE / MAT. / LENGTH / DIA. / SLOT SIZE	SS 10' 7" 0.20
ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE	624.6
TOP OF WELL CASING	627.0
TOP & BOTTOM SCREEN	607.0 – 597.0
GW SURFACE	NA
DATE	2/11/96

REMARKS: ELEVATION AND DEPTHS RELATIVE TO PRE-CAP SURFACE

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING — DESCRIPTION	REMARKS
		1.5	8	Brown Clay; NO CORSE, FROZEN, BOTTOM 4" Black w/15% ORGANICS	FROZEN
		1.0	26	FIRM Brown Clay trace organics trace silt	moist
5		1.5	19	Same Bottom 12" Black fine granular material w/charcoal odor, 10% organics 10% "Fiber Board"	moist
		2'	14	Black Firm Clay 10% organics TRACE ½" Rock Frags	moist
10		1.5	24	Bottom 4" Firm tan Clay, NO coarse	
		5"	16	First 6" Same w/organics (1st Gray soft clay) Next 6" Red Sand w/Black Cinders some Clay Next 6" WHITE cindery ash w/30% wood	moist
		05'	6	soft tan Clay, No coarse	wet
15		2	8	Fine Black Fine Sand Trace red fine sand	DRY moist
		1.5	3	Same Trace organics	WET
		1.0	3	Brown CLAY + SAND w/Black String, Strong Petroleum ODOR, Sheening, 20% Rock Frags upto 0.5"	WET

WELL CONST. / GRAPHIC LITHOLOG: fine sand; coarse sand

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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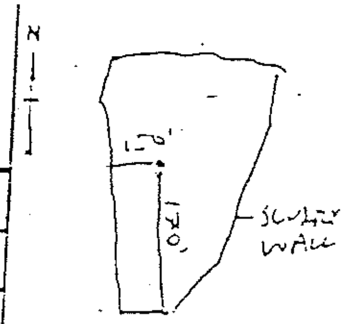
TEST BORING LOG



BORING NO.	MW-20
PROJECT NO., NAME: UNION ROAD	LOCATION: INTERIOR OF CAP
DRILLING CONTRACTOR/DRILLER: MAXIM / EMRICK	BEAUCE
GEOLOGIST, OFFICE: HANLON/SWAIN	DANBURY
DRILLING EQUIPMENT, METHOD: CME 850 HSA	SIZE, TYPE OF BIT: 6¼"
SAMPLING METHOD: SS	START, FINISH DATE: 2/21/96
WELL INSTALLED? YES ☒ NO ☐	CASING MAT./DIA.: SS 2"
SCREEN: TYPE — MAT. SS	LENGTH 10' DIA. 2" SLOT SIZE 0.10

ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	DATE
	~~627.6~~ 624.6	627.0	607.0 - 597.0	NA	2/21/96

REMARKS: ELEVATIONS AND DEPTHS RELATIVE TO PRE-CAP GRADE

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHO LOG
20		0	3	~~[illegible]~~ ? NO RECOVERY			
		2.0'	8	Same w/rks up to 1.5" grades into finer material w/30% organics			
				Bottom 3" Black clay, no coarse, trace organics			
25			7	~~Gray~~ Green clay, trace 1/8" rock frags. No odor. No petroleum			
			6	Same no rock frags	coarse sand		
				EOB 29.0'			
30							
15							

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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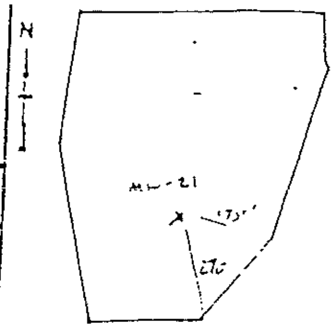
TEST BORING LOG



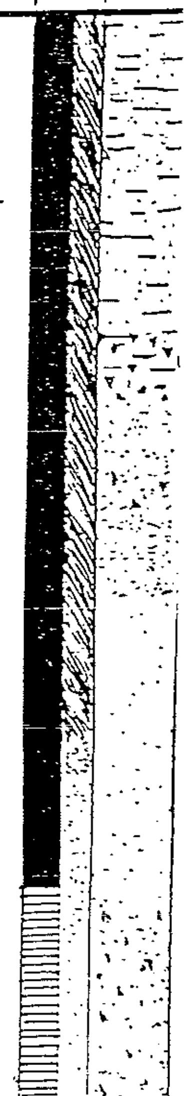
BORING NO.	MW-21
PROJECT NO., NAME	Union Road
LOCATION	Landfill cap
DRILLING CONTRACTOR/DRILLER	Maxim-Empire
GEOLOGIST, OFFICE	Sewaka / Hawley Danbury
DRILLING EQUIPMENT, METHOD	B53 HSA
SIZE, TYPE OF BIT	6.25" HSA
SAMPLING METHOD	2" SS
START, FINISH DATE	2/22/96
WELL INSTALLED?	YES ☒ NO ☐
CASING MAT./DIA.	2" SS
SCREEN: TYPE / MAT.	S.S.
LENGTH	10'
DIA.	2"
SLOT SIZE	20

ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	DATE
	623.9	625'	595'-605'	NR	2/22/96

REMARKS: All elevations & depths relative to pre-cap grade

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
		2'	41/36	Brown frozen clay. Black clay and gravel cinder fill material, trace organics. Frozen/very hard.	Frozen
2'					
		1.25'	UNL	Same	Autohammer on SS broken. Use manual 140# hammer.
4'		1.25'	9/36		
5		1.25'		Same w/ grey/black clay. Fe+ staining. 10-15% organics. Black coal cinders present.	Dry
6		1'	50/36	→ Light tan, dry, sand & gravel. No fines. Angular [illegible]. → Black & dark red cinder fill material. Dry. Trace fines. Rock frags, 1", angular. → Brown silt & sand. Poorly graded. Dry.	
8'		1'	7/36	Same w/ minor gravel (1/4") rock & wood frags, rounded. Black silt & fine sand. Trace organics. Dry.	
10		1.25'	9/36	Poorly graded red sand. No coarse material. Dry. Fe+ stained	
12		0'	15/36		
14'		1'	5/36	Same	
15					
16'		0.5'	7/36	Red silt & sand. With gravel & rock mat'l.	Moist
18'			4/ft	Same	



Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

DANBURY, CT 06810
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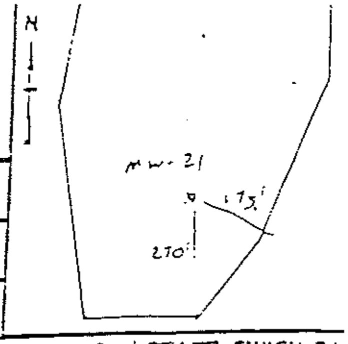
TEST BORING LOG



BORING NO.	MW-21
PROJECT NO., NAME	Union Road
LOCATION	Landfill CT
DRILLING CONTRACTOR/DRILLER	Maxim Empire ; D. Bence
GEOLOGIST, OFFICE	M. S[illegible] ; Danbury
DRILLING EQUIPMENT, METHOD	855 HSA
SIZE, TYPE OF BIT	6.25" H.S.A.
SAMPLING METHOD	2" SS
START, FINISH DA[TE]	2/22/9[illegible]
WELL INSTALLED?	YES ☒ NO ☐
CASING MAT./DIA.	2" SS
SCREEN: TYPE	MAT. S.S. LENGTH 10' DIA. 2" SLOT SIZE 20

ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	DATE
	623.9	625'	607' - 597'	[illegible]	2/22/9[illegible]

REMARKS: All Elevations & Depths relative to [illegible] grade

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHO LOG
		0.25'	40/ft	Some 2" Rock [illegible] SS opening			
22		1.0	19/ft	Black silt & sand, Angular rock frags. slight [illegible]			
24		1.5	11/ft	Grey clay w/ white material			
25							
26				EOB @ 26'			
30							
15							

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%
Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

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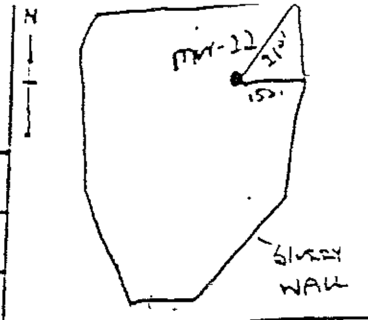
TEST BORING LOG



BORING NO.	MW-22
PROJECT NO., NAME	Union Road
LOCATION	Inside Landfill Cap
DRILLING CONTRACTOR/DRILLER	Maxim Empire, D. Bence
GEOLOGIST, OFFICE	Hanlon/Szwara, Danbury
DRILLING EQUIPMENT, METHOD	CME 55B, HSA
SIZE, TYPE OF BIT	6.25" HSA
SAMPLING METHOD	SS
START, FINISH DATE	2/20/96
WELL INSTALLED?	YES ☒ NO ☐
CASING MAT./DIA.	2" SS
SCREEN: TYPE	10 slot
MAT.	SS
LENGTH	10'
DIA.	2"
SLOT SIZE	10

ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	DATE
	623.4	626.40	606.0' - 596.0'	NA	2/20/96

REMARKS: ~2' ... above current surface. PRE-CAP SURFACE

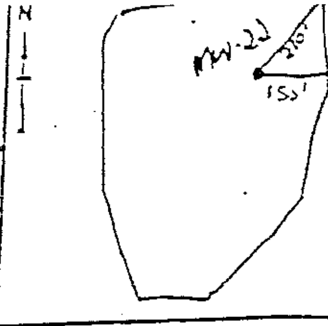
LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
0–2		2'	13/66	TAN CLAY, WET, FIRM. Bottom 6" ... black staining, 20% organic ... mat'l	
2–4		1'	5/66	Same, not as coarse	
4–6		1.5'	12/66	Same. Red fine/med. sand, no fines, poorly graded	
6–8		1'	10/66	Same. Cinder fill material, coarse black ..., rock frags to 1/2"	
8–10		1'	5/66	Same w/ 1/2" rocks ...-like mat'l.	
10–12		1'	4/66	Same	
12–14		1'	5/66	Same w/ wood waste & Fe staining	
14–16		1'	2/66	Same	Fine sand →
16–18		1'	2/66	Same	Coarse sand →
18–20		1'	0/66	Same w/ brick frags.	

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%
Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

[redacted] (203) 796-5279

TEST BORING LOG



BORING NO.	MW-22
PROJECT NO., NAME	Union Road
LOCATION	Inside Cap
DRILLING CONTRACTOR/DRILLER	Maxim - Engine P. Dence
GEOLOGIST, OFFICE	Hanson / Sbarra Danbury
DRILLING EQUIPMENT, METHOD	CME 855
SIZE/TYPE OF BIT	6.25" HSA
SAMPLING METHOD	SS
START, FINISH DATE	2/20/96
WELL INSTALLED?	YES ☒ NO ☐
CASING MAT./DIA.	2" SS
SCREEN: TYPE	
MAT.	SS
LENGTH	10'
DIA.	2"
SLOT SIZE	10
ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE	623.4
TOP OF WELL CASING	626.40
TOP & BOTTOM SCREEN	606' 596'
GW SURFACE	NA
DATE	2/20/96
REMARKS:	PRE-CAP SURFACE

LOG OF TEST BORING

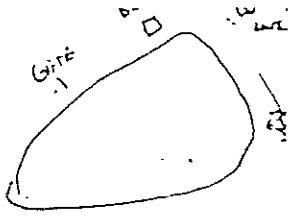
DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOG
20–22		6"	15/ft	Angular gravelly mat'l, asphalt, sand & stone, trace w/ 2" angular rock.			
22–24		6"	15/ft	Same			
24–26		1'	11/ft	Grey clay, firm, trace cobbles in coarse mat'l.	Coarse sand 23'		
26–28		2'	9/ft	Same			
				EOB 28.0'			

Depth scale: 20, 22, 24, 5, 26, 7, 28, 10, 15

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

TEST BORING LOG



BORING NO. 23-S

PROJECT NO., NAME: UNION ROAD 2035-200

LOCATION: BUFFALO NY

DRILLING CONTRACTOR/DRILLER: MAXIM

GEOLOGIST, OFFICE: JOHN J ZACHER JR

DRILLING EQUIPMENT, METHOD	SIZE, TYPE OF BIT	SAMPLING METHOD	START, FINISH DA
HSA	10" HSA	SPLIT SPOON	1-6-97

WELL INSTALLED?	CASING MAT./DIA.	SCREEN: TYPE	MAT.	LENGTH	DIA.	SLOT SIZE
YES ☒ NO ☐	STAINLESS STEEL 2"	SLOT	STAINLESS	10'	2"	.02

ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE | TOP OF WELL CASING | TOP & BOTTOM SCREEN | GW SURFACE | DATE

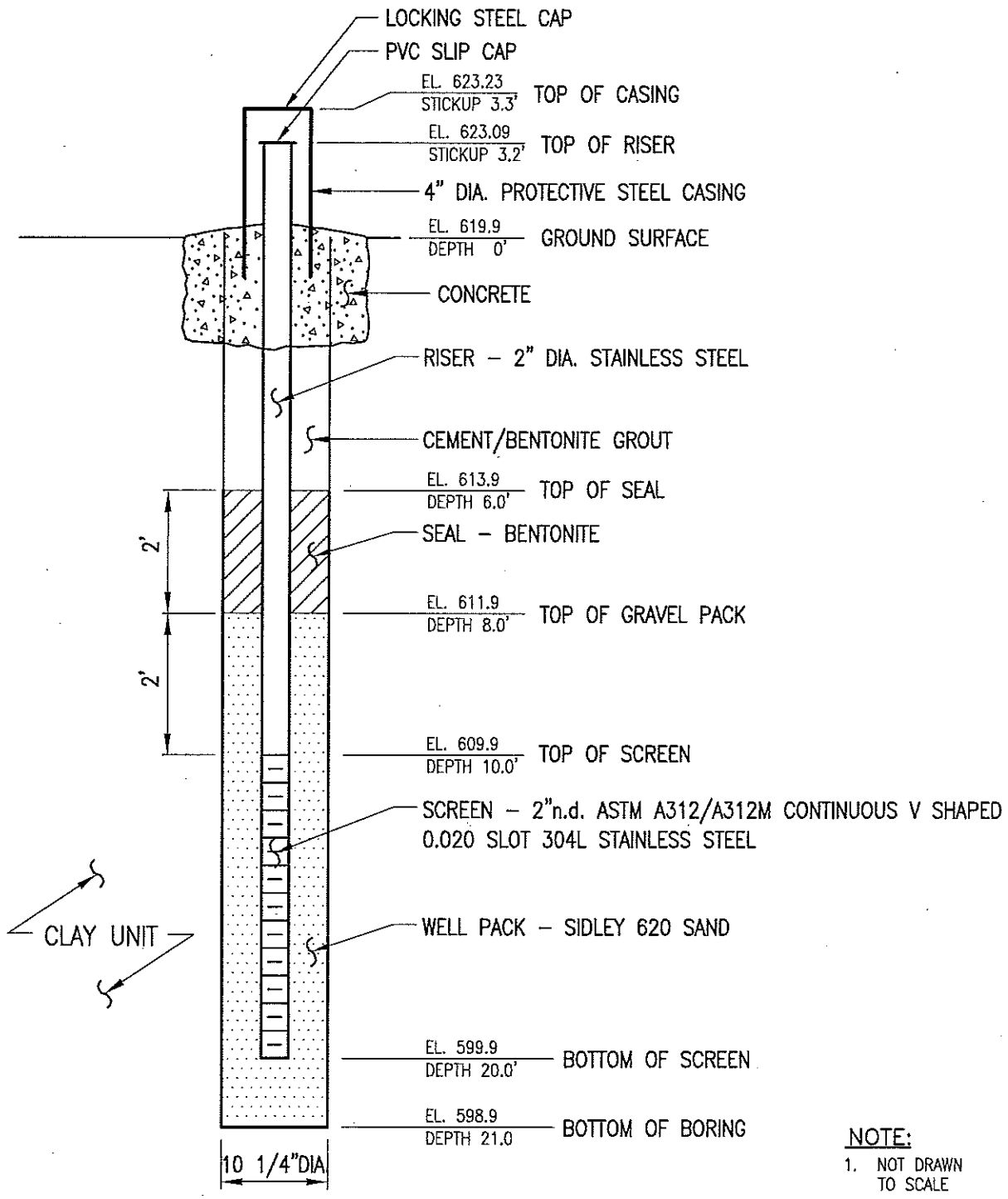
REMARKS:

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING: DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
				SAMPLING STARTS 2' BG.			
	2'	15"	4	0-4 TOPSOIL/SAND			
			3	4-15 REDBROWN CLAY	STIFF- DAMP		
	4'		7				
			9	15-18 REDBROWN CLAY, SOME GRAVEL	STIFF TRACE H2O		
	4		4	0-15 REDBROWN CLAY	STIFF, TRACE H2O		
5		21"	6				
	6'		6	15-21 SOME MOISTURE			
	6		8	0-10 REDBROWN CLAY	MEDSTIFF DAMP		
		24"	6	10-14 REDBROWN + GREY CLAY	MEDSTIFF DAMP		
	8'		4	14-24 GREY CLAY	MEDSTIFF, DAMP		
	8		2	GREY CLAY, LITTLE SAND, LITTLE RKS	SOFT, WET		
		12"	2				
	10'		2				
10	10		6	GREY CLAY, LITTLE SAND, LITTLE RKS	SOFT WET		
		17"	5				
	12'		4				
	12		2	GREY CLAY, LITTLE SAND, LITTLE RKS	SOFT WET		
		8"	3				
	14'		4				
	14		4	GREY CLAY, LITTLE SAND LITTLE RKS	SOFT, WET		
15		10"	3				
	16'		3	BOB 16'			

Proportions Used: Trace = 0-10%, Little = 10-20%, Some = 20-35%, And = 35-50%

Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

MW-10S

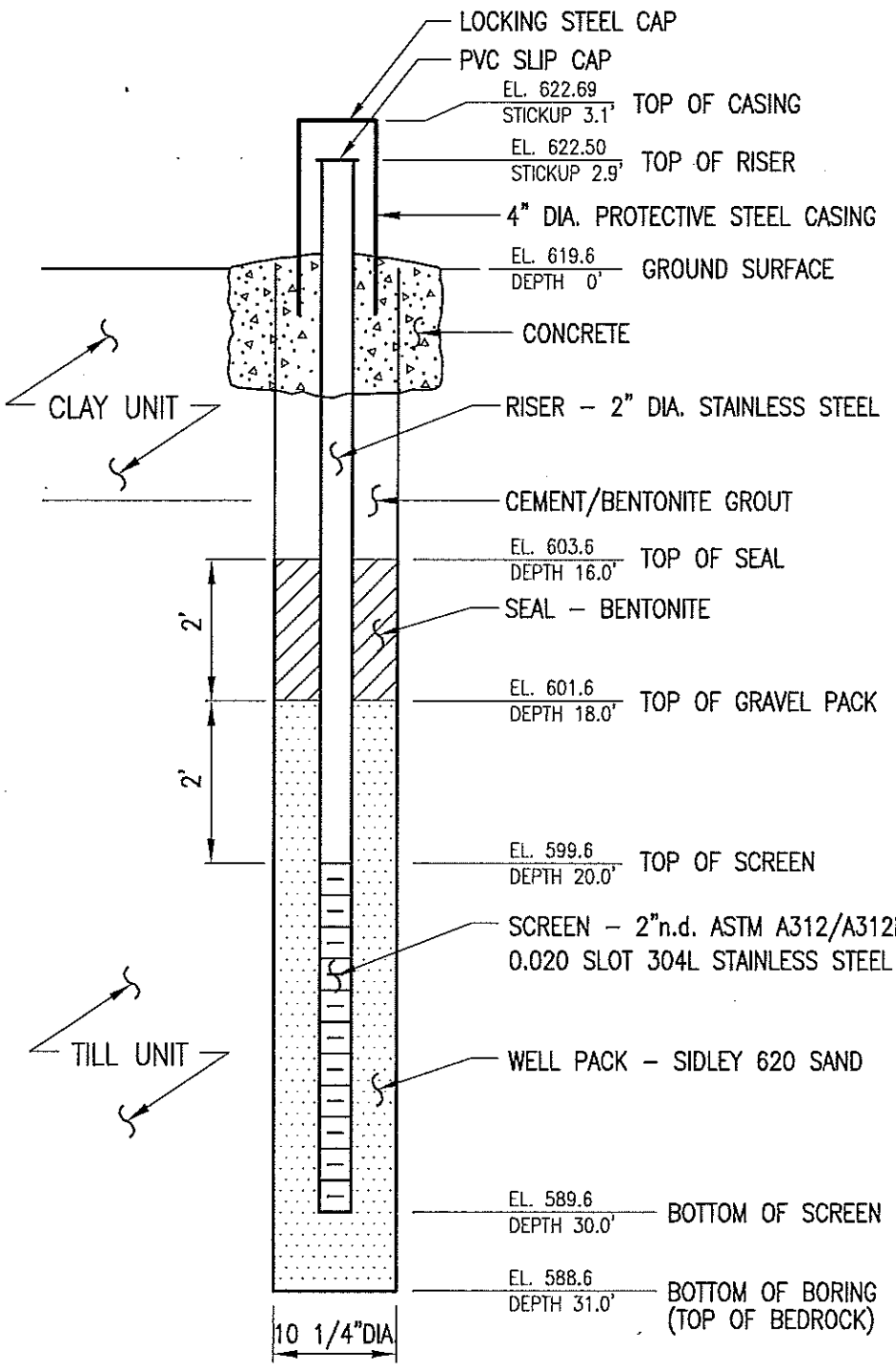


NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK: FIGURE # MW-10S
NO.	DATE				
		DRAWING	SHALLOW GROUNDWATER MONITORING WELL DETAIL		

MW-10M



NOTE:

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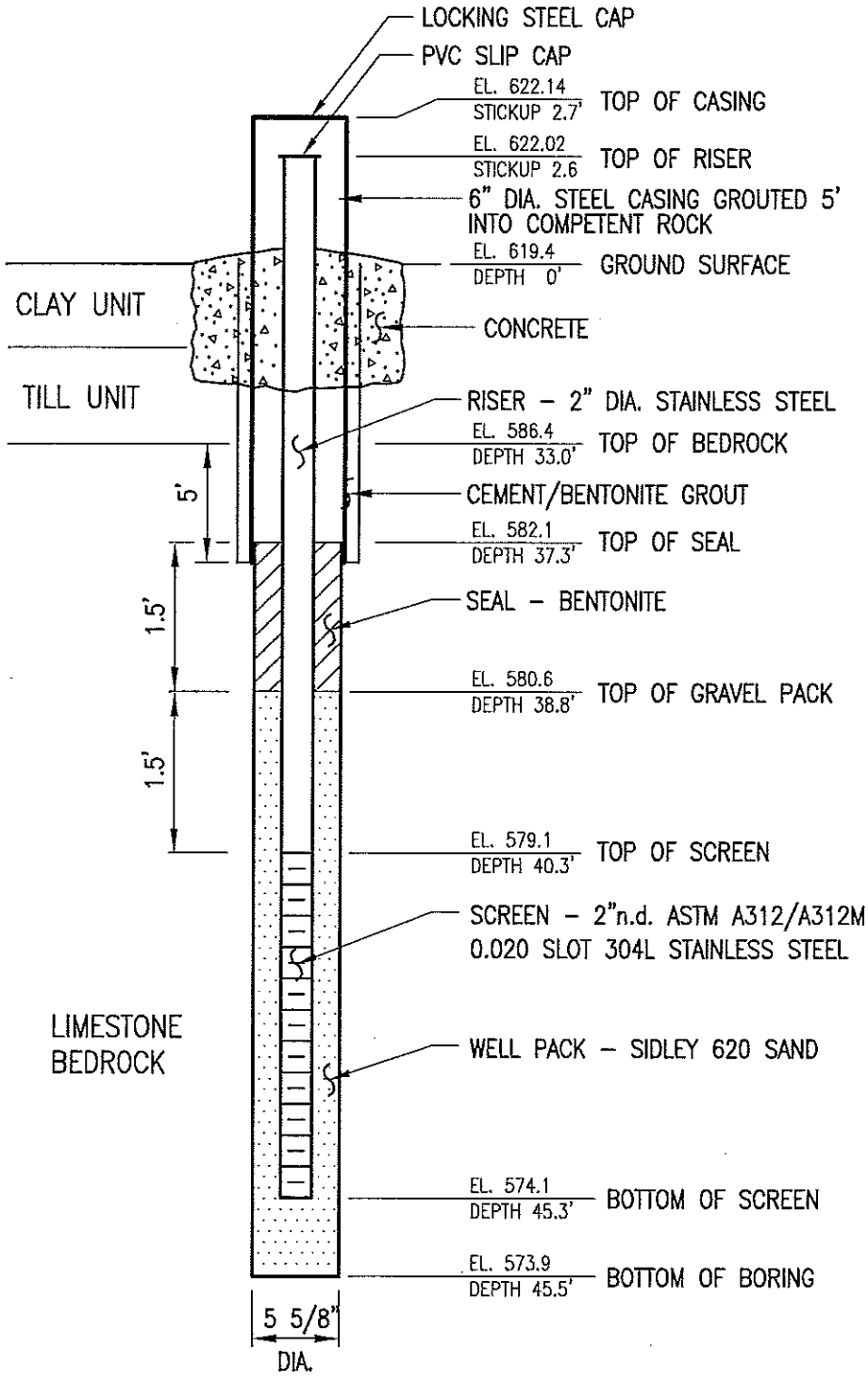
REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK:
NO.	DATE	DRAWING	MEDIUM GROUNDWATER MONITORING WELL DETAIL		FIGURE # MW-10M

MW-10D

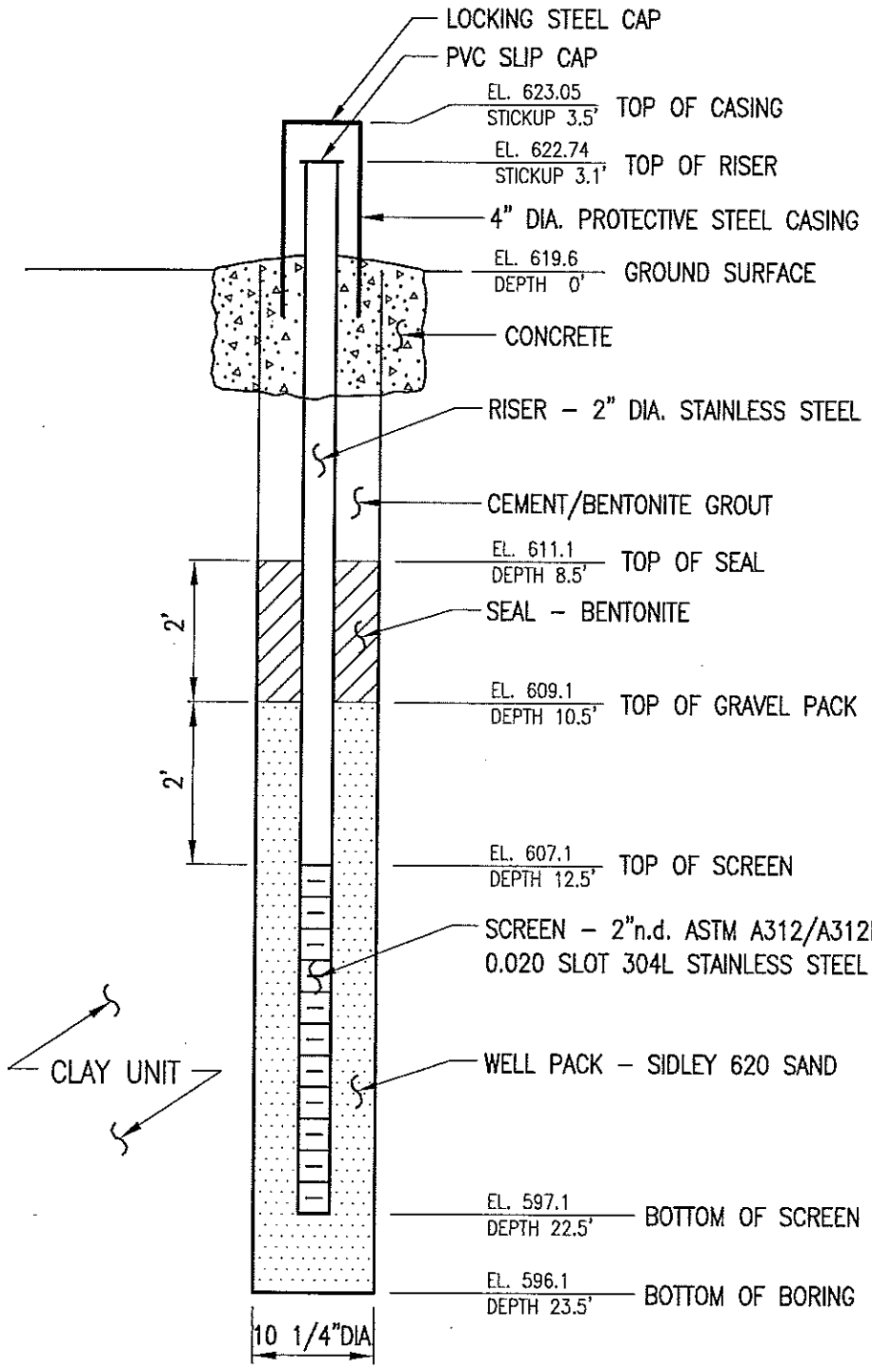


NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200
NO.	DATE				FILENAME: 2035200A
		DRAWING	BEDROCK GROUNDWATER MONITORING WELL DETAIL		SCALE: NTS; DATE: 1/15/02; BY: AD; CK:
					FIGURE # MW-10D

MW–11S

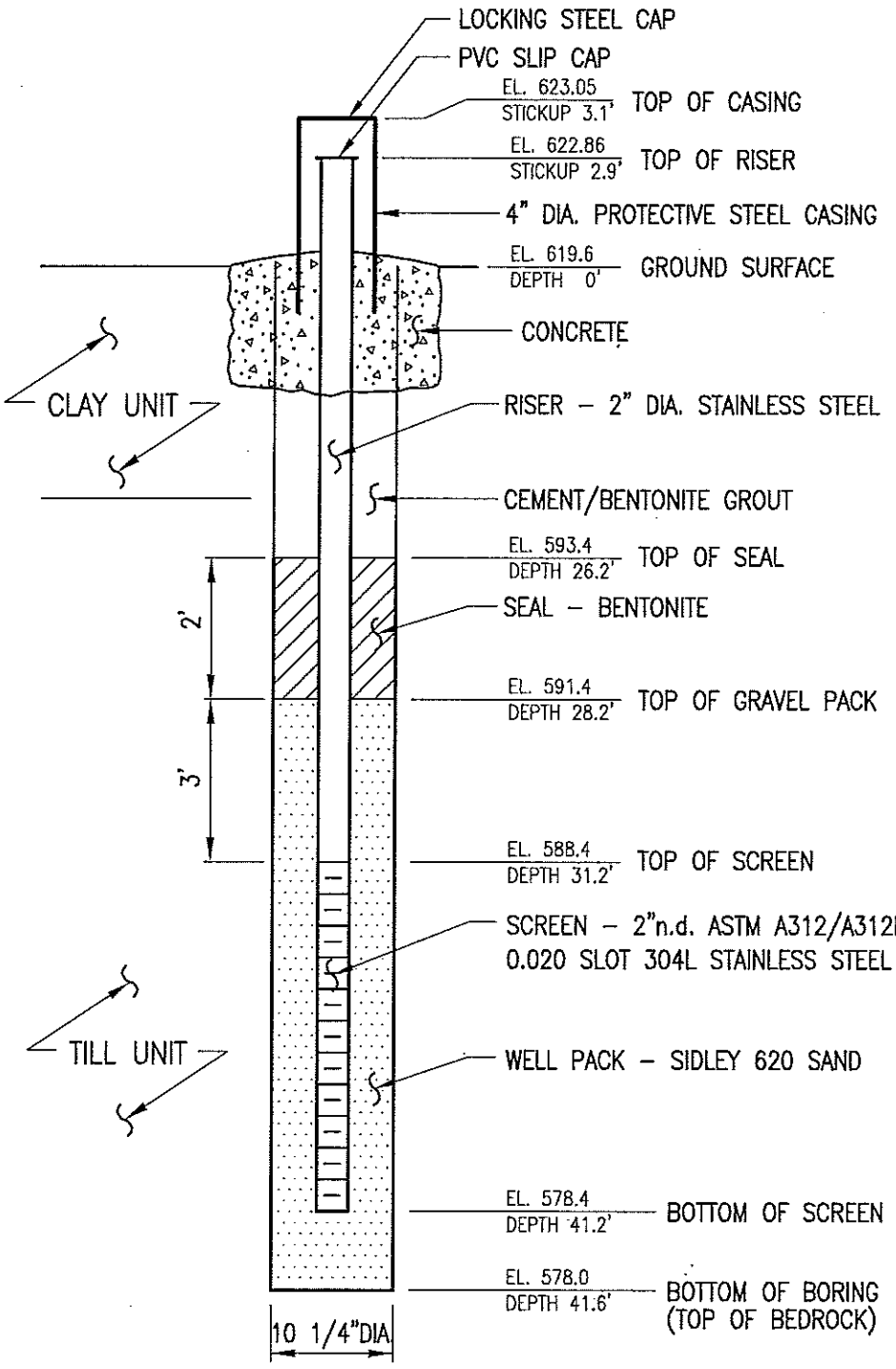


NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011–200 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK:
NO.	DATE	DRAWING	SHALLOW GROUNDWATER MONITORING WELL DETAIL		FIGURE # MW–11S

MW–11M

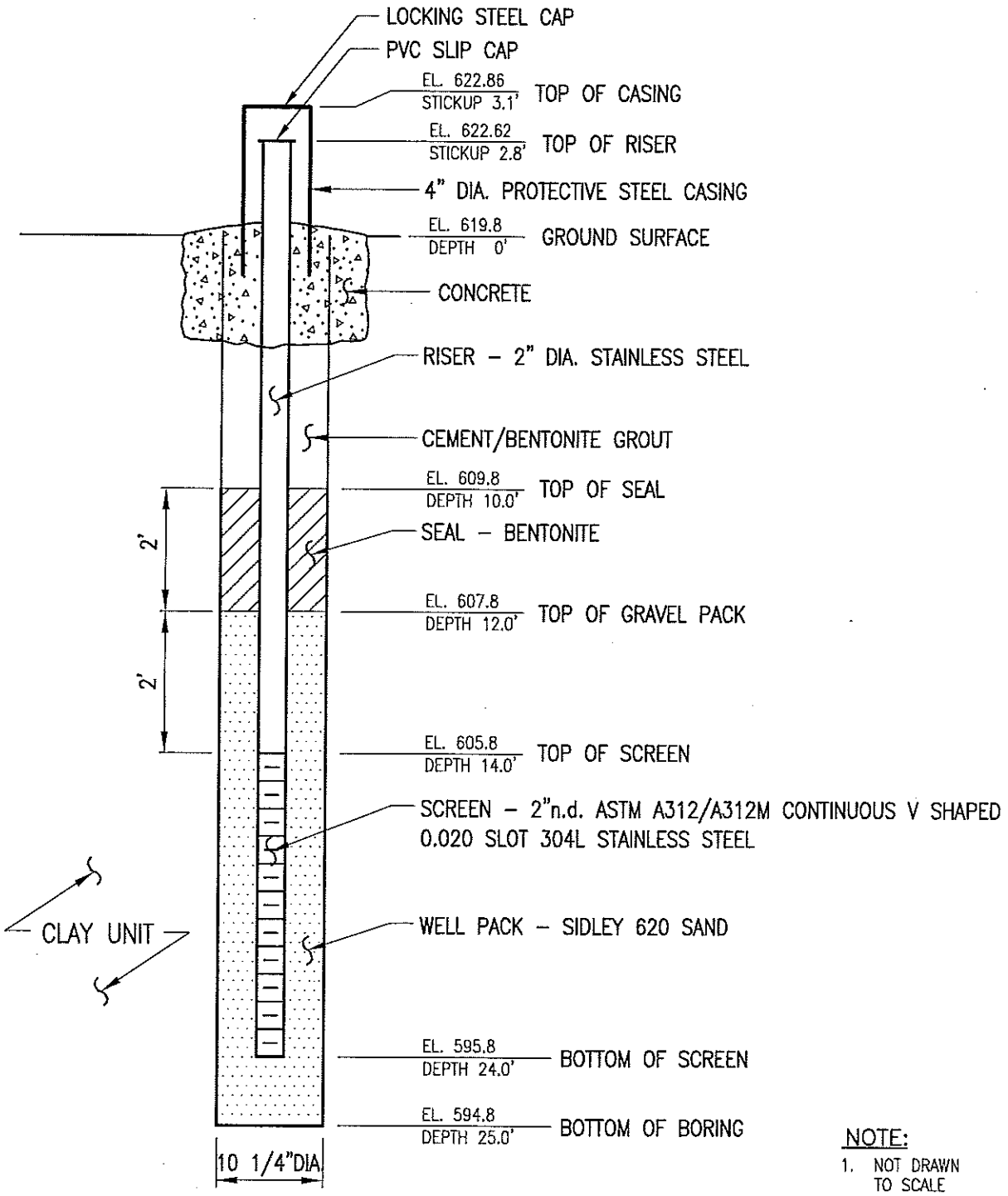


NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011–200 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK: FIGURE # MW–11M
NO.	DATE	DRAWING	MEDIUM GROUNDWATER MONITORING WELL DETAIL		

MW-12S

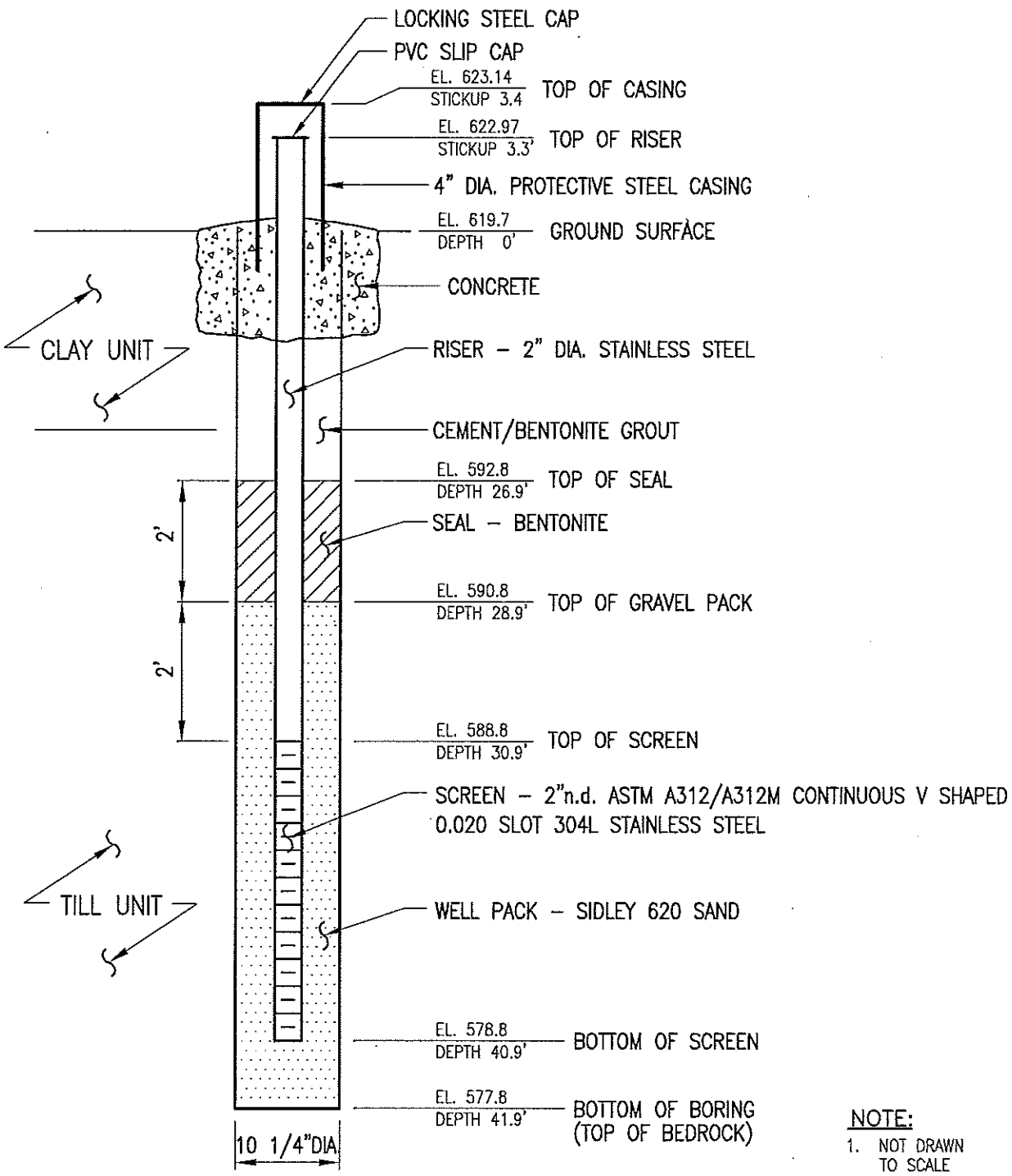


NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK: FIGURE # MW-12S
NO.	DATE				
		DRAWING	SHALLOW GROUNDWATER MONITORING WELL DETAIL		

MW-12M



NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.				
NO.	DATE	PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	
		DRAWING	MEDIUM GROUNDWATER MONITORING WELL DETAIL	

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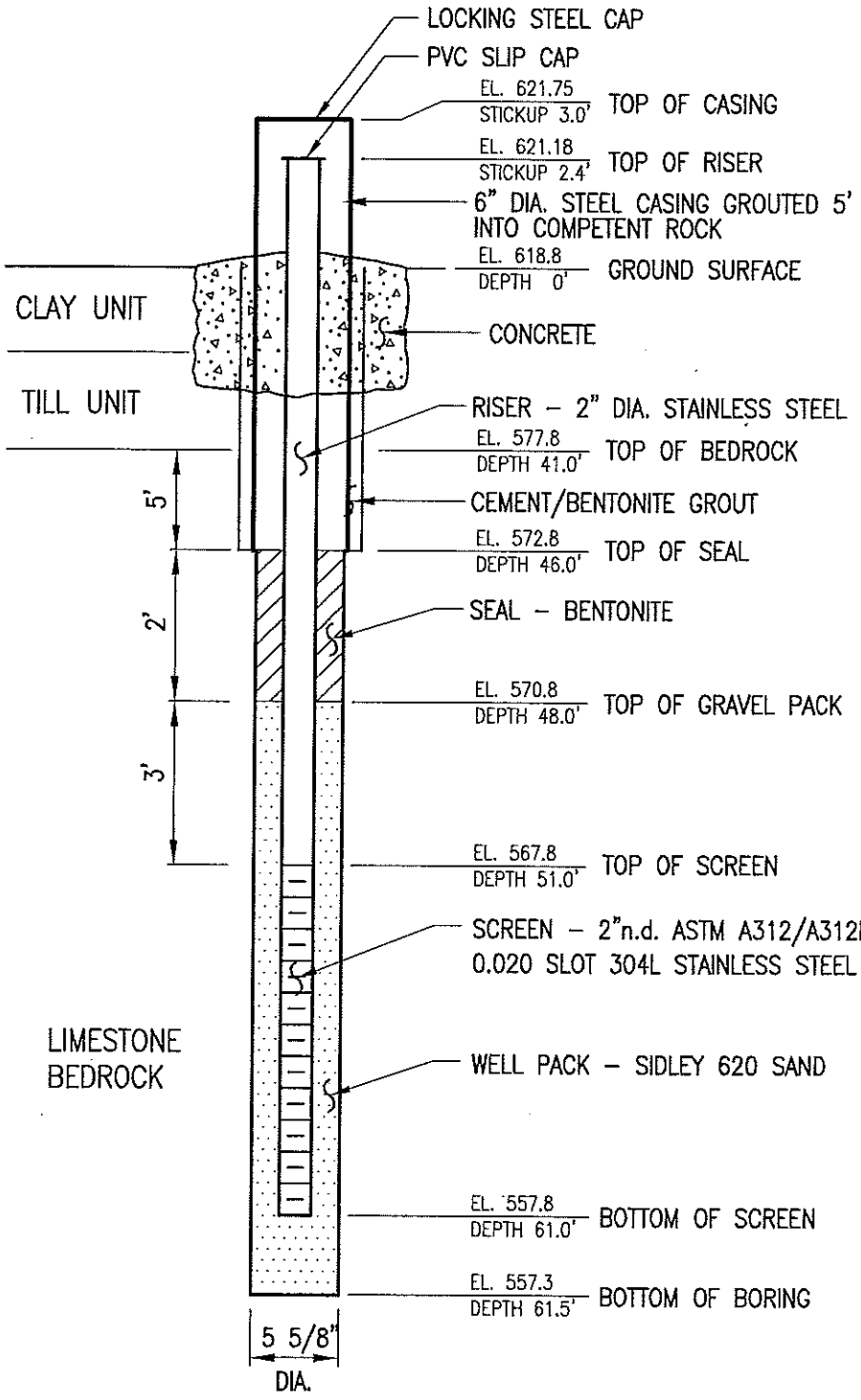
PROJECT # 2011-200
FILENAME: 2035200A
SCALE: NTS
DATE: 1/15/02
BY: AD
CK:
FIGURE # MW-12M

MW-12D

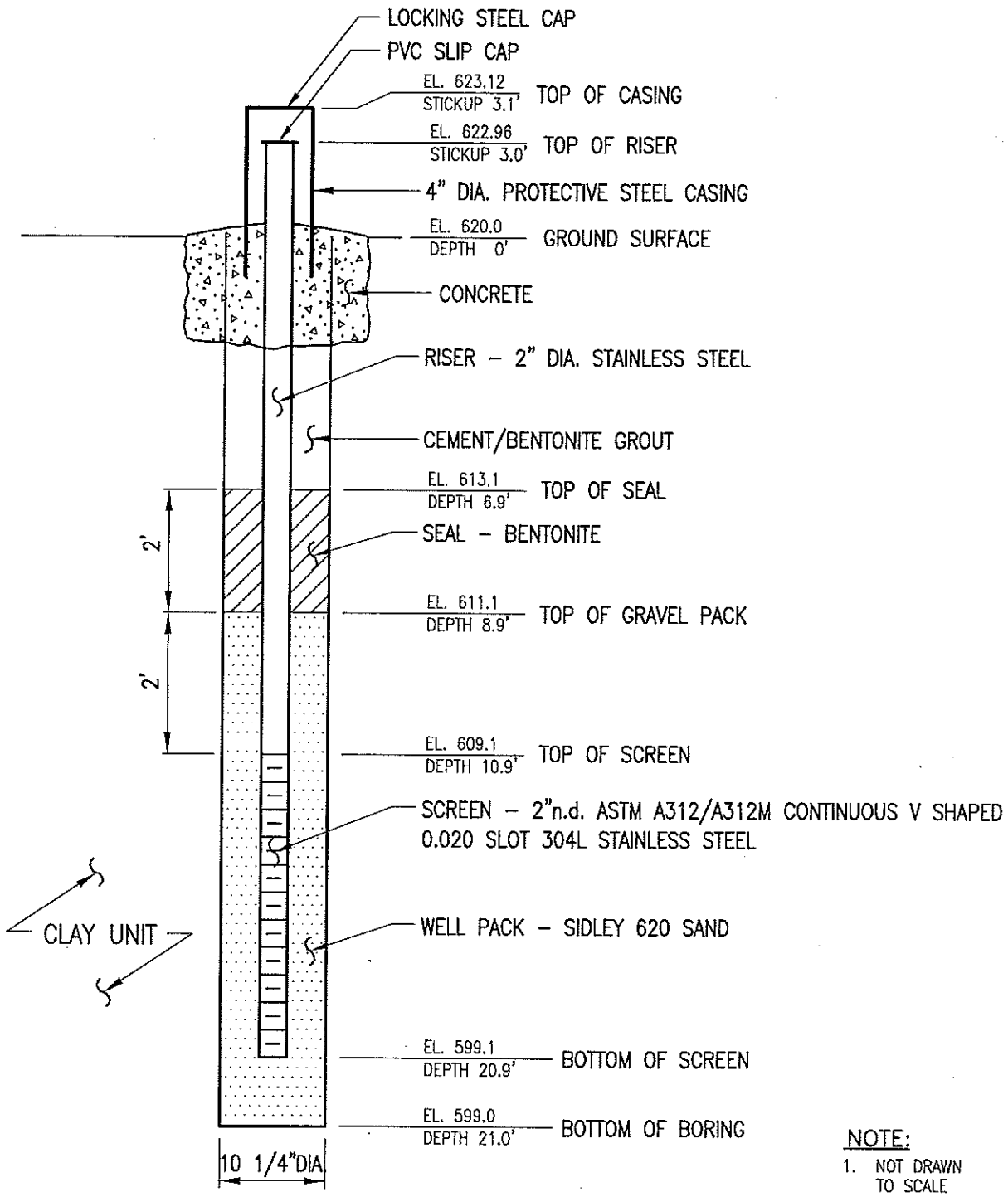


NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK:
NO.	DATE	DRAWING	BEDROCK GROUNDWATER MONITORING WELL DETAIL		FIGURE # MW-12D

MW-13S

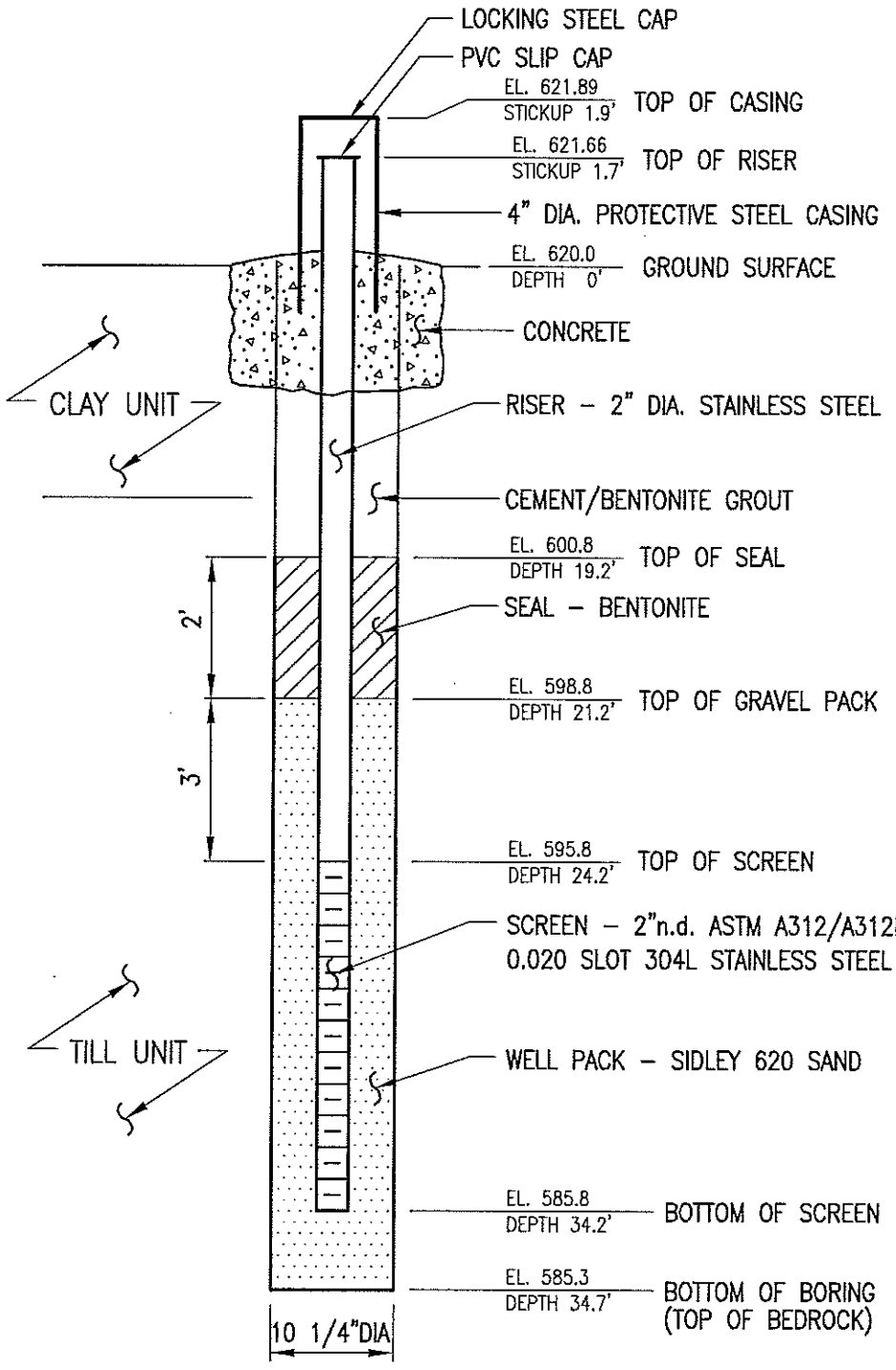


NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.					
NO.	DATE	PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK: FIGURE # MW-13S
		DRAWING	SHALLOW GROUNDWATER MONITORING WELL DETAIL		

MW-13M



NOTE:

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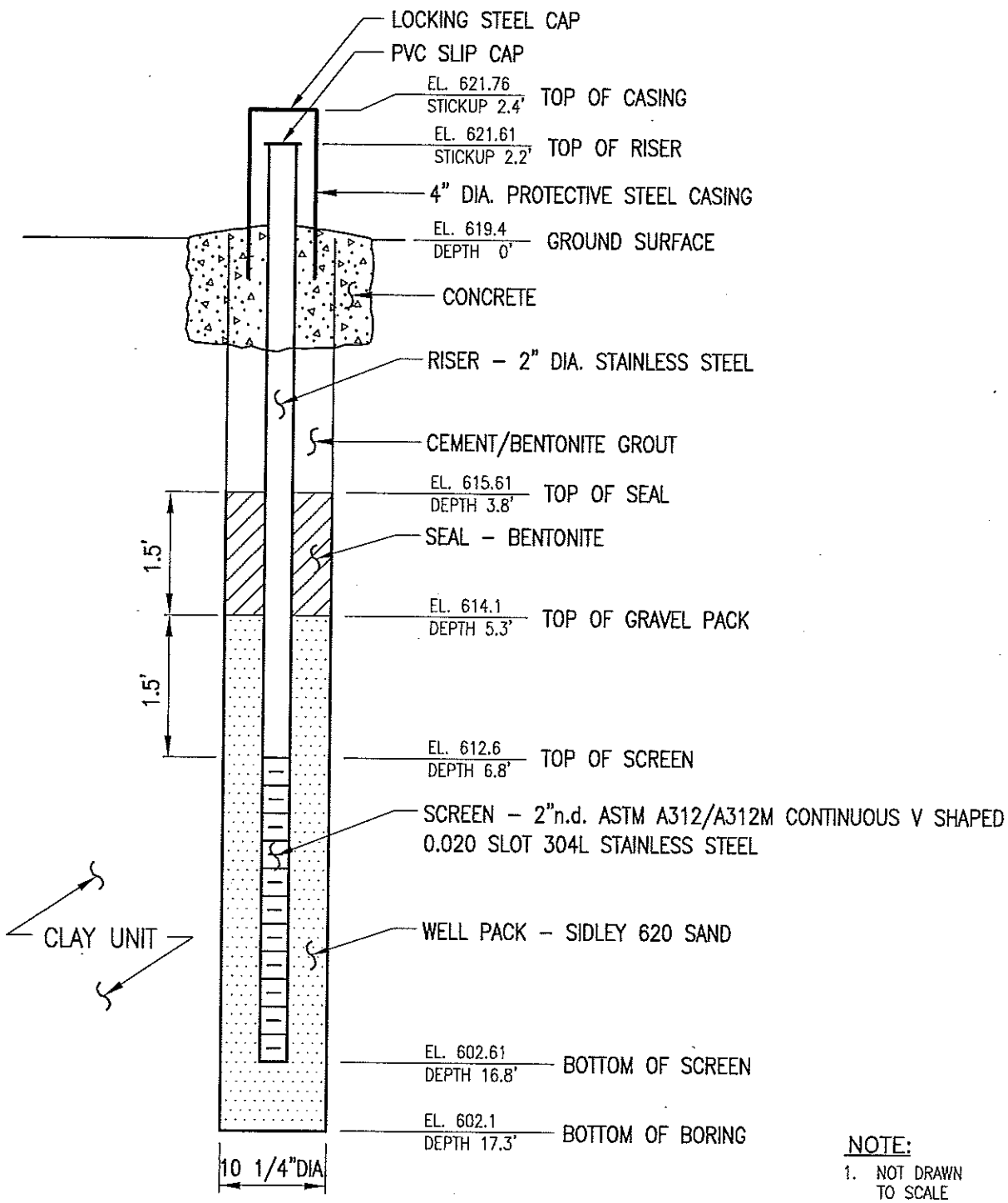
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200
NO.	DATE				FILENAME: 2035200A
		DRAWING	MEDIUM GROUNDWATER MONITORING WELL DETAIL		SCALE: NTS DATE: 1/15/02
					BY: AD CK:
					FIGURE # MW-13M

MW-14S



NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.				
NO.	DATE	PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	
		DRAWING	SHALLOW GROUNDWATER MONITORING WELL DETAIL	

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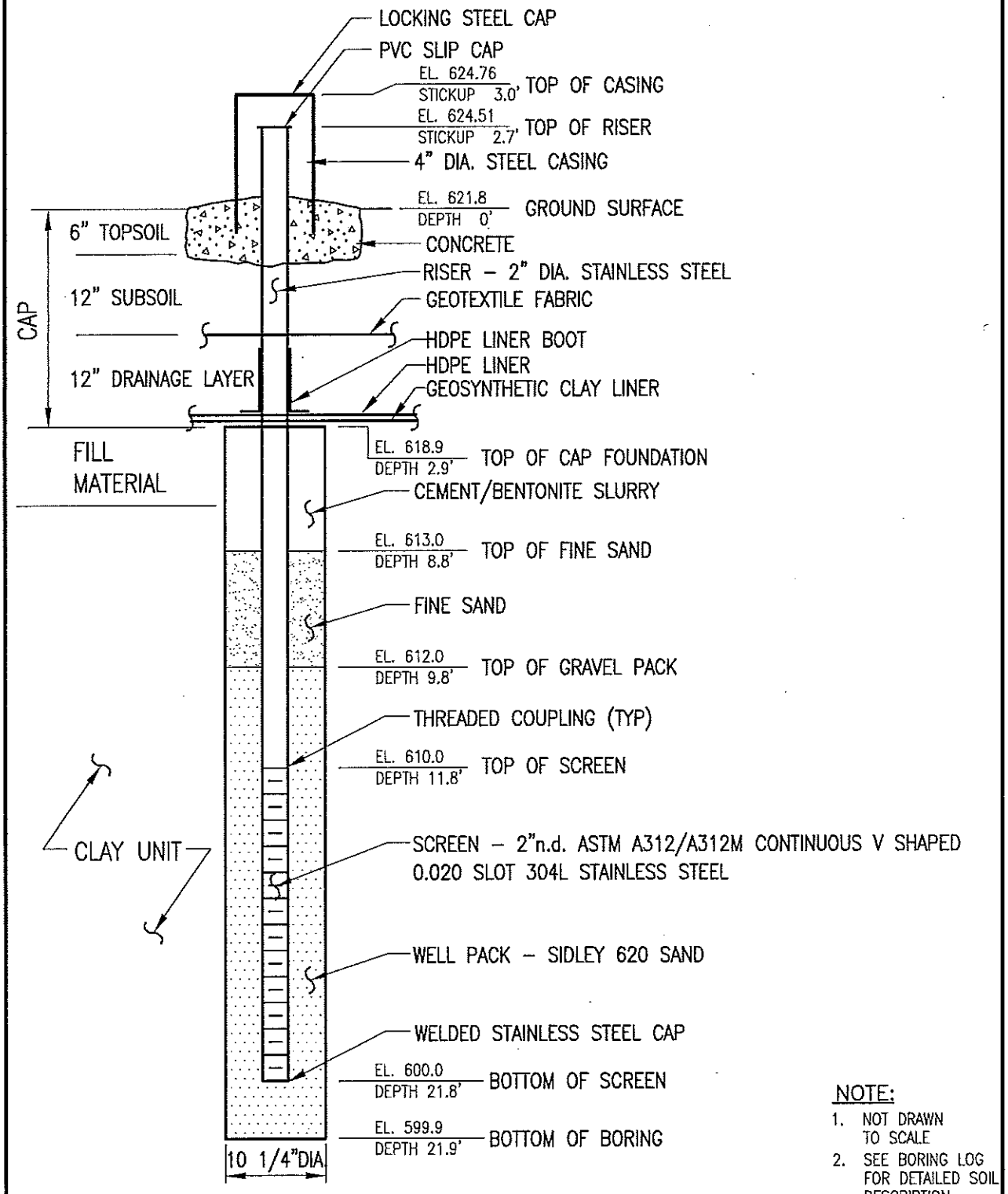
PROJECT #	2011-200
FILENAME:	2035200A
SCALE: NTS	DATE: 1/15/02
BY: AD	CK:
FIGURE #	MW-14S

MW–16



NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.				
NO.	DATE	PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	PROJECT # 2011-200
		DRAWING	GROUNDWATER OBSERVATION WELL DETAIL	FILENAME: 2036200A SCALE: NTS DATE: 1/15/02 BY: AD CK:

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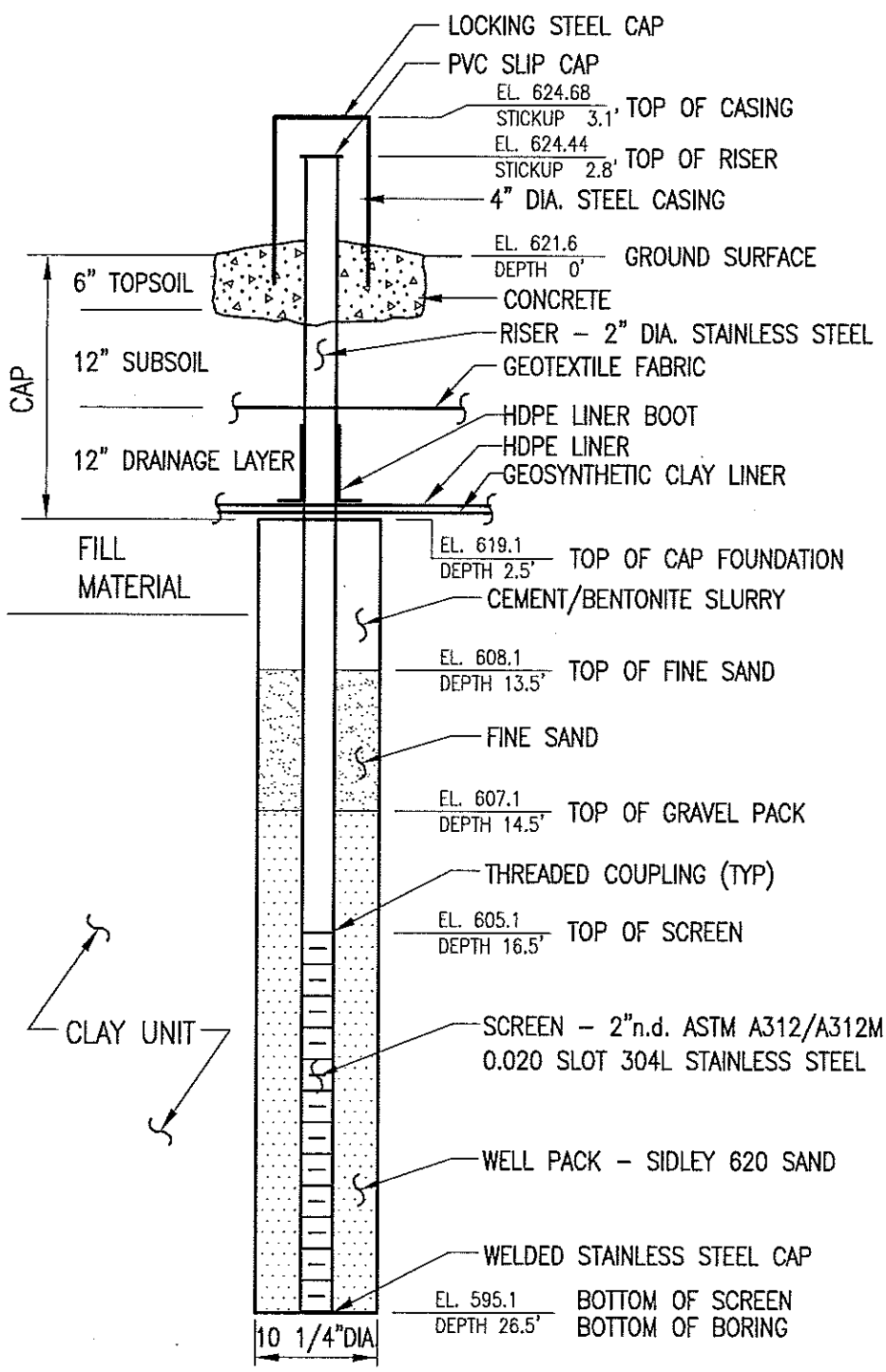
FIGURE # MW–16

MW-17

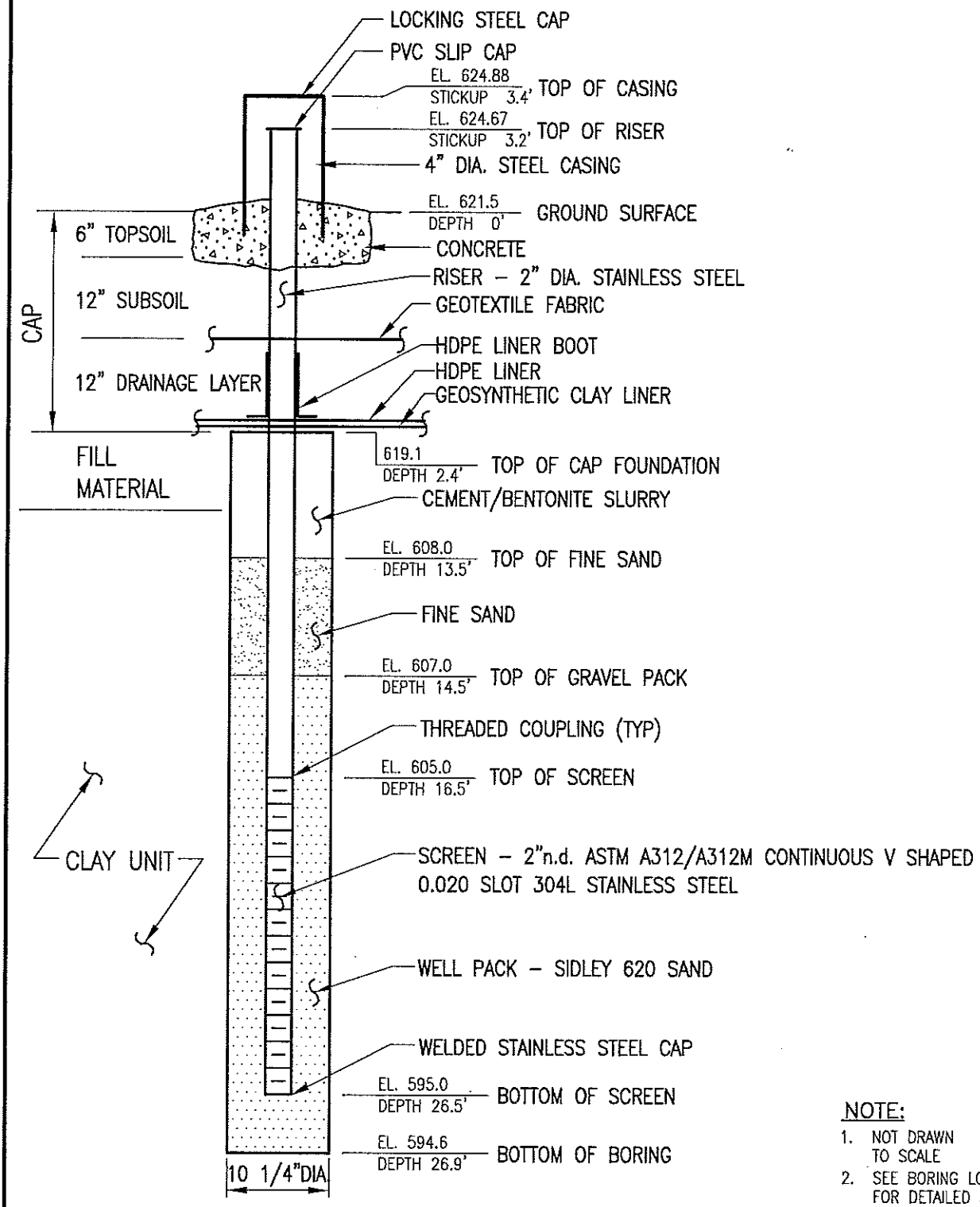


NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.					
NO.	DATE	PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK: FIGURE # MW-17
		DRAWING	GROUNDWATER OBSERVATION WELL DETAIL		

MW–18

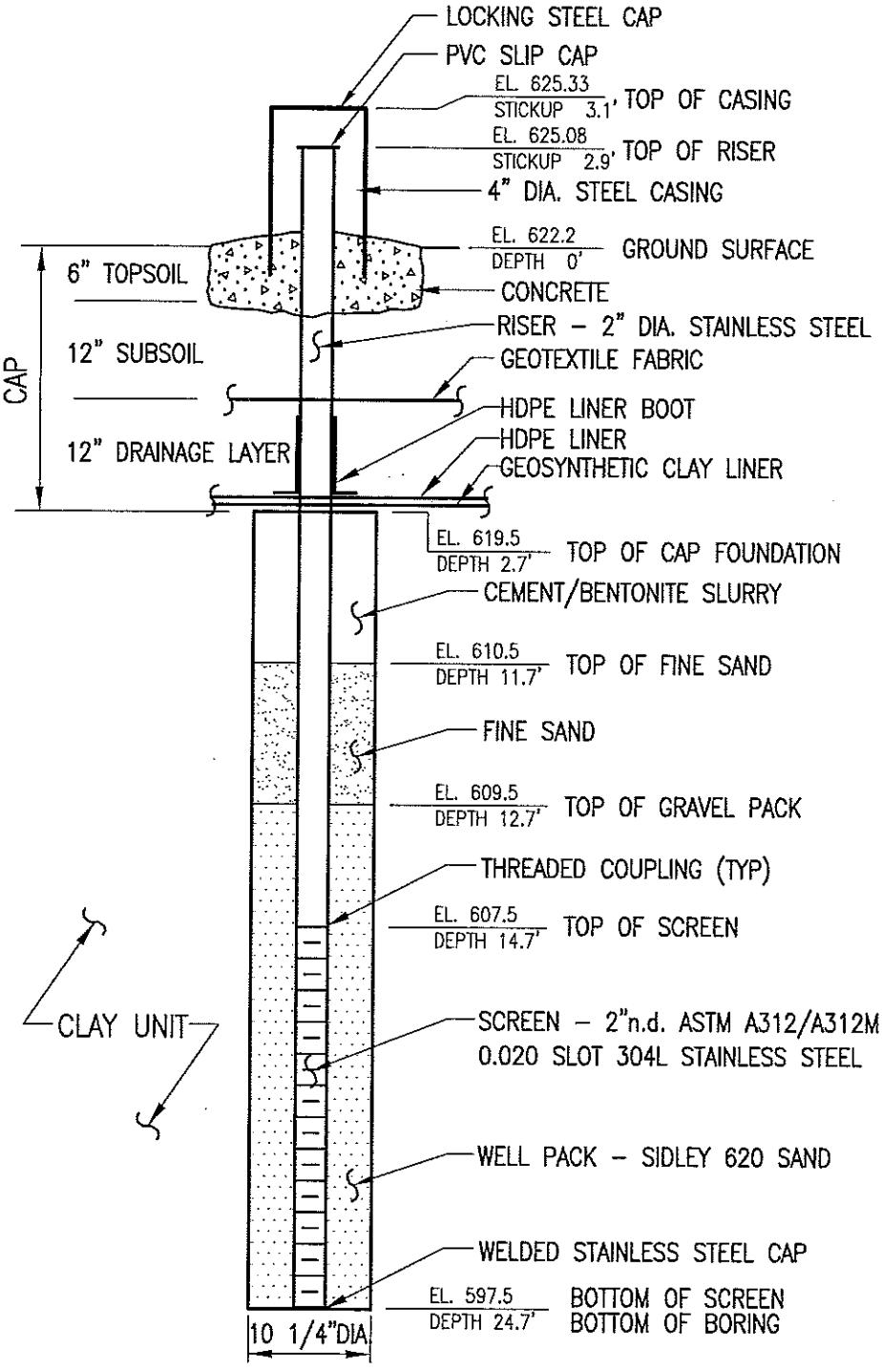


NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT: 2011-200 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK:
NO.	DATE	DRAWING	GROUNDWATER OBSERVATION WELL DETAIL		FIGURE # MW-18

MW–19

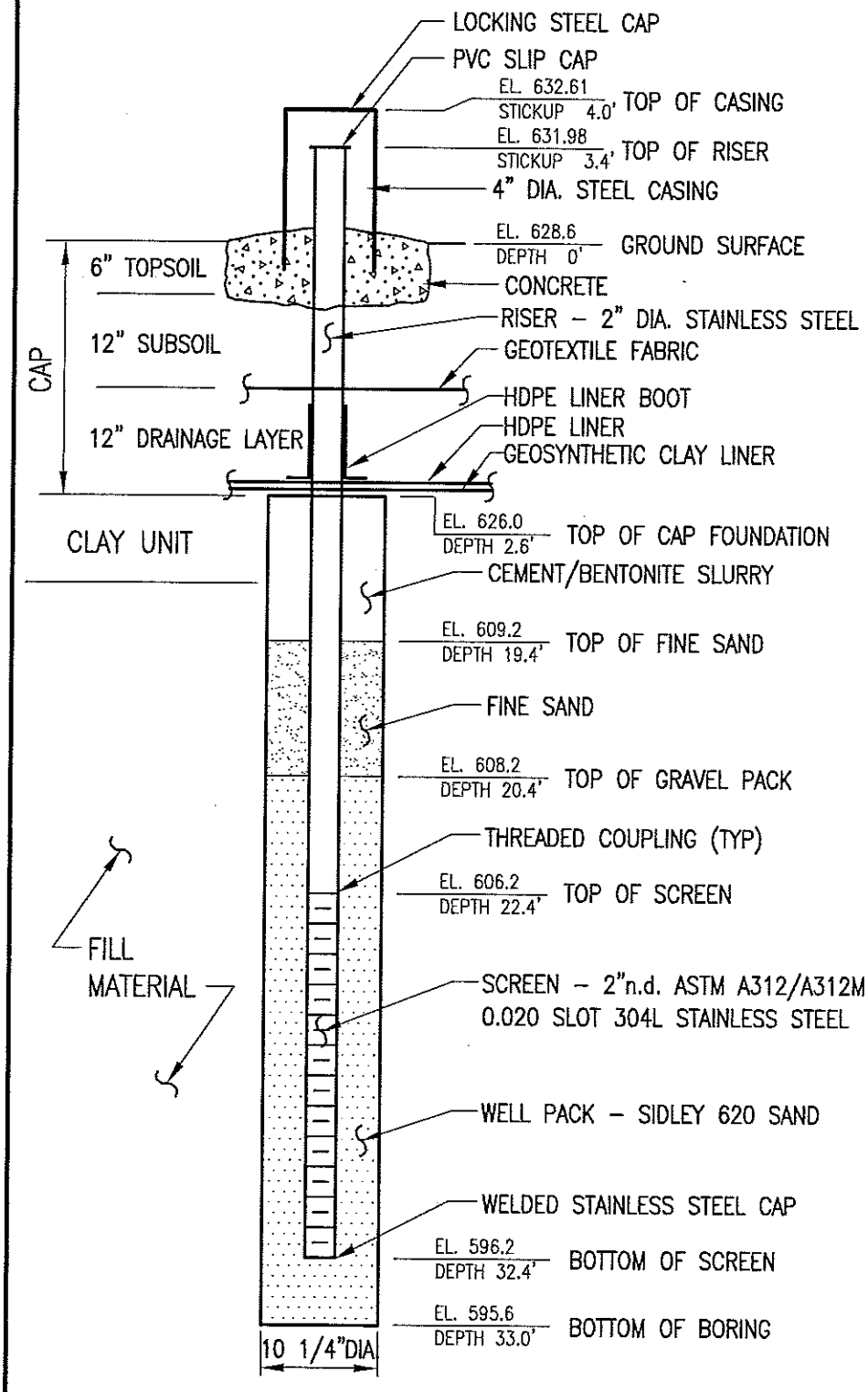


NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK:
NO.	DATE				
		DRAWING	GROUNDWATER OBSERVATION WELL DETAIL		FIGURE # MW–19

MW-20



NOTE:

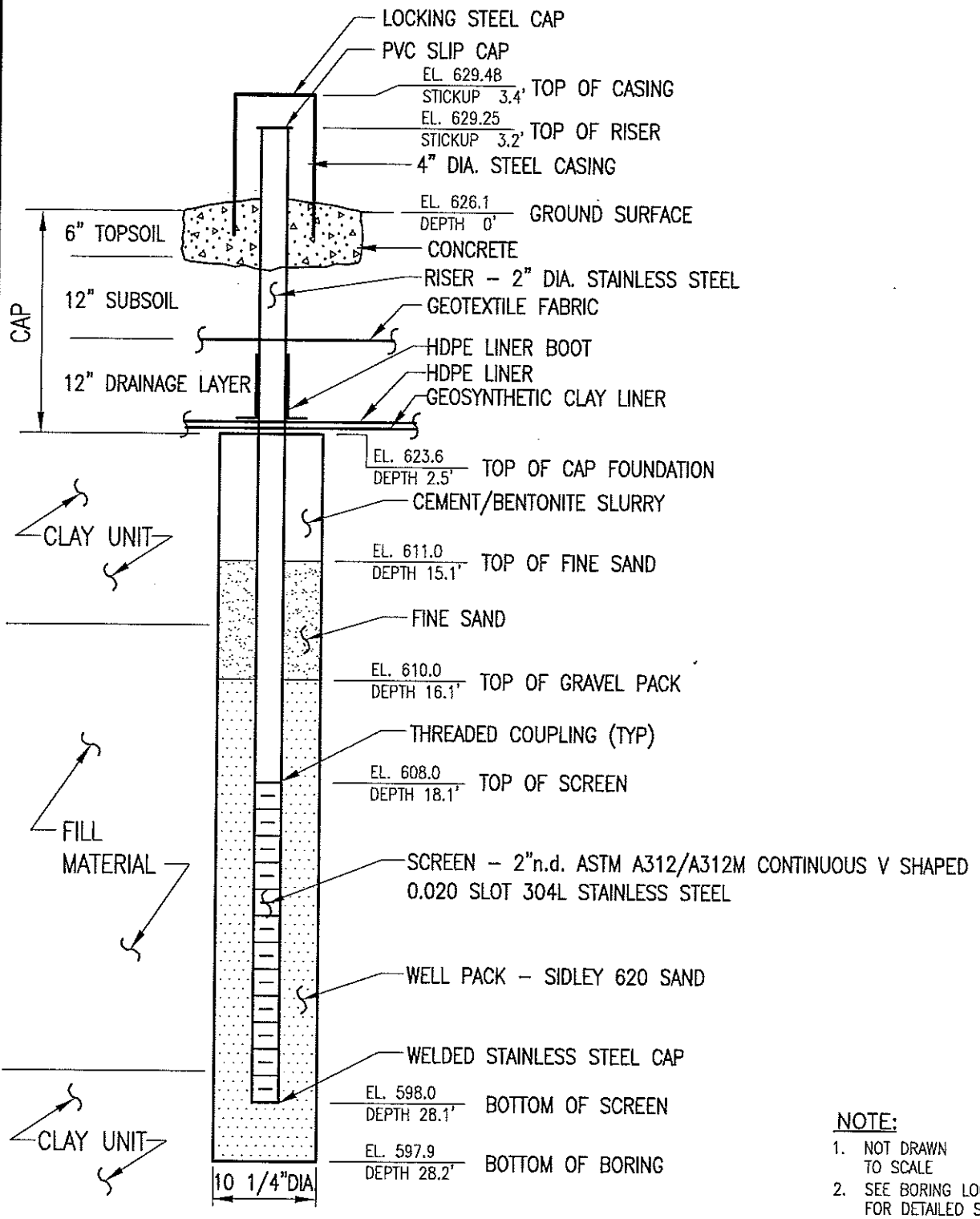
1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.				
NO.	DATE	PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	
		DRAWING	GROUNDWATER OBSERVATION WELL DETAIL	

Unicorn Management Consultants, LLC
52 FEDERAL ROAD
DANBURY, CT
(203) 205-9000

PROJECT #	2011-200
FILENAME:	2035200A
SCALE:	NTS
DATE:	1/15/02
BY:	AD
CK:	
FIGURE #	MW-20

MW-21

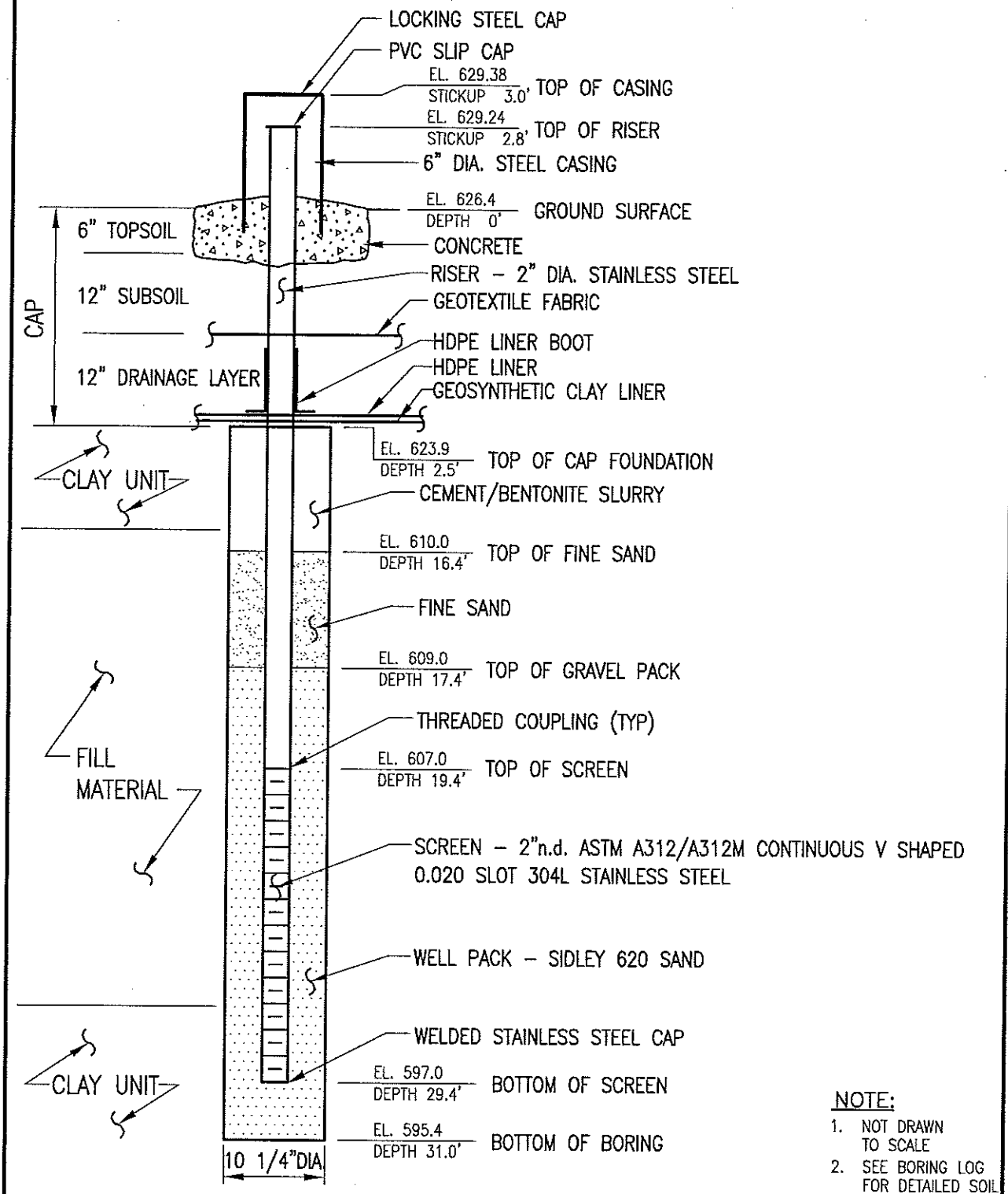


NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK: FIGURE # MW-21
NO.	DATE				
		DRAWING	GROUNDWATER OBSERVATION WELL DETAIL		

MW-22

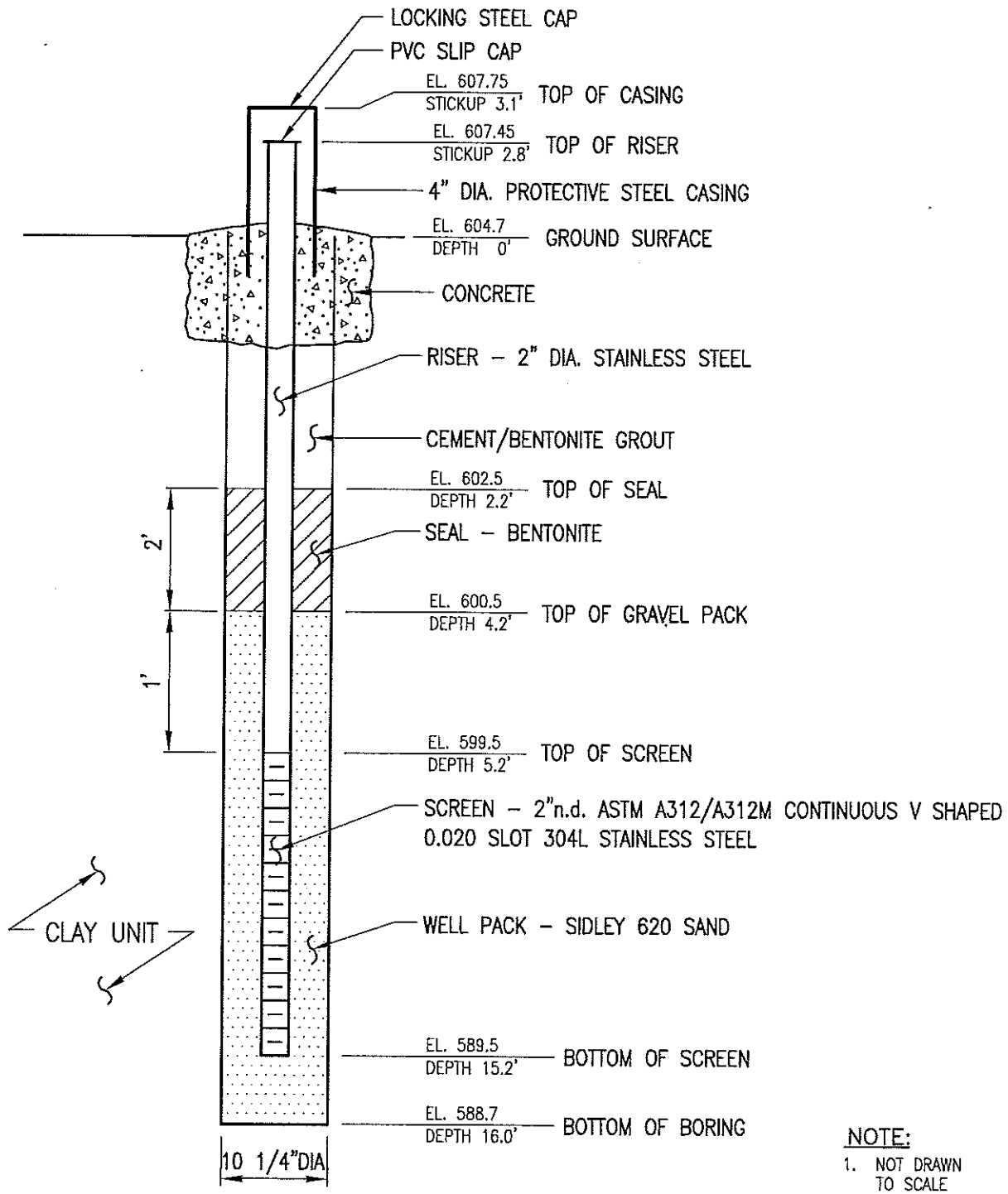


NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200
NO.	DATE				FILENAME: 2036200A
		DRAWING	GROUNDWATER OBSERVATION WELL DETAIL		SCALE: NTS DATE: 1/15/02
					BY: AD CK:
					FIGURE # MW-22

MW-23S



NOTE:

1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

REVISION NO.				
NO.	DATE			
		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	
		DRAWING	SHALLOW GROUNDWATER MONITORING WELL DETAIL	

Unicorn Management Consultants, LLC
52 FEDERAL ROAD
DANBURY, CT
(203) 205-9000

PROJECT #	2011-200
FILENAME:	2035200A
SCALE:	NTS
DATE:	1/15/02
BY:	AD
CK:	
FIGURE #	MW-23S

APPENDIX B

LABORATORY REPORT (ON CD)

Columbia Analytical Services™ 1565 Jefferson Rd, Building 300, Suite 360 | Rochester, NY 14623 | 585-288-5380 | 585-288-8475 fax |

September 12, 2011 Service Request No: R1104718

Mr. Michael O'Connor
Unicorn Management Consultants
52 Federal Road
Suite 2C
Danbury, CT 06810

Laboratory Results for: Union Rd #2011-100

Dear Mr. O'Connor:

Enclosed are the results of the sample(s) submitted to our laboratory on August 24, 2011. For your reference, these analyses have been assigned our service request number **R1104718**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7471. You may also contact me via email at KBunker@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Karen Bunker
Project Manager

COLUMBIA ANALYTICAL SERVICES, INC.

Client:	Unicorn Management Consultants	**Service Request No.:**	R1104718
Project:	Union Rd #2011-100	**Date Received:**	8/23/11
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses.

Sample Receipt

Twelve (12) water samples including one (1) Trip Blank were collected by the client on 8/23/11 were received at Columbia Analytical Services via the client on the 8/24/11. The samples were received within a cooler temperature range of 3.4 - 5.6°C within the 0-6°C guidelines.

Volatile Organic Compounds

Twelve (12) water samples including one (1) Trip Blank were analyzed for Volatile Organics by Method 8260C from SW-846.

The Initial Calibration and Continuing Calibration criteria were met for all samples.

All BFB Tune requirements were met for the method.

Surrogate standard recoveries were within acceptance limits for all samples.

The Laboratory Method Blanks were free from contamination.

Batch QC is included in the report. All Laboratory Control Sample (LCS) recoveries were within limits.

All samples were analyzed within the 14 day holding time from collection to analysis for preserved samples. All vials are checked for preservation after analysis in order to maintain the integrity of the sample. All vials were found to be preserved to a pH of <2.

No other analytical or QC problems were encountered.

Semivolatile Organics

Eleven (11) water samples were analyzed for SemiVolatile Organics by Method 8270D from SW-846.

The Initial Calibration and Continuing Calibration criteria were met for all samples.

All DFTPP Tune requirements were met for the method.

Surrogate standard recoveries were within acceptance limits for all samples.

The Laboratory Method Blanks were free from contamination.

Batch QC is included in the report. All Laboratory Control Sample (LCS) and LCS Duplicate (LCSD) recoveries were within limits. All Relative Percent Difference (RPD) calculations were acceptable.

All samples were extracted and analyzed within the proper holding time for the method.

No other analytical or QC problems were encountered.

Approved by _____ **Date** 9/14/11

Inorganic Parameters

Eleven (11) water samples were analyzed for Oil & Grease by method 1664 and Dissovled Metals by ICP method 6010C. The Metals were filtered in the laboratory.

Initial and Continuing Calibration Criteria was met for all analyses.

Batch QC is included in the report. All LCS and LCSD (1664 only) recoveries were acceptable. All RPD calculations were within QC limits.

All holding times were met for the analyses of these samples.

All Laboratory Method Blanks were free from contamination.

No problems were encountered during the analysis of these samples.

Approved by Karen Rencher Date 9/14/11

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1104718

Lab ID	Client ID
R1104718-001	MW-10S-2011
R1104718-002	MW-10S-2011 Dissolved
R1104718-003	MW-10M-2011
R1104718-004	MW-10M-2011 Dissolved
R1104718-005	MW-10D-2011
R1104718-006	MW-10D-2011 Dissolved
R1104718-007	MW-11S-2011
R1104718-008	MW-11S-2011 Dissolved
R1104718-009	MW-11M-2011
R1104718-010	MW-11M-2011 Dissolved
R1104718-011	MW-12S-2011
R1104718-012	MW-12S-2011 Dissolved
R1104718-013	MW-12M-2011
R1104718-014	MW-12M-2011 Dissolved
R1104718-015	MW-12D-2011
R1104718-016	MW-12D-2011 Dissolved
R1104718-017	MW-13S-2011
R1104718-018	MW-13S-2011 Dissolved
R1104718-019	MW-13M-2011
R1104718-020	MW-13M-2011 Dissolved
R1104718-021	MW-14S-2011
R1104718-022	MW-14S-2011 Dissolved
R1104718-023	Trip Blank-2011

Columbia Analytical Services INC

REPORT QUALIFIERS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the "Notes" column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an "immediate" hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% (25% for CLP) difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).
X	See Case Narrative for discussion.

CAS/Rochester Lab ID # for State Certifications[1]

NELAP Accredited
Connecticut ID # PH0556
Delaware Accredited
DoD ELAP #65817
Florida ID # E87674
Illinois ID #200047
Maine ID #NY0032
Nebraska Accredited
Nevada ID # NY-00032
New Jersey ID # NY004
New York ID # 10145
New Hampshire ID # 294100 A/B
Pennsylvania ID# 68-786
Rhode Island ID # 158

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to the certifications section at www.caslab.com.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1500
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-10S-2011		
Lab Code:	R1104718-001	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	9/6/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1500
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-10S-2011 Dissolved		
Lab Code:	R1104718-002	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	µg/L	10	1	9/ 7/11	9/8/11 19:17	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/ 7/11	9/8/11 19:17	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1500
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/30/11 18:04
Sample Name:	MW-10S-2011	**Units:**	µg/L
Lab Code:	R1104718-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4463.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1500
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/30/11 18:04
Sample Name:	MW-10S-2011	**Units:**	µg/L
Lab Code:	R1104718-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4463.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85-122	8/30/11 18:04	
Toluene-d8	104	87-121	8/30/11 18:04	
Dibromofluoromethane	109	89-119	8/30/11 18:04	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1500
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 13:37
Sample Name:	MW-10S-2011	**Units:**	µg/L
Lab Code:	R1104718-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH628.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	9.4	U	9.4	
95-50-1	1,2-Dichlorobenzene	9.4	U	9.4	
541-73-1	1,3-Dichlorobenzene	9.4	U	9.4	
106-46-7	1,4-Dichlorobenzene	9.4	U	9.4	
95-95-4	2,4,5-Trichlorophenol	9.4	U	9.4	
88-06-2	2,4,6-Trichlorophenol	9.4	U	9.4	
120-83-2	2,4-Dichlorophenol	9.4	U	9.4	
105-67-9	2,4-Dimethylphenol	9.4	U	9.4	
51-28-5	2,4-Dinitrophenol	47	U	47	
121-14-2	2,4-Dinitrotoluene	9.4	U	9.4	
606-20-2	2,6-Dinitrotoluene	9.4	U	9.4	
91-58-7	2-Chloronaphthalene	9.4	U	9.4	
95-57-8	2-Chlorophenol	9.4	U	9.4	
91-57-6	2-Methylnaphthalene	9.4	U	9.4	
95-48-7	2-Methylphenol	9.4	U	9.4	
88-74-4	2-Nitroaniline	47	U	47	
88-75-5	2-Nitrophenol	9.4	U	9.4	
91-94-1	3,3'-Dichlorobenzidine	9.4	U	9.4	
	3- and 4-Methylphenol Coelution	9.4	U	9.4	
99-09-2	3-Nitroaniline	47	U	47	
534-52-1	4,6-Dinitro-2-methylphenol	47	U	47	
101-55-3	4-Bromophenyl Phenyl Ether	9.4	U	9.4	
59-50-7	4-Chloro-3-methylphenol	9.4	U	9.4	
106-47-8	4-Chloroaniline	9.4	U	9.4	
7005-72-3	4-Chlorophenyl Phenyl Ether	9.4	U	9.4	
100-01-6	4-Nitroaniline	47	U	47	
100-02-7	4-Nitrophenol	47	U	47	
83-32-9	Acenaphthene	9.4	U	9.4	
208-96-8	Acenaphthylene	9.4	U	9.4	
120-12-7	Anthracene	9.4	U	9.4	
56-55-3	Benz(a)anthracene	9.4	U	9.4	
50-32-8	Benzo(a)pyrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1500
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 13:37
Sample Name:	MW-10S-2011	**Units:**	µg/L
Lab Code:	R1104718-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH628.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	
191-24-2	Benzo(g,h,i)perylene	9.4	U	9.4	
207-08-9	Benzo(k)fluoranthene	9.4	U	9.4	
100-51-6	Benzyl Alcohol	9.4	U	9.4	
108-60-1	2,2'-Oxybis(1-chloropropane)	9.4	U	9.4	
111-91-1	Bis(2-chloroethoxy)methane	9.4	U	9.4	
111-44-4	Bis(2-chloroethyl) Ether	9.4	U	9.4	
117-81-7	Bis(2-ethylhexyl) Phthalate	9.4	U	9.4	
85-68-7	Butyl Benzyl Phthalate	9.4	U	9.4	
86-74-8	Carbazole	9.4	U	9.4	
218-01-9	Chrysene	9.4	U	9.4	
84-74-2	Di-n-butyl Phthalate	9.4	U	9.4	
117-84-0	Di-n-octyl Phthalate	9.4	U	9.4	
53-70-3	Dibenz(a,h)anthracene	9.4	U	9.4	
132-64-9	Dibenzofuran	9.4	U	9.4	
84-66-2	Diethyl Phthalate	9.4	U	9.4	
131-11-3	Dimethyl Phthalate	9.4	U	9.4	
206-44-0	Fluoranthene	9.4	U	9.4	
86-73-7	Fluorene	9.4	U	9.4	
118-74-1	Hexachlorobenzene	9.4	U	9.4	
87-68-3	Hexachlorobutadiene	9.4	U	9.4	
77-47-4	Hexachlorocyclopentadiene	9.4	U	9.4	
67-72-1	Hexachloroethane	9.4	U	9.4	
193-39-5	Indeno(1,2,3-cd)pyrene	9.4	U	9.4	
78-59-1	Isophorone	9.4	U	9.4	
621-64-7	N-Nitrosodi-n-propylamine	9.4	U	9.4	
62-75-9	N-Nitrosodimethylamine	9.4	U	9.4	
86-30-6	N-Nitrosodiphenylamine	9.4	U	9.4	
91-20-3	Naphthalene	9.4	U	9.4	
98-95-3	Nitrobenzene	9.4	U	9.4	
87-86-5	Pentachlorophenol (PCP)	47	U	47	
85-01-8	Phenanthrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1500
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 13:37
Sample Name:	MW-10S-2011	**Units:**	µg/L
Lab Code:	R1104718-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH628.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
108-95-2	Phenol	9.4	U	9.4	
129-00-0	Pyrene	9.4	U	9.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	106	28-157	8/31/11 13:37	
2-Fluorobiphenyl	75	39-119	8/31/11 13:37	
2-Fluorophenol	43	10-105	8/31/11 13:37	
Nitrobenzene-d5	77	37-117	8/31/11 13:37	
Phenol-d6	27	10-107	8/31/11 13:37	
p-Terphenyl-d14	88	40-133	8/31/11 13:37	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1515
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-10M-2011		
Lab Code:	R1104718-003	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	9/6/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1515
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-10M-2011 Dissolved		
Lab Code:	R1104718-004	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	µg/L	10	1	9/ 7/11	9/8/11 19:55	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/ 7/11	9/8/11 19:55	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1515
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/30/11 18:34
Sample Name:	MW-10M-2011	**Units:**	µg/L
Lab Code:	R1104718-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4464.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1515
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/30/11 18:34
Sample Name:	MW-10M-2011	**Units:**	µg/L
Lab Code:	R1104718-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4464.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	8/30/11 18:34	
Toluene-d8	105	87-121	8/30/11 18:34	
Dibromofluoromethane	108	89-119	8/30/11 18:34	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1515
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 14:18
Sample Name:	MW-10M-2011	**Units:**	µg/L
Lab Code:	R1104718-003	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH629.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	9.4	U	9.4	
95-50-1	1,2-Dichlorobenzene	9.4	U	9.4	
541-73-1	1,3-Dichlorobenzene	9.4	U	9.4	
106-46-7	1,4-Dichlorobenzene	9.4	U	9.4	
95-95-4	2,4,5-Trichlorophenol	9.4	U	9.4	
88-06-2	2,4,6-Trichlorophenol	9.4	U	9.4	
120-83-2	2,4-Dichlorophenol	9.4	U	9.4	
105-67-9	2,4-Dimethylphenol	9.4	U	9.4	
51-28-5	2,4-Dinitrophenol	47	U	47	
121-14-2	2,4-Dinitrotoluene	9.4	U	9.4	
606-20-2	2,6-Dinitrotoluene	9.4	U	9.4	
91-58-7	2-Chloronaphthalene	9.4	U	9.4	
95-57-8	2-Chlorophenol	9.4	U	9.4	
91-57-6	2-Methylnaphthalene	9.4	U	9.4	
95-48-7	2-Methylphenol	9.4	U	9.4	
88-74-4	2-Nitroaniline	47	U	47	
88-75-5	2-Nitrophenol	9.4	U	9.4	
91-94-1	3,3'-Dichlorobenzidine	9.4	U	9.4	
	3- and 4-Methylphenol Coelution	9.4	U	9.4	
99-09-2	3-Nitroaniline	47	U	47	
534-52-1	4,6-Dinitro-2-methylphenol	47	U	47	
101-55-3	4-Bromophenyl Phenyl Ether	9.4	U	9.4	
59-50-7	4-Chloro-3-methylphenol	9.4	U	9.4	
106-47-8	4-Chloroaniline	9.4	U	9.4	
7005-72-3	4-Chlorophenyl Phenyl Ether	9.4	U	9.4	
100-01-6	4-Nitroaniline	47	U	47	
100-02-7	4-Nitrophenol	47	U	47	
83-32-9	Acenaphthene	9.4	U	9.4	
208-96-8	Acenaphthylene	9.4	U	9.4	
120-12-7	Anthracene	9.4	U	9.4	
56-55-3	Benz(a)anthracene	9.4	U	9.4	
50-32-8	Benzo(a)pyrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1515
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 14:18
Sample Name:	MW-10M-2011	**Units:**	µg/L
Lab Code:	R1104718-003	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH629.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	
191-24-2	Benzo(g,h,i)perylene	9.4	U	9.4	
207-08-9	Benzo(k)fluoranthene	9.4	U	9.4	
100-51-6	Benzyl Alcohol	9.4	U	9.4	
108-60-1	2,2'-Oxybis(1-chloropropane)	9.4	U	9.4	
111-91-1	Bis(2-chloroethoxy)methane	9.4	U	9.4	
111-44-4	Bis(2-chloroethyl) Ether	9.4	U	9.4	
117-81-7	Bis(2-ethylhexyl) Phthalate	9.4	U	9.4	
85-68-7	Butyl Benzyl Phthalate	9.4	U	9.4	
86-74-8	Carbazole	9.4	U	9.4	
218-01-9	Chrysene	9.4	U	9.4	
84-74-2	Di-n-butyl Phthalate	9.4	U	9.4	
117-84-0	Di-n-octyl Phthalate	9.4	U	9.4	
53-70-3	Dibenz(a,h)anthracene	9.4	U	9.4	
132-64-9	Dibenzofuran	9.4	U	9.4	
84-66-2	Diethyl Phthalate	9.4	U	9.4	
131-11-3	Dimethyl Phthalate	9.4	U	9.4	
206-44-0	Fluoranthene	9.4	U	9.4	
86-73-7	Fluorene	9.4	U	9.4	
118-74-1	Hexachlorobenzene	9.4	U	9.4	
87-68-3	Hexachlorobutadiene	9.4	U	9.4	
77-47-4	Hexachlorocyclopentadiene	9.4	U	9.4	
67-72-1	Hexachloroethane	9.4	U	9.4	
193-39-5	Indeno(1,2,3-cd)pyrene	9.4	U	9.4	
78-59-1	Isophorone	9.4	U	9.4	
621-64-7	N-Nitrosodi-n-propylamine	9.4	U	9.4	
62-75-9	N-Nitrosodimethylamine	9.4	U	9.4	
86-30-6	N-Nitrosodiphenylamine	9.4	U	9.4	
91-20-3	Naphthalene	9.4	U	9.4	
98-95-3	Nitrobenzene	9.4	U	9.4	
87-86-5	Pentachlorophenol (PCP)	47	U	47	
85-01-8	Phenanthrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1515
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 14:18
Sample Name:	MW-10M-2011	**Units:**	µg/L
Lab Code:	R1104718-003	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH629.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
108-95-2	Phenol	9.4	U	9.4	
129-00-0	Pyrene	9.4	U	9.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	102	28-157	8/31/11 14:18	
2-Fluorobiphenyl	73	39-119	8/31/11 14:18	
2-Fluorophenol	44	10-105	8/31/11 14:18	
Nitrobenzene-d5	73	37-117	8/31/11 14:18	
Phenol-d6	26	10-107	8/31/11 14:18	
p-Terphenyl-d14	80	40-133	8/31/11 14:18	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1530
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-10D-2011		
Lab Code:	R1104718-005	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	9/6/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1530
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-10D-2011 Dissolved		
Lab Code:	R1104718-006	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	µg/L	10	1	9/ 7/11	9/8/11 20:01	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/ 7/11	9/8/11 20:01	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1530
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/30/11 19:04
Sample Name:	MW-10D-2011	**Units:**	µg/L
Lab Code:	R1104718-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4465.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1530
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/30/11 19:04
Sample Name:	MW-10D-2011	**Units:**	µg/L
Lab Code:	R1104718-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4465.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	8/30/11 19:04	
Toluene-d8	107	87-121	8/30/11 19:04	
Dibromofluoromethane	110	89-119	8/30/11 19:04	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1530
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 15:00
Sample Name:	MW-10D-2011	**Units:**	µg/L
Lab Code:	R1104718-005	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH630.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	9.4	U	9.4	
95-50-1	1,2-Dichlorobenzene	9.4	U	9.4	
541-73-1	1,3-Dichlorobenzene	9.4	U	9.4	
106-46-7	1,4-Dichlorobenzene	9.4	U	9.4	
95-95-4	2,4,5-Trichlorophenol	9.4	U	9.4	
88-06-2	2,4,6-Trichlorophenol	9.4	U	9.4	
120-83-2	2,4-Dichlorophenol	9.4	U	9.4	
105-67-9	2,4-Dimethylphenol	9.4	U	9.4	
51-28-5	2,4-Dinitrophenol	47	U	47	
121-14-2	2,4-Dinitrotoluene	9.4	U	9.4	
606-20-2	2,6-Dinitrotoluene	9.4	U	9.4	
91-58-7	2-Chloronaphthalene	9.4	U	9.4	
95-57-8	2-Chlorophenol	9.4	U	9.4	
91-57-6	2-Methylnaphthalene	9.4	U	9.4	
95-48-7	2-Methylphenol	9.4	U	9.4	
88-74-4	2-Nitroaniline	47	U	47	
88-75-5	2-Nitrophenol	9.4	U	9.4	
91-94-1	3,3'-Dichlorobenzidine	9.4	U	9.4	
	3- and 4-Methylphenol Coelution	9.4	U	9.4	
99-09-2	3-Nitroaniline	47	U	47	
534-52-1	4,6-Dinitro-2-methylphenol	47	U	47	
101-55-3	4-Bromophenyl Phenyl Ether	9.4	U	9.4	
59-50-7	4-Chloro-3-methylphenol	9.4	U	9.4	
106-47-8	4-Chloroaniline	9.4	U	9.4	
7005-72-3	4-Chlorophenyl Phenyl Ether	9.4	U	9.4	
100-01-6	4-Nitroaniline	47	U	47	
100-02-7	4-Nitrophenol	47	U	47	
83-32-9	Acenaphthene	9.4	U	9.4	
208-96-8	Acenaphthylene	9.4	U	9.4	
120-12-7	Anthracene	9.4	U	9.4	
56-55-3	Benz(a)anthracene	9.4	U	9.4	
50-32-8	Benzo(a)pyrene	9.4	U	9.4	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1530
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 15:00
Sample Name:	MW-10D-2011	**Units:**	µg/L
Lab Code:	R1104718-005	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH630.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	
191-24-2	Benzo(g,h,i)perylene	9.4	U	9.4	
207-08-9	Benzo(k)fluoranthene	9.4	U	9.4	
100-51-6	Benzyl Alcohol	9.4	U	9.4	
108-60-1	2,2'-Oxybis(1-chloropropane)	9.4	U	9.4	
111-91-1	Bis(2-chloroethoxy)methane	9.4	U	9.4	
111-44-4	Bis(2-chloroethyl) Ether	9.4	U	9.4	
117-81-7	Bis(2-ethylhexyl) Phthalate	9.4	U	9.4	
85-68-7	Butyl Benzyl Phthalate	9.4	U	9.4	
86-74-8	Carbazole	9.4	U	9.4	
218-01-9	Chrysene	9.4	U	9.4	
84-74-2	Di-n-butyl Phthalate	9.4	U	9.4	
117-84-0	Di-n-octyl Phthalate	9.4	U	9.4	
53-70-3	Dibenz(a,h)anthracene	9.4	U	9.4	
132-64-9	Dibenzofuran	9.4	U	9.4	
84-66-2	Diethyl Phthalate	9.4	U	9.4	
131-11-3	Dimethyl Phthalate	9.4	U	9.4	
206-44-0	Fluoranthene	9.4	U	9.4	
86-73-7	Fluorene	9.4	U	9.4	
118-74-1	Hexachlorobenzene	9.4	U	9.4	
87-68-3	Hexachlorobutadiene	9.4	U	9.4	
77-47-4	Hexachlorocyclopentadiene	9.4	U	9.4	
67-72-1	Hexachloroethane	9.4	U	9.4	
193-39-5	Indeno(1,2,3-cd)pyrene	9.4	U	9.4	
78-59-1	Isophorone	9.4	U	9.4	
621-64-7	N-Nitrosodi-n-propylamine	9.4	U	9.4	
62-75-9	N-Nitrosodimethylamine	9.4	U	9.4	
86-30-6	N-Nitrosodiphenylamine	9.4	U	9.4	
91-20-3	Naphthalene	9.4	U	9.4	
98-95-3	Nitrobenzene	9.4	U	9.4	
87-86-5	Pentachlorophenol (PCP)	47	U	47	
85-01-8	Phenanthrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1530
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 15:00
Sample Name:	MW-10D-2011	**Units:**	µg/L
Lab Code:	R1104718-005	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH630.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
108-95-2	Phenol	9.4	U	9.4	
129-00-0	Pyrene	9.4	U	9.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	104	28-157	8/31/11 15:00	
2-Fluorobiphenyl	81	39-119	8/31/11 15:00	
2-Fluorophenol	47	10-105	8/31/11 15:00	
Nitrobenzene-d5	81	37-117	8/31/11 15:00	
Phenol-d6	28	10-107	8/31/11 15:00	
p-Terphenyl-d14	89	40-133	8/31/11 15:00	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1545
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-11S-2011		
Lab Code:	R1104718-007	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	9/6/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1545
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-11S-2011 Dissolved		
Lab Code:	R1104718-008	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	µg/L	10	1	9/ 7/11	9/8/11 20:06	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/ 7/11	9/8/11 20:06	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1545
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/30/11 19:34
Sample Name:	MW-11S-2011	**Units:**	µg/L
Lab Code:	R1104718-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4466.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1545
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/30/11 19:34
Sample Name:	MW-11S-2011	**Units:**	µg/L
Lab Code:	R1104718-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4466.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85-122	8/30/11 19:34	
Toluene-d8	106	87-121	8/30/11 19:34	
Dibromofluoromethane	109	89-119	8/30/11 19:34	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1545
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 15:41
Sample Name:	MW-11S-2011	**Units:**	µg/L
Lab Code:	R1104718-007	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH631.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	9.4	U	9.4	
95-50-1	1,2-Dichlorobenzene	9.4	U	9.4	
541-73-1	1,3-Dichlorobenzene	9.4	U	9.4	
106-46-7	1,4-Dichlorobenzene	9.4	U	9.4	
95-95-4	2,4,5-Trichlorophenol	9.4	U	9.4	
88-06-2	2,4,6-Trichlorophenol	9.4	U	9.4	
120-83-2	2,4-Dichlorophenol	9.4	U	9.4	
105-67-9	2,4-Dimethylphenol	9.4	U	9.4	
51-28-5	2,4-Dinitrophenol	47	U	47	
121-14-2	2,4-Dinitrotoluene	9.4	U	9.4	
606-20-2	2,6-Dinitrotoluene	9.4	U	9.4	
91-58-7	2-Chloronaphthalene	9.4	U	9.4	
95-57-8	2-Chlorophenol	9.4	U	9.4	
91-57-6	2-Methylnaphthalene	9.4	U	9.4	
95-48-7	2-Methylphenol	9.4	U	9.4	
88-74-4	2-Nitroaniline	47	U	47	
88-75-5	2-Nitrophenol	9.4	U	9.4	
91-94-1	3,3'-Dichlorobenzidine	9.4	U	9.4	
	3- and 4-Methylphenol Coelution	9.4	U	9.4	
99-09-2	3-Nitroaniline	47	U	47	
534-52-1	4,6-Dinitro-2-methylphenol	47	U	47	
101-55-3	4-Bromophenyl Phenyl Ether	9.4	U	9.4	
59-50-7	4-Chloro-3-methylphenol	9.4	U	9.4	
106-47-8	4-Chloroaniline	9.4	U	9.4	
7005-72-3	4-Chlorophenyl Phenyl Ether	9.4	U	9.4	
100-01-6	4-Nitroaniline	47	U	47	
100-02-7	4-Nitrophenol	47	U	47	
83-32-9	Acenaphthene	9.4	U	9.4	
208-96-8	Acenaphthylene	9.4	U	9.4	
120-12-7	Anthracene	9.4	U	9.4	
56-55-3	Benz(a)anthracene	9.4	U	9.4	
50-32-8	Benzo(a)pyrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1545
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 15:41
Sample Name:	MW-11S-2011	**Units:**	µg/L
Lab Code:	R1104718-007	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH631.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	
191-24-2	Benzo(g,h,i)perylene	9.4	U	9.4	
207-08-9	Benzo(k)fluoranthene	9.4	U	9.4	
100-51-6	Benzyl Alcohol	9.4	U	9.4	
108-60-1	2,2'-Oxybis(1-chloropropane)	9.4	U	9.4	
111-91-1	Bis(2-chloroethoxy)methane	9.4	U	9.4	
111-44-4	Bis(2-chloroethyl) Ether	9.4	U	9.4	
117-81-7	Bis(2-ethylhexyl) Phthalate	9.4	U	9.4	
85-68-7	Butyl Benzyl Phthalate	9.4	U	9.4	
86-74-8	Carbazole	9.4	U	9.4	
218-01-9	Chrysene	9.4	U	9.4	
84-74-2	Di-n-butyl Phthalate	9.4	U	9.4	
117-84-0	Di-n-octyl Phthalate	9.4	U	9.4	
53-70-3	Dibenz(a,h)anthracene	9.4	U	9.4	
132-64-9	Dibenzofuran	9.4	U	9.4	
84-66-2	Diethyl Phthalate	9.4	U	9.4	
131-11-3	Dimethyl Phthalate	9.4	U	9.4	
206-44-0	Fluoranthene	9.4	U	9.4	
86-73-7	Fluorene	9.4	U	9.4	
118-74-1	Hexachlorobenzene	9.4	U	9.4	
87-68-3	Hexachlorobutadiene	9.4	U	9.4	
77-47-4	Hexachlorocyclopentadiene	9.4	U	9.4	
67-72-1	Hexachloroethane	9.4	U	9.4	
193-39-5	Indeno(1,2,3-cd)pyrene	9.4	U	9.4	
78-59-1	Isophorone	9.4	U	9.4	
621-64-7	N-Nitrosodi-n-propylamine	9.4	U	9.4	
62-75-9	N-Nitrosodimethylamine	9.4	U	9.4	
86-30-6	N-Nitrosodiphenylamine	9.4	U	9.4	
91-20-3	Naphthalene	9.4	U	9.4	
98-95-3	Nitrobenzene	9.4	U	9.4	
87-86-5	Pentachlorophenol (PCP)	47	U	47	
85-01-8	Phenanthrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1545
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 15:41
Sample Name:	MW-11S-2011	**Units:**	µg/L
Lab Code:	R1104718-007	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH631.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
108-95-2	Phenol	9.4	U	9.4	
129-00-0	Pyrene	9.4	U	9.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	97	28-157	8/31/11 15:41	
2-Fluorobiphenyl	76	39-119	8/31/11 15:41	
2-Fluorophenol	40	10-105	8/31/11 15:41	
Nitrobenzene-d5	73	37-117	8/31/11 15:41	
Phenol-d6	25	10-107	8/31/11 15:41	
p-Terphenyl-d14	87	40-133	8/31/11 15:41	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1600
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-11M-2011		
Lab Code:	R1104718-009	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	9/6/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1600
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-11M-2011 Dissolved		
Lab Code:	R1104718-010	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	µg/L	10	1	9/ 7/11	9/8/11 20:12	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/ 7/11	9/8/11 20:12	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1600
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/30/11 20:04
Sample Name:	MW-11M-2011	**Units:**	µg/L
Lab Code:	R1104718-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4467.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1600
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/30/11 20:04
Sample Name:	MW-11M-2011	**Units:**	µg/L
Lab Code:	R1104718-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4467.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85-122	8/30/11 20:04	
Toluene-d8	105	87-121	8/30/11 20:04	
Dibromofluoromethane	110	89-119	8/30/11 20:04	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1600
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 16:22
Sample Name:	MW-11M-2011	**Units:**	µg/L
Lab Code:	R1104718-009	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH632.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	9.4	U	9.4	
95-50-1	1,2-Dichlorobenzene	9.4	U	9.4	
541-73-1	1,3-Dichlorobenzene	9.4	U	9.4	
106-46-7	1,4-Dichlorobenzene	9.4	U	9.4	
95-95-4	2,4,5-Trichlorophenol	9.4	U	9.4	
88-06-2	2,4,6-Trichlorophenol	9.4	U	9.4	
120-83-2	2,4-Dichlorophenol	9.4	U	9.4	
105-67-9	2,4-Dimethylphenol	9.4	U	9.4	
51-28-5	2,4-Dinitrophenol	47	U	47	
121-14-2	2,4-Dinitrotoluene	9.4	U	9.4	
606-20-2	2,6-Dinitrotoluene	9.4	U	9.4	
91-58-7	2-Chloronaphthalene	9.4	U	9.4	
95-57-8	2-Chlorophenol	9.4	U	9.4	
91-57-6	2-Methylnaphthalene	9.4	U	9.4	
95-48-7	2-Methylphenol	9.4	U	9.4	
88-74-4	2-Nitroaniline	47	U	47	
88-75-5	2-Nitrophenol	9.4	U	9.4	
91-94-1	3,3'-Dichlorobenzidine	9.4	U	9.4	
	3- and 4-Methylphenol Coelution	9.4	U	9.4	
99-09-2	3-Nitroaniline	47	U	47	
534-52-1	4,6-Dinitro-2-methylphenol	47	U	47	
101-55-3	4-Bromophenyl Phenyl Ether	9.4	U	9.4	
59-50-7	4-Chloro-3-methylphenol	9.4	U	9.4	
106-47-8	4-Chloroaniline	9.4	U	9.4	
7005-72-3	4-Chlorophenyl Phenyl Ether	9.4	U	9.4	
100-01-6	4-Nitroaniline	47	U	47	
100-02-7	4-Nitrophenol	47	U	47	
83-32-9	Acenaphthene	9.4	U	9.4	
208-96-8	Acenaphthylene	9.4	U	9.4	
120-12-7	Anthracene	9.4	U	9.4	
56-55-3	Benz(a)anthracene	9.4	U	9.4	
50-32-8	Benzo(a)pyrene	9.4	U	9.4	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1600
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 16:22
Sample Name:	MW-11M-2011	**Units:**	µg/L
Lab Code:	R1104718-009	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH632.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	
191-24-2	Benzo(g,h,i)perylene	9.4	U	9.4	
207-08-9	Benzo(k)fluoranthene	9.4	U	9.4	
100-51-6	Benzyl Alcohol	9.4	U	9.4	
108-60-1	2,2'-Oxybis(1-chloropropane)	9.4	U	9.4	
111-91-1	Bis(2-chloroethoxy)methane	9.4	U	9.4	
111-44-4	Bis(2-chloroethyl) Ether	9.4	U	9.4	
117-81-7	Bis(2-ethylhexyl) Phthalate	9.4	U	9.4	
85-68-7	Butyl Benzyl Phthalate	9.4	U	9.4	
86-74-8	Carbazole	9.4	U	9.4	
218-01-9	Chrysene	9.4	U	9.4	
84-74-2	Di-n-butyl Phthalate	9.4	U	9.4	
117-84-0	Di-n-octyl Phthalate	9.4	U	9.4	
53-70-3	Dibenz(a,h)anthracene	9.4	U	9.4	
132-64-9	Dibenzofuran	9.4	U	9.4	
84-66-2	Diethyl Phthalate	9.4	U	9.4	
131-11-3	Dimethyl Phthalate	9.4	U	9.4	
206-44-0	Fluoranthene	9.4	U	9.4	
86-73-7	Fluorene	9.4	U	9.4	
118-74-1	Hexachlorobenzene	9.4	U	9.4	
87-68-3	Hexachlorobutadiene	9.4	U	9.4	
77-47-4	Hexachlorocyclopentadiene	9.4	U	9.4	
67-72-1	Hexachloroethane	9.4	U	9.4	
193-39-5	Indeno(1,2,3-cd)pyrene	9.4	U	9.4	
78-59-1	Isophorone	9.4	U	9.4	
621-64-7	N-Nitrosodi-n-propylamine	9.4	U	9.4	
62-75-9	N-Nitrosodimethylamine	9.4	U	9.4	
86-30-6	N-Nitrosodiphenylamine	9.4	U	9.4	
91-20-3	Naphthalene	9.4	U	9.4	
98-95-3	Nitrobenzene	9.4	U	9.4	
87-86-5	Pentachlorophenol (PCP)	47	U	47	
85-01-8	Phenanthrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1600
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 16:22
Sample Name:	MW-11M-2011	**Units:**	µg/L
Lab Code:	R1104718-009	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH632.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
108-95-2	Phenol	9.4	U	9.4	
129-00-0	Pyrene	9.4	U	9.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	104	28-157	8/31/11 16:22	
2-Fluorobiphenyl	73	39-119	8/31/11 16:22	
2-Fluorophenol	44	10-105	8/31/11 16:22	
Nitrobenzene-d5	71	37-117	8/31/11 16:22	
Phenol-d6	28	10-107	8/31/11 16:22	
p-Terphenyl-d14	119	40-133	8/31/11 16:22	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1615
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-12S-2011		
Lab Code:	R1104718-011	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	9/6/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1615
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-12S-2011 Dissolved		
Lab Code:	R1104718-012	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	µg/L	10	1	9/ 7/11	9/8/11 20:18	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/ 7/11	9/8/11 20:18	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1615
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/30/11 20:34
Sample Name:	MW-12S-2011	**Units:**	µg/L
Lab Code:	R1104718-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4468.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1615
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/30/11 20:34
Sample Name:	MW-12S-2011	**Units:**	µg/L
Lab Code:	R1104718-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4468.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85-122	8/30/11 20:34	
Toluene-d8	107	87-121	8/30/11 20:34	
Dibromofluoromethane	110	89-119	8/30/11 20:34	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1615
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 17:03
Sample Name:	MW-12S-2011	**Units:**	µg/L
Lab Code:	R1104718-011	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH633.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	9.4	U	9.4	
95-50-1	1,2-Dichlorobenzene	9.4	U	9.4	
541-73-1	1,3-Dichlorobenzene	9.4	U	9.4	
106-46-7	1,4-Dichlorobenzene	9.4	U	9.4	
95-95-4	2,4,5-Trichlorophenol	9.4	U	9.4	
88-06-2	2,4,6-Trichlorophenol	9.4	U	9.4	
120-83-2	2,4-Dichlorophenol	9.4	U	9.4	
105-67-9	2,4-Dimethylphenol	9.4	U	9.4	
51-28-5	2,4-Dinitrophenol	47	U	47	
121-14-2	2,4-Dinitrotoluene	9.4	U	9.4	
606-20-2	2,6-Dinitrotoluene	9.4	U	9.4	
91-58-7	2-Chloronaphthalene	9.4	U	9.4	
95-57-8	2-Chlorophenol	9.4	U	9.4	
91-57-6	2-Methylnaphthalene	9.4	U	9.4	
95-48-7	2-Methylphenol	9.4	U	9.4	
88-74-4	2-Nitroaniline	47	U	47	
88-75-5	2-Nitrophenol	9.4	U	9.4	
91-94-1	3,3'-Dichlorobenzidine	9.4	U	9.4	
	3- and 4-Methylphenol Coelution	9.4	U	9.4	
99-09-2	3-Nitroaniline	47	U	47	
534-52-1	4,6-Dinitro-2-methylphenol	47	U	47	
101-55-3	4-Bromophenyl Phenyl Ether	9.4	U	9.4	
59-50-7	4-Chloro-3-methylphenol	9.4	U	9.4	
106-47-8	4-Chloroaniline	9.4	U	9.4	
7005-72-3	4-Chlorophenyl Phenyl Ether	9.4	U	9.4	
100-01-6	4-Nitroaniline	47	U	47	
100-02-7	4-Nitrophenol	47	U	47	
83-32-9	Acenaphthene	9.4	U	9.4	
208-96-8	Acenaphthylene	9.4	U	9.4	
120-12-7	Anthracene	9.4	U	9.4	
56-55-3	Benz(a)anthracene	9.4	U	9.4	
50-32-8	Benzo(a)pyrene	9.4	U	9.4	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1615
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 17:03
Sample Name:	MW-12S-2011	**Units:**	µg/L
Lab Code:	R1104718-011	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH633.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	
191-24-2	Benzo(g,h,i)perylene	9.4	U	9.4	
207-08-9	Benzo(k)fluoranthene	9.4	U	9.4	
100-51-6	Benzyl Alcohol	9.4	U	9.4	
108-60-1	2,2'-Oxybis(1-chloropropane)	9.4	U	9.4	
111-91-1	Bis(2-chloroethoxy)methane	9.4	U	9.4	
111-44-4	Bis(2-chloroethyl) Ether	9.4	U	9.4	
117-81-7	Bis(2-ethylhexyl) Phthalate	9.4	U	9.4	
85-68-7	Butyl Benzyl Phthalate	9.4	U	9.4	
86-74-8	Carbazole	9.4	U	9.4	
218-01-9	Chrysene	9.4	U	9.4	
84-74-2	Di-n-butyl Phthalate	9.4	U	9.4	
117-84-0	Di-n-octyl Phthalate	9.4	U	9.4	
53-70-3	Dibenz(a,h)anthracene	9.4	U	9.4	
132-64-9	Dibenzofuran	9.4	U	9.4	
84-66-2	Diethyl Phthalate	9.4	U	9.4	
131-11-3	Dimethyl Phthalate	9.4	U	9.4	
206-44-0	Fluoranthene	9.4	U	9.4	
86-73-7	Fluorene	9.4	U	9.4	
118-74-1	Hexachlorobenzene	9.4	U	9.4	
87-68-3	Hexachlorobutadiene	9.4	U	9.4	
77-47-4	Hexachlorocyclopentadiene	9.4	U	9.4	
67-72-1	Hexachloroethane	9.4	U	9.4	
193-39-5	Indeno(1,2,3-cd)pyrene	9.4	U	9.4	
78-59-1	Isophorone	9.4	U	9.4	
621-64-7	N-Nitrosodi-n-propylamine	9.4	U	9.4	
62-75-9	N-Nitrosodimethylamine	9.4	U	9.4	
86-30-6	N-Nitrosodiphenylamine	9.4	U	9.4	
91-20-3	Naphthalene	9.4	U	9.4	
98-95-3	Nitrobenzene	9.4	U	9.4	
87-86-5	Pentachlorophenol (PCP)	47	U	47	
85-01-8	Phenanthrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1615
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 17:03
Sample Name:	MW-12S-2011	**Units:**	µg/L
Lab Code:	R1104718-011	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH633.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
108-95-2	Phenol	9.4	U	9.4	
129-00-0	Pyrene	9.4	U	9.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	107	28-157	8/31/11 17:03	
2-Fluorobiphenyl	78	39-119	8/31/11 17:03	
2-Fluorophenol	45	10-105	8/31/11 17:03	
Nitrobenzene-d5	75	37-117	8/31/11 17:03	
Phenol-d6	29	10-107	8/31/11 17:03	
p-Terphenyl-d14	115	40-133	8/31/11 17:03	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1630
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-12M-2011		
Lab Code:	R1104718-013	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	9/6/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1630
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-12M-2011 Dissolved		
Lab Code:	R1104718-014	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	µg/L	10	1	9/ 7/11	9/8/11 20:24	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/ 7/11	9/8/11 20:24	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1630
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/31/11 17:39
Sample Name:	MW-12M-2011	**Units:**	µg/L
Lab Code:	R1104718-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4489.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1630
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/31/11 17:39
Sample Name:	MW-12M-2011	**Units:**	µg/L
Lab Code:	R1104718-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4489.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85-122	8/31/11 17:39	
Toluene-d8	105	87-121	8/31/11 17:39	
Dibromofluoromethane	109	89-119	8/31/11 17:39	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1630
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 17:44
Sample Name:	MW-12M-2011	**Units:**	µg/L
Lab Code:	R1104718-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH634.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	9.4	U	9.4	
95-50-1	1,2-Dichlorobenzene	9.4	U	9.4	
541-73-1	1,3-Dichlorobenzene	9.4	U	9.4	
106-46-7	1,4-Dichlorobenzene	9.4	U	9.4	
95-95-4	2,4,5-Trichlorophenol	9.4	U	9.4	
88-06-2	2,4,6-Trichlorophenol	9.4	U	9.4	
120-83-2	2,4-Dichlorophenol	9.4	U	9.4	
105-67-9	2,4-Dimethylphenol	9.4	U	9.4	
51-28-5	2,4-Dinitrophenol	47	U	47	
121-14-2	2,4-Dinitrotoluene	9.4	U	9.4	
606-20-2	2,6-Dinitrotoluene	9.4	U	9.4	
91-58-7	2-Chloronaphthalene	9.4	U	9.4	
95-57-8	2-Chlorophenol	9.4	U	9.4	
91-57-6	2-Methylnaphthalene	9.4	U	9.4	
95-48-7	2-Methylphenol	9.4	U	9.4	
88-74-4	2-Nitroaniline	47	U	47	
88-75-5	2-Nitrophenol	9.4	U	9.4	
91-94-1	3,3'-Dichlorobenzidine	9.4	U	9.4	
	3- and 4-Methylphenol Coelution	9.4	U	9.4	
99-09-2	3-Nitroaniline	47	U	47	
534-52-1	4,6-Dinitro-2-methylphenol	47	U	47	
101-55-3	4-Bromophenyl Phenyl Ether	9.4	U	9.4	
59-50-7	4-Chloro-3-methylphenol	9.4	U	9.4	
106-47-8	4-Chloroaniline	9.4	U	9.4	
7005-72-3	4-Chlorophenyl Phenyl Ether	9.4	U	9.4	
100-01-6	4-Nitroaniline	47	U	47	
100-02-7	4-Nitrophenol	47	U	47	
83-32-9	Acenaphthene	9.4	U	9.4	
208-96-8	Acenaphthylene	9.4	U	9.4	
120-12-7	Anthracene	9.4	U	9.4	
56-55-3	Benz(a)anthracene	9.4	U	9.4	
50-32-8	Benzo(a)pyrene	9.4	U	9.4	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1630
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 17:44
Sample Name:	MW-12M-2011	**Units:**	µg/L
Lab Code:	R1104718-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH634.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	
191-24-2	Benzo(g,h,i)perylene	9.4	U	9.4	
207-08-9	Benzo(k)fluoranthene	9.4	U	9.4	
100-51-6	Benzyl Alcohol	9.4	U	9.4	
108-60-1	2,2'-Oxybis(1-chloropropane)	9.4	U	9.4	
111-91-1	Bis(2-chloroethoxy)methane	9.4	U	9.4	
111-44-4	Bis(2-chloroethyl) Ether	9.4	U	9.4	
117-81-7	Bis(2-ethylhexyl) Phthalate	9.4	U	9.4	
85-68-7	Butyl Benzyl Phthalate	9.4	U	9.4	
86-74-8	Carbazole	9.4	U	9.4	
218-01-9	Chrysene	9.4	U	9.4	
84-74-2	Di-n-butyl Phthalate	9.4	U	9.4	
117-84-0	Di-n-octyl Phthalate	9.4	U	9.4	
53-70-3	Dibenz(a,h)anthracene	9.4	U	9.4	
132-64-9	Dibenzofuran	9.4	U	9.4	
84-66-2	Diethyl Phthalate	9.4	U	9.4	
131-11-3	Dimethyl Phthalate	9.4	U	9.4	
206-44-0	Fluoranthene	9.4	U	9.4	
86-73-7	Fluorene	9.4	U	9.4	
118-74-1	Hexachlorobenzene	9.4	U	9.4	
87-68-3	Hexachlorobutadiene	9.4	U	9.4	
77-47-4	Hexachlorocyclopentadiene	9.4	U	9.4	
67-72-1	Hexachloroethane	9.4	U	9.4	
193-39-5	Indeno(1,2,3-cd)pyrene	9.4	U	9.4	
78-59-1	Isophorone	9.4	U	9.4	
621-64-7	N-Nitrosodi-n-propylamine	9.4	U	9.4	
62-75-9	N-Nitrosodimethylamine	9.4	U	9.4	
86-30-6	N-Nitrosodiphenylamine	9.4	U	9.4	
91-20-3	Naphthalene	9.4	U	9.4	
98-95-3	Nitrobenzene	9.4	U	9.4	
87-86-5	Pentachlorophenol (PCP)	47	U	47	
85-01-8	Phenanthrene	9.4	U	9.4	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1630
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 17:44
Sample Name:	MW-12M-2011	**Units:**	µg/L
Lab Code:	R1104718-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH634.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
108-95-2	Phenol	9.4	U	9.4	
129-00-0	Pyrene	9.4	U	9.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	101	28-157	8/31/11 17:44	
2-Fluorobiphenyl	71	39-119	8/31/11 17:44	
2-Fluorophenol	47	10-105	8/31/11 17:44	
Nitrobenzene-d5	71	37-117	8/31/11 17:44	
Phenol-d6	30	10-107	8/31/11 17:44	
p-Terphenyl-d14	119	40-133	8/31/11 17:44	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1645
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-12D-2011		
Lab Code:	R1104718-015	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	9/6/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1645
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-12D-2011 Dissolved		
Lab Code:	R1104718-016	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	µg/L	10	1	9/ 7/11	9/8/11 20:29	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/ 7/11	9/8/11 20:29	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1645
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/31/11 18:09
Sample Name:	MW-12D-2011	**Units:**	µg/L
Lab Code:	R1104718-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4490.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1645
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/31/11 18:09
Sample Name:	MW-12D-2011	**Units:**	µg/L
Lab Code:	R1104718-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4490.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85-122	8/31/11 18:09	
Toluene-d8	107	87-121	8/31/11 18:09	
Dibromofluoromethane	109	89-119	8/31/11 18:09	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1645
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 18:26
Sample Name:	MW-12D-2011	**Units:**	µg/L
Lab Code:	R1104718-015	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH635.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	9.4	U	9.4	
95-50-1	1,2-Dichlorobenzene	9.4	U	9.4	
541-73-1	1,3-Dichlorobenzene	9.4	U	9.4	
106-46-7	1,4-Dichlorobenzene	9.4	U	9.4	
95-95-4	2,4,5-Trichlorophenol	9.4	U	9.4	
88-06-2	2,4,6-Trichlorophenol	9.4	U	9.4	
120-83-2	2,4-Dichlorophenol	9.4	U	9.4	
105-67-9	2,4-Dimethylphenol	9.4	U	9.4	
51-28-5	2,4-Dinitrophenol	47	U	47	
121-14-2	2,4-Dinitrotoluene	9.4	U	9.4	
606-20-2	2,6-Dinitrotoluene	9.4	U	9.4	
91-58-7	2-Chloronaphthalene	9.4	U	9.4	
95-57-8	2-Chlorophenol	9.4	U	9.4	
91-57-6	2-Methylnaphthalene	9.4	U	9.4	
95-48-7	2-Methylphenol	9.4	U	9.4	
88-74-4	2-Nitroaniline	47	U	47	
88-75-5	2-Nitrophenol	9.4	U	9.4	
91-94-1	3,3'-Dichlorobenzidine	9.4	U	9.4	
	3- and 4-Methylphenol Coelution	9.4	U	9.4	
99-09-2	3-Nitroaniline	47	U	47	
534-52-1	4,6-Dinitro-2-methylphenol	47	U	47	
101-55-3	4-Bromophenyl Phenyl Ether	9.4	U	9.4	
59-50-7	4-Chloro-3-methylphenol	9.4	U	9.4	
106-47-8	4-Chloroaniline	9.4	U	9.4	
7005-72-3	4-Chlorophenyl Phenyl Ether	9.4	U	9.4	
100-01-6	4-Nitroaniline	47	U	47	
100-02-7	4-Nitrophenol	47	U	47	
83-32-9	Acenaphthene	9.4	U	9.4	
208-96-8	Acenaphthylene	9.4	U	9.4	
120-12-7	Anthracene	9.4	U	9.4	
56-55-3	Benz(a)anthracene	9.4	U	9.4	
50-32-8	Benzo(a)pyrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1645
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 18:26
Sample Name:	MW-12D-2011	**Units:**	µg/L
Lab Code:	R1104718-015	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH635.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	
191-24-2	Benzo(g,h,i)perylene	9.4	U	9.4	
207-08-9	Benzo(k)fluoranthene	9.4	U	9.4	
100-51-6	Benzyl Alcohol	9.4	U	9.4	
108-60-1	2,2'-Oxybis(1-chloropropane)	9.4	U	9.4	
111-91-1	Bis(2-chloroethoxy)methane	9.4	U	9.4	
111-44-4	Bis(2-chloroethyl) Ether	9.4	U	9.4	
117-81-7	Bis(2-ethylhexyl) Phthalate	9.4	U	9.4	
85-68-7	Butyl Benzyl Phthalate	9.4	U	9.4	
86-74-8	Carbazole	9.4	U	9.4	
218-01-9	Chrysene	9.4	U	9.4	
84-74-2	Di-n-butyl Phthalate	9.4	U	9.4	
117-84-0	Di-n-octyl Phthalate	9.4	U	9.4	
53-70-3	Dibenz(a,h)anthracene	9.4	U	9.4	
132-64-9	Dibenzofuran	9.4	U	9.4	
84-66-2	Diethyl Phthalate	9.4	U	9.4	
131-11-3	Dimethyl Phthalate	9.4	U	9.4	
206-44-0	Fluoranthene	9.4	U	9.4	
86-73-7	Fluorene	9.4	U	9.4	
118-74-1	Hexachlorobenzene	9.4	U	9.4	
87-68-3	Hexachlorobutadiene	9.4	U	9.4	
77-47-4	Hexachlorocyclopentadiene	9.4	U	9.4	
67-72-1	Hexachloroethane	9.4	U	9.4	
193-39-5	Indeno(1,2,3-cd)pyrene	9.4	U	9.4	
78-59-1	Isophorone	9.4	U	9.4	
621-64-7	N-Nitrosodi-n-propylamine	9.4	U	9.4	
62-75-9	N-Nitrosodimethylamine	9.4	U	9.4	
86-30-6	N-Nitrosodiphenylamine	9.4	U	9.4	
91-20-3	Naphthalene	9.4	U	9.4	
98-95-3	Nitrobenzene	9.4	U	9.4	
87-86-5	Pentachlorophenol (PCP)	47	U	47	
85-01-8	Phenanthrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1645
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 18:26
Sample Name:	MW-12D-2011	**Units:**	µg/L
Lab Code:	R1104718-015	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH635.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
108-95-2	Phenol	9.4	U	9.4	
129-00-0	Pyrene	9.4	U	9.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	95	28-157	8/31/11 18:26	
2-Fluorobiphenyl	70	39-119	8/31/11 18:26	
2-Fluorophenol	44	10-105	8/31/11 18:26	
Nitrobenzene-d5	73	37-117	8/31/11 18:26	
Phenol-d6	26	10-107	8/31/11 18:26	
p-Terphenyl-d14	113	40-133	8/31/11 18:26	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1700
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-13S-2011		
Lab Code:	R1104718-017	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	9/6/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1700
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-13S-2011 Dissolved		
Lab Code:	R1104718-018	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	µg/L	10	1	9/ 7/11	9/8/11 20:35	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/ 7/11	9/8/11 20:35	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1700
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/31/11 18:39
Sample Name:	MW-13S-2011	**Units:**	µg/L
Lab Code:	R1104718-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4491.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1700
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/31/11 18:39
Sample Name:	MW-13S-2011	**Units:**	µg/L
Lab Code:	R1104718-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4491.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	8/31/11 18:39	
Toluene-d8	105	87-121	8/31/11 18:39	
Dibromofluoromethane	109	89-119	8/31/11 18:39	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1700
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 19:06
Sample Name:	MW-13S-2011	**Units:**	µg/L
Lab Code:	R1104718-017	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH636.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	9.4	U	9.4	
95-50-1	1,2-Dichlorobenzene	9.4	U	9.4	
541-73-1	1,3-Dichlorobenzene	9.4	U	9.4	
106-46-7	1,4-Dichlorobenzene	9.4	U	9.4	
95-95-4	2,4,5-Trichlorophenol	9.4	U	9.4	
88-06-2	2,4,6-Trichlorophenol	9.4	U	9.4	
120-83-2	2,4-Dichlorophenol	9.4	U	9.4	
105-67-9	2,4-Dimethylphenol	9.4	U	9.4	
51-28-5	2,4-Dinitrophenol	47	U	47	
121-14-2	2,4-Dinitrotoluene	9.4	U	9.4	
606-20-2	2,6-Dinitrotoluene	9.4	U	9.4	
91-58-7	2-Chloronaphthalene	9.4	U	9.4	
95-57-8	2-Chlorophenol	9.4	U	9.4	
91-57-6	2-Methylnaphthalene	9.4	U	9.4	
95-48-7	2-Methylphenol	9.4	U	9.4	
88-74-4	2-Nitroaniline	47	U	47	
88-75-5	2-Nitrophenol	9.4	U	9.4	
91-94-1	3,3'-Dichlorobenzidine	9.4	U	9.4	
	3- and 4-Methylphenol Coelution	9.4	U	9.4	
99-09-2	3-Nitroaniline	47	U	47	
534-52-1	4,6-Dinitro-2-methylphenol	47	U	47	
101-55-3	4-Bromophenyl Phenyl Ether	9.4	U	9.4	
59-50-7	4-Chloro-3-methylphenol	9.4	U	9.4	
106-47-8	4-Chloroaniline	9.4	U	9.4	
7005-72-3	4-Chlorophenyl Phenyl Ether	9.4	U	9.4	
100-01-6	4-Nitroaniline	47	U	47	
100-02-7	4-Nitrophenol	47	U	47	
83-32-9	Acenaphthene	9.4	U	9.4	
208-96-8	Acenaphthylene	9.4	U	9.4	
120-12-7	Anthracene	9.4	U	9.4	
56-55-3	Benz(a)anthracene	9.4	U	9.4	
50-32-8	Benzo(a)pyrene	9.4	U	9.4	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1700
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 19:06
Sample Name:	MW-13S-2011	**Units:**	µg/L
Lab Code:	R1104718-017	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH636.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	
191-24-2	Benzo(g,h,i)perylene	9.4	U	9.4	
207-08-9	Benzo(k)fluoranthene	9.4	U	9.4	
100-51-6	Benzyl Alcohol	9.4	U	9.4	
108-60-1	2,2'-Oxybis(1-chloropropane)	9.4	U	9.4	
111-91-1	Bis(2-chloroethoxy)methane	9.4	U	9.4	
111-44-4	Bis(2-chloroethyl) Ether	9.4	U	9.4	
117-81-7	Bis(2-ethylhexyl) Phthalate	9.4	U	9.4	
85-68-7	Butyl Benzyl Phthalate	9.4	U	9.4	
86-74-8	Carbazole	9.4	U	9.4	
218-01-9	Chrysene	9.4	U	9.4	
84-74-2	Di-n-butyl Phthalate	9.4	U	9.4	
117-84-0	Di-n-octyl Phthalate	9.4	U	9.4	
53-70-3	Dibenz(a,h)anthracene	9.4	U	9.4	
132-64-9	Dibenzofuran	9.4	U	9.4	
84-66-2	Diethyl Phthalate	9.4	U	9.4	
131-11-3	Dimethyl Phthalate	9.4	U	9.4	
206-44-0	Fluoranthene	9.4	U	9.4	
86-73-7	Fluorene	9.4	U	9.4	
118-74-1	Hexachlorobenzene	9.4	U	9.4	
87-68-3	Hexachlorobutadiene	9.4	U	9.4	
77-47-4	Hexachlorocyclopentadiene	9.4	U	9.4	
67-72-1	Hexachloroethane	9.4	U	9.4	
193-39-5	Indeno(1,2,3-cd)pyrene	9.4	U	9.4	
78-59-1	Isophorone	9.4	U	9.4	
621-64-7	N-Nitrosodi-n-propylamine	9.4	U	9.4	
62-75-9	N-Nitrosodimethylamine	9.4	U	9.4	
86-30-6	N-Nitrosodiphenylamine	9.4	U	9.4	
91-20-3	Naphthalene	9.4	U	9.4	
98-95-3	Nitrobenzene	9.4	U	9.4	
87-86-5	Pentachlorophenol (PCP)	47	U	47	
85-01-8	Phenanthrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1700
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 19:06
Sample Name:	MW-13S-2011	**Units:**	µg/L
Lab Code:	R1104718-017	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH636.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
108-95-2	Phenol	9.4	U	9.4	
129-00-0	Pyrene	9.4	U	9.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	99	28-157	8/31/11 19:06	
2-Fluorobiphenyl	71	39-119	8/31/11 19:06	
2-Fluorophenol	44	10-105	8/31/11 19:06	
Nitrobenzene-d5	71	37-117	8/31/11 19:06	
Phenol-d6	28	10-107	8/31/11 19:06	
p-Terphenyl-d14	114	40-133	8/31/11 19:06	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1715
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-13M-2011		
Lab Code:	R1104718-019	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	9/6/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1715
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-13M-2011 Dissolved		
Lab Code:	R1104718-020	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	µg/L	10	1	9/ 7/11	9/8/11 20:51	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/ 7/11	9/8/11 20:51	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1715
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/31/11 19:09
Sample Name:	MW-13M-2011	**Units:**	µg/L
Lab Code:	R1104718-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4492.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1715
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/31/11 19:09
Sample Name:	MW-13M-2011	**Units:**	µg/L
Lab Code:	R1104718-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4492.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85-122	8/31/11 19:09	
Toluene-d8	105	87-121	8/31/11 19:09	
Dibromofluoromethane	109	89-119	8/31/11 19:09	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1715
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 19:48
Sample Name:	MW-13M-2011	**Units:**	µg/L
Lab Code:	R1104718-019	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH637.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	9.4	U	9.4	
95-50-1	1,2-Dichlorobenzene	9.4	U	9.4	
541-73-1	1,3-Dichlorobenzene	9.4	U	9.4	
106-46-7	1,4-Dichlorobenzene	9.4	U	9.4	
95-95-4	2,4,5-Trichlorophenol	9.4	U	9.4	
88-06-2	2,4,6-Trichlorophenol	9.4	U	9.4	
120-83-2	2,4-Dichlorophenol	9.4	U	9.4	
105-67-9	2,4-Dimethylphenol	9.4	U	9.4	
51-28-5	2,4-Dinitrophenol	47	U	47	
121-14-2	2,4-Dinitrotoluene	9.4	U	9.4	
606-20-2	2,6-Dinitrotoluene	9.4	U	9.4	
91-58-7	2-Chloronaphthalene	9.4	U	9.4	
95-57-8	2-Chlorophenol	9.4	U	9.4	
91-57-6	2-Methylnaphthalene	9.4	U	9.4	
95-48-7	2-Methylphenol	9.4	U	9.4	
88-74-4	2-Nitroaniline	47	U	47	
88-75-5	2-Nitrophenol	9.4	U	9.4	
91-94-1	3,3'-Dichlorobenzidine	9.4	U	9.4	
	3- and 4-Methylphenol Coelution	9.4	U	9.4	
99-09-2	3-Nitroaniline	47	U	47	
534-52-1	4,6-Dinitro-2-methylphenol	47	U	47	
101-55-3	4-Bromophenyl Phenyl Ether	9.4	U	9.4	
59-50-7	4-Chloro-3-methylphenol	9.4	U	9.4	
106-47-8	4-Chloroaniline	9.4	U	9.4	
7005-72-3	4-Chlorophenyl Phenyl Ether	9.4	U	9.4	
100-01-6	4-Nitroaniline	47	U	47	
100-02-7	4-Nitrophenol	47	U	47	
83-32-9	Acenaphthene	9.4	U	9.4	
208-96-8	Acenaphthylene	9.4	U	9.4	
120-12-7	Anthracene	9.4	U	9.4	
56-55-3	Benz(a)anthracene	9.4	U	9.4	
50-32-8	Benzo(a)pyrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1715
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 19:48
Sample Name:	MW-13M-2011	**Units:**	µg/L
Lab Code:	R1104718-019	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH637.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	
191-24-2	Benzo(g,h,i)perylene	9.4	U	9.4	
207-08-9	Benzo(k)fluoranthene	9.4	U	9.4	
100-51-6	Benzyl Alcohol	9.4	U	9.4	
108-60-1	2,2'-Oxybis(1-chloropropane)	9.4	U	9.4	
111-91-1	Bis(2-chloroethoxy)methane	9.4	U	9.4	
111-44-4	Bis(2-chloroethyl) Ether	9.4	U	9.4	
117-81-7	Bis(2-ethylhexyl) Phthalate	9.4	U	9.4	
85-68-7	Butyl Benzyl Phthalate	9.4	U	9.4	
86-74-8	Carbazole	9.4	U	9.4	
218-01-9	Chrysene	9.4	U	9.4	
84-74-2	Di-n-butyl Phthalate	9.4	U	9.4	
117-84-0	Di-n-octyl Phthalate	9.4	U	9.4	
53-70-3	Dibenz(a,h)anthracene	9.4	U	9.4	
132-64-9	Dibenzofuran	9.4	U	9.4	
84-66-2	Diethyl Phthalate	9.4	U	9.4	
131-11-3	Dimethyl Phthalate	9.4	U	9.4	
206-44-0	Fluoranthene	9.4	U	9.4	
86-73-7	Fluorene	9.4	U	9.4	
118-74-1	Hexachlorobenzene	9.4	U	9.4	
87-68-3	Hexachlorobutadiene	9.4	U	9.4	
77-47-4	Hexachlorocyclopentadiene	9.4	U	9.4	
67-72-1	Hexachloroethane	9.4	U	9.4	
193-39-5	Indeno(1,2,3-cd)pyrene	9.4	U	9.4	
78-59-1	Isophorone	9.4	U	9.4	
621-64-7	N-Nitrosodi-n-propylamine	9.4	U	9.4	
62-75-9	N-Nitrosodimethylamine	9.4	U	9.4	
86-30-6	N-Nitrosodiphenylamine	9.4	U	9.4	
91-20-3	Naphthalene	9.4	U	9.4	
98-95-3	Nitrobenzene	9.4	U	9.4	
87-86-5	Pentachlorophenol (PCP)	47	U	47	
85-01-8	Phenanthrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1715
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 19:48
Sample Name:	MW-13M-2011	**Units:**	µg/L
Lab Code:	R1104718-019	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH637.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
108-95-2	Phenol	9.4	U	9.4	
129-00-0	Pyrene	9.4	U	9.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	104	28-157	8/31/11 19:48	
2-Fluorobiphenyl	76	39-119	8/31/11 19:48	
2-Fluorophenol	43	10-105	8/31/11 19:48	
Nitrobenzene-d5	72	37-117	8/31/11 19:48	
Phenol-d6	28	10-107	8/31/11 19:48	
p-Terphenyl-d14	115	40-133	8/31/11 19:48	

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1730
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-14S-2011		
Lab Code:	R1104718-021	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Oil and Grease, Nonpolar (SGT-HEM)	1664	4.7	U	mg/L	4.7	1	NA	9/6/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1730
Sample Matrix:	Water	**Date Received:**	8/24/11
Sample Name:	MW-14S-2011 Dissolved		
Lab Code:	R1104718-022	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	µg/L	10	1	9/ 7/11	9/8/11 20:57	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/ 7/11	9/8/11 20:57	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1730
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/31/11 19:39
Sample Name:	MW-14S-2011	**Units:**	µg/L
Lab Code:	R1104718-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4493.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1730
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/31/11 19:39
Sample Name:	MW-14S-2011	**Units:**	µg/L
Lab Code:	R1104718-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4493.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85-122	8/31/11 19:39	
Toluene-d8	106	87-121	8/31/11 19:39	
Dibromofluoromethane	110	89-119	8/31/11 19:39	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1730
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 20:28
Sample Name:	MW-14S-2011	**Units:**	µg/L
Lab Code:	R1104718-021	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH638.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	9.4	U	9.4	
95-50-1	1,2-Dichlorobenzene	9.4	U	9.4	
541-73-1	1,3-Dichlorobenzene	9.4	U	9.4	
106-46-7	1,4-Dichlorobenzene	9.4	U	9.4	
95-95-4	2,4,5-Trichlorophenol	9.4	U	9.4	
88-06-2	2,4,6-Trichlorophenol	9.4	U	9.4	
120-83-2	2,4-Dichlorophenol	9.4	U	9.4	
105-67-9	2,4-Dimethylphenol	9.4	U	9.4	
51-28-5	2,4-Dinitrophenol	47	U	47	
121-14-2	2,4-Dinitrotoluene	9.4	U	9.4	
606-20-2	2,6-Dinitrotoluene	9.4	U	9.4	
91-58-7	2-Chloronaphthalene	9.4	U	9.4	
95-57-8	2-Chlorophenol	9.4	U	9.4	
91-57-6	2-Methylnaphthalene	9.4	U	9.4	
95-48-7	2-Methylphenol	9.4	U	9.4	
88-74-4	2-Nitroaniline	47	U	47	
88-75-5	2-Nitrophenol	9.4	U	9.4	
91-94-1	3,3'-Dichlorobenzidine	9.4	U	9.4	
	3- and 4-Methylphenol Coelution	9.4	U	9.4	
99-09-2	3-Nitroaniline	47	U	47	
534-52-1	4,6-Dinitro-2-methylphenol	47	U	47	
101-55-3	4-Bromophenyl Phenyl Ether	9.4	U	9.4	
59-50-7	4-Chloro-3-methylphenol	9.4	U	9.4	
106-47-8	4-Chloroaniline	9.4	U	9.4	
7005-72-3	4-Chlorophenyl Phenyl Ether	9.4	U	9.4	
100-01-6	4-Nitroaniline	47	U	47	
100-02-7	4-Nitrophenol	47	U	47	
83-32-9	Acenaphthene	9.4	U	9.4	
208-96-8	Acenaphthylene	9.4	U	9.4	
120-12-7	Anthracene	9.4	U	9.4	
56-55-3	Benz(a)anthracene	9.4	U	9.4	
50-32-8	Benzo(a)pyrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1730
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 20:28
Sample Name:	MW-14S-2011	**Units:**	µg/L
Lab Code:	R1104718-021	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH638.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	
191-24-2	Benzo(g,h,i)perylene	9.4	U	9.4	
207-08-9	Benzo(k)fluoranthene	9.4	U	9.4	
100-51-6	Benzyl Alcohol	9.4	U	9.4	
108-60-1	2,2'-Oxybis(1-chloropropane)	9.4	U	9.4	
111-91-1	Bis(2-chloroethoxy)methane	9.4	U	9.4	
111-44-4	Bis(2-chloroethyl) Ether	9.4	U	9.4	
117-81-7	Bis(2-ethylhexyl) Phthalate	9.4	U	9.4	
85-68-7	Butyl Benzyl Phthalate	9.4	U	9.4	
86-74-8	Carbazole	9.4	U	9.4	
218-01-9	Chrysene	9.4	U	9.4	
84-74-2	Di-n-butyl Phthalate	9.4	U	9.4	
117-84-0	Di-n-octyl Phthalate	9.4	U	9.4	
53-70-3	Dibenz(a,h)anthracene	9.4	U	9.4	
132-64-9	Dibenzofuran	9.4	U	9.4	
84-66-2	Diethyl Phthalate	9.4	U	9.4	
131-11-3	Dimethyl Phthalate	9.4	U	9.4	
206-44-0	Fluoranthene	9.4	U	9.4	
86-73-7	Fluorene	9.4	U	9.4	
118-74-1	Hexachlorobenzene	9.4	U	9.4	
87-68-3	Hexachlorobutadiene	9.4	U	9.4	
77-47-4	Hexachlorocyclopentadiene	9.4	U	9.4	
67-72-1	Hexachloroethane	9.4	U	9.4	
193-39-5	Indeno(1,2,3-cd)pyrene	9.4	U	9.4	
78-59-1	Isophorone	9.4	U	9.4	
621-64-7	N-Nitrosodi-n-propylamine	9.4	U	9.4	
62-75-9	N-Nitrosodimethylamine	9.4	U	9.4	
86-30-6	N-Nitrosodiphenylamine	9.4	U	9.4	
91-20-3	Naphthalene	9.4	U	9.4	
98-95-3	Nitrobenzene	9.4	U	9.4	
87-86-5	Pentachlorophenol (PCP)	47	U	47	
85-01-8	Phenanthrene	9.4	U	9.4	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11 1730
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Extracted:	8/25/11
		Date Analyzed:	8/31/11 20:28
Sample Name:	MW-14S-2011	**Units:**	µg/L
Lab Code:	R1104718-021	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259912
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\083111\CH638.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
108-95-2	Phenol	9.4	U	9.4	
129-00-0	Pyrene	9.4	U	9.4	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	97	28-157	8/31/11 20:28	
2-Fluorobiphenyl	77	39-119	8/31/11 20:28	
2-Fluorophenol	48	10-105	8/31/11 20:28	
Nitrobenzene-d5	77	37-117	8/31/11 20:28	
Phenol-d6	30	10-107	8/31/11 20:28	
p-Terphenyl-d14	105	40-133	8/31/11 20:28	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/31/11 20:09
Sample Name:	Trip Blank-2011	**Units:**	µg/L
Lab Code:	R1104718-023	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4494.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	8/23/11
Sample Matrix:	Water	**Date Received:**	8/24/11
		Date Analyzed:	8/31/11 20:09
Sample Name:	Trip Blank-2011	**Units:**	µg/L
Lab Code:	R1104718-023	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4494.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	97	85-122	8/31/11 20:09	
Toluene-d8	106	87-121	8/31/11 20:09	
Dibromofluoromethane	111	89-119	8/31/11 20:09	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1104718-MB	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Oil and Grease, Nonpolar (SGT-HEM)	1664	5.0	U	mg/L	5.0	1	NA	9/6/11 09:30	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1104718-MB1	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	µg/L	10	1	9/ 7/11	9/8/11 19:00	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/ 7/11	9/8/11 19:00	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1104718-MB2	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Dissolved	6010C	10	U	µg/L	10	1	9/ 7/11	9/8/11 19:05	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/ 7/11	9/8/11 19:05	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	8/30/11 12:36
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1108621-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4452.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	8/30/11 12:36
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1108621-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259593
Data File Name:	J:\ACQUDATA\msvoa10\data\083011\D4452.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	94	85-122	8/30/11 12:36	
Toluene-d8	104	87-121	8/30/11 12:36	
Dibromofluoromethane	106	89-119	8/30/11 12:36	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	8/31/11 12:11
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1108703-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4478.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	20	U	20	
71-43-2	Benzene	5.0	U	5.0	
75-27-4	Bromodichloromethane	5.0	U	5.0	
75-25-2	Bromoform	5.0	U	5.0	
74-83-9	Bromomethane	5.0	U	5.0	
78-93-3	2-Butanone (MEK)	10	U	10	
75-15-0	Carbon Disulfide	10	U	10	
56-23-5	Carbon Tetrachloride	5.0	U	5.0	
108-90-7	Chlorobenzene	5.0	U	5.0	
75-00-3	Chloroethane	5.0	U	5.0	
67-66-3	Chloroform	5.0	U	5.0	
74-87-3	Chloromethane	5.0	U	5.0	
124-48-1	Dibromochloromethane	5.0	U	5.0	
75-34-3	1,1-Dichloroethane	5.0	U	5.0	
107-06-2	1,2-Dichloroethane	5.0	U	5.0	
75-35-4	1,1-Dichloroethene	5.0	U	5.0	
156-59-2	cis-1,2-Dichloroethene	5.0	U	5.0	
156-60-5	trans-1,2-Dichloroethene	5.0	U	5.0	
78-87-5	1,2-Dichloropropane	5.0	U	5.0	
10061-01-5	cis-1,3-Dichloropropene	5.0	U	5.0	
10061-02-6	trans-1,3-Dichloropropene	5.0	U	5.0	
100-41-4	Ethylbenzene	5.0	U	5.0	
591-78-6	2-Hexanone	10	U	10	
75-09-2	Methylene Chloride	5.0	U	5.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	10	U	10	
100-42-5	Styrene	5.0	U	5.0	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	U	5.0	
127-18-4	Tetrachloroethene	5.0	U	5.0	
108-88-3	Toluene	5.0	U	5.0	
71-55-6	1,1,1-Trichloroethane	5.0	U	5.0	
79-00-5	1,1,2-Trichloroethane	5.0	U	5.0	
79-01-6	Trichloroethene	5.0	U	5.0	
75-01-4	Vinyl Chloride	5.0	U	5.0	
95-47-6	o-Xylene	5.0	U	5.0	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	8/31/11 12:11
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1108703-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	259792
Data File Name:	J:\ACQUDATA\msvoa10\data\083111\D4478.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	96	85-122	8/31/11 12:11	
Toluene-d8	104	87-121	8/31/11 12:11	
Dibromofluoromethane	106	89-119	8/31/11 12:11	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	8/25/11
		Date Analyzed:	8/29/11 18:42
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1108299-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259561
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\082911\CH593.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
120-82-1	1,2,4-Trichlorobenzene	10	U	10	
95-50-1	1,2-Dichlorobenzene	10	U	10	
541-73-1	1,3-Dichlorobenzene	10	U	10	
106-46-7	1,4-Dichlorobenzene	10	U	10	
95-95-4	2,4,5-Trichlorophenol	10	U	10	
88-06-2	2,4,6-Trichlorophenol	10	U	10	
120-83-2	2,4-Dichlorophenol	10	U	10	
105-67-9	2,4-Dimethylphenol	10	U	10	
51-28-5	2,4-Dinitrophenol	50	U	50	
121-14-2	2,4-Dinitrotoluene	10	U	10	
606-20-2	2,6-Dinitrotoluene	10	U	10	
91-58-7	2-Chloronaphthalene	10	U	10	
95-57-8	2-Chlorophenol	10	U	10	
91-57-6	2-Methylnaphthalene	10	U	10	
95-48-7	2-Methylphenol	10	U	10	
88-74-4	2-Nitroaniline	50	U	50	
88-75-5	2-Nitrophenol	10	U	10	
91-94-1	3,3'-Dichlorobenzidine	10	U	10	
	3- and 4-Methylphenol Coelution	10	U	10	
99-09-2	3-Nitroaniline	50	U	50	
534-52-1	4,6-Dinitro-2-methylphenol	50	U	50	
101-55-3	4-Bromophenyl Phenyl Ether	10	U	10	
59-50-7	4-Chloro-3-methylphenol	10	U	10	
106-47-8	4-Chloroaniline	10	U	10	
7005-72-3	4-Chlorophenyl Phenyl Ether	10	U	10	
100-01-6	4-Nitroaniline	50	U	50	
100-02-7	4-Nitrophenol	50	U	50	
83-32-9	Acenaphthene	10	U	10	
208-96-8	Acenaphthylene	10	U	10	
120-12-7	Anthracene	10	U	10	
56-55-3	Benz(a)anthracene	10	U	10	
50-32-8	Benzo(a)pyrene	10	U	10	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	8/25/11
		Date Analyzed:	8/29/11 18:42
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1108299-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259561
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\082911\CH593.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
205-99-2	Benzo(b)fluoranthene	10	U	10	
191-24-2	Benzo(g,h,i)perylene	10	U	10	
207-08-9	Benzo(k)fluoranthene	10	U	10	
100-51-6	Benzyl Alcohol	10	U	10	
108-60-1	2,2'-Oxybis(1-chloropropane)	10	U	10	
111-91-1	Bis(2-chloroethoxy)methane	10	U	10	
111-44-4	Bis(2-chloroethyl) Ether	10	U	10	
117-81-7	Bis(2-ethylhexyl) Phthalate	10	U	10	
85-68-7	Butyl Benzyl Phthalate	10	U	10	
86-74-8	Carbazole	10	U	10	
218-01-9	Chrysene	10	U	10	
84-74-2	Di-n-butyl Phthalate	10	U	10	
117-84-0	Di-n-octyl Phthalate	10	U	10	
53-70-3	Dibenz(a,h)anthracene	10	U	10	
132-64-9	Dibenzofuran	10	U	10	
84-66-2	Diethyl Phthalate	10	U	10	
131-11-3	Dimethyl Phthalate	10	U	10	
206-44-0	Fluoranthene	10	U	10	
86-73-7	Fluorene	10	U	10	
118-74-1	Hexachlorobenzene	10	U	10	
87-68-3	Hexachlorobutadiene	10	U	10	
77-47-4	Hexachlorocyclopentadiene	10	U	10	
67-72-1	Hexachloroethane	10	U	10	
193-39-5	Indeno(1,2,3-cd)pyrene	10	U	10	
78-59-1	Isophorone	10	U	10	
621-64-7	N-Nitrosodi-n-propylamine	10	U	10	
62-75-9	N-Nitrosodimethylamine	10	U	10	
86-30-6	N-Nitrosodiphenylamine	10	U	10	
91-20-3	Naphthalene	10	U	10	
98-95-3	Nitrobenzene	10	U	10	
87-86-5	Pentachlorophenol (PCP)	50	U	50	
85-01-8	Phenanthrene	10	U	10	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1104718
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	8/25/11
		Date Analyzed:	8/29/11 18:42
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1108299-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	259561
Prep Method:	EPA 3510C	**Extraction Lot:**	140522
Data File Name:	J:\ACQUDATA\5973A\DATA\082911\CH593.D\	**Instrument Name:**	R-MS-51
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
108-95-2	Phenol	10	U	10	
129-00-0	Pyrene	10	U	10	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	90	28-157	8/29/11 18:42	
2-Fluorobiphenyl	66	39-119	8/29/11 18:42	
2-Fluorophenol	44	10-105	8/29/11 18:42	
Nitrobenzene-d5	68	37-117	8/29/11 18:42	
Phenol-d6	27	10-107	8/29/11 18:42	
p-Terphenyl-d14	102	40-133	8/29/11 18:42	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Unicorn Management Consultants
Project: Union Rd #2011-100
Sample Matrix: Water

Service Request: R1104718
Date Analyzed: 9/ 6/11

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1104718-LCS Result	Spike Amount	% Rec	Duplicate Lab Control Sample R1104718-DLCS Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Oil and Grease, Nonpolar (SGT-HEM)	1664	16.4	21.3	77	15.5	21.3	73	64 - 132	6	34

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Unicorn Management Consultants
Project: Union Rd #2011-100
Sample Matrix: Water

Service Request: R1104718
Date Analyzed: 9/ 8/11

Lab Control Sample Summary
Inorganic Parameters

Units: µg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1104718-LCS Result	Spike Amount	% Rec	% Rec Limits
Arsenic, Dissolved	6010C	36.3	40	91	80 - 120
Lead, Dissolved	6010C	490	500	98	80 - 120

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Unicorn Management Consultants
Project: Union Rd #2011-100
Sample Matrix: Water

Service Request: R1104718
Date Analyzed: 8/30/11

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 259593

Analyte Name	Lab Control Sample RQ1108621-02 Result	Spike Amount	% Rec	% Rec Limits
Acetone	16.9	20.0	85	54 - 139
Benzene	17.8	20.0	89	78 - 121
Bromodichloromethane	20.0	20.0	100	80 - 125
Bromoform	20.2	20.0	101	68 - 130
Bromomethane	16.6	20.0	83	57 - 144
2-Butanone (MEK)	19.5	20.0	97	60 - 133
Carbon Disulfide	23.0	20.0	115	52 - 140
Carbon Tetrachloride	18.1	20.0	91	68 - 133
Chlorobenzene	18.3	20.0	92	80 - 121
Chloroethane	20.4	20.0	102	71 - 130
Chloroform	19.8	20.0	99	78 - 125
Chloromethane	17.8	20.0	89	61 - 138
Dibromochloromethane	20.1	20.0	101	78 - 133
1,1-Dichloroethane	18.9	20.0	95	76 - 124
1,2-Dichloroethane	20.0	20.0	100	73 - 127
1,1-Dichloroethene	17.6	20.0	88	72 - 129
cis-1,2-Dichloroethene	18.9	20.0	95	78 - 122
trans-1,2-Dichloroethene	18.2	20.0	91	75 - 121
1,2-Dichloropropane	19.6	20.0	98	80 - 123
cis-1,3-Dichloropropene	18.1	20.0	91	77 - 125
trans-1,3-Dichloropropene	17.8	20.0	89	69 - 127
Ethylbenzene	18.5	20.0	92	78 - 123
2-Hexanone	17.3	20.0	86	61 - 131
Methylene Chloride	19.1	20.0	96	75 - 125
4-Methyl-2-pentanone (MIBK)	18.1	20.0	90	61 - 132
Styrene	19.8	20.0	99	80 - 132
1,1,2,2-Tetrachloroethane	19.6	20.0	98	72 - 131
Tetrachloroethene	17.4	20.0	87	72 - 131
Toluene	18.0	20.0	90	78 - 122
1,1,1-Trichloroethane	17.9	20.0	90	72 - 128
1,1,2-Trichloroethane	18.8	20.0	94	80 - 122
Trichloroethene	17.6	20.0	88	74 - 127

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Unicorn Management Consultants
Project: Union Rd #2011-100
Sample Matrix: Water

Service Request: R1104718
Date Analyzed: 8/30/11

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 259593

Analyte Name	Lab Control Sample RQ1108621-02 Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	19.8	20.0	99	72 - 138
o-Xylene	19.0	20.0	95	77 - 118
m,p-Xylenes	38.3	40.0	96	79 - 126

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Unicorn Management Consultants
Project: Union Rd #2011-100
Sample Matrix: Water

Service Request: R1104718
Date Analyzed: 8/31/11

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 259792

Lab Control Sample
RQ1108703-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Acetone	18.6	20.0	93	54 - 139
Benzene	19.2	20.0	96	78 - 121
Bromodichloromethane	20.7	20.0	104	80 - 125
Bromoform	20.5	20.0	102	68 - 130
Bromomethane	16.4	20.0	82	57 - 144
2-Butanone (MEK)	18.7	20.0	94	60 - 133
Carbon Disulfide	22.1	20.0	111	52 - 140
Carbon Tetrachloride	19.8	20.0	99	68 - 133
Chlorobenzene	20.0	20.0	100	80 - 121
Chloroethane	22.1	20.0	110	71 - 130
Chloroform	21.3	20.0	107	78 - 125
Chloromethane	18.8	20.0	94	61 - 138
Dibromochloromethane	21.0	20.0	105	78 - 133
1,1-Dichloroethane	20.6	20.0	103	76 - 124
1,2-Dichloroethane	20.9	20.0	104	73 - 127
1,1-Dichloroethene	19.2	20.0	96	72 - 129
cis-1,2-Dichloroethene	20.0	20.0	100	78 - 122
trans-1,2-Dichloroethene	19.9	20.0	100	75 - 121
1,2-Dichloropropane	20.4	20.0	102	80 - 123
cis-1,3-Dichloropropene	18.9	20.0	95	77 - 125
trans-1,3-Dichloropropene	18.4	20.0	92	69 - 127
Ethylbenzene	20.1	20.0	100	78 - 123
2-Hexanone	16.8	20.0	84	61 - 131
Methylene Chloride	20.2	20.0	101	75 - 125
4-Methyl-2-pentanone (MIBK)	16.7	20.0	84	61 - 132
Styrene	21.3	20.0	107	80 - 132
1,1,2,2-Tetrachloroethane	20.1	20.0	100	72 - 131
Tetrachloroethene	19.5	20.0	97	72 - 131
Toluene	19.4	20.0	97	78 - 122
1,1,1-Trichloroethane	19.9	20.0	99	72 - 128
1,1,2-Trichloroethane	19.5	20.0	97	80 - 122
Trichloroethene	19.3	20.0	96	74 - 127

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Unicorn Management Consultants
Project: Union Rd #2011-100
Sample Matrix: Water

Service Request: R1104718
Date Analyzed: 8/31/11

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 259792

Lab Control Sample
RQ1108703-02

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Vinyl Chloride	21.7	20.0	109	72 - 138
o-Xylene	20.4	20.0	102	77 - 118
m,p-Xylenes	41.9	40.0	105	79 - 126

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Unicorn Management Consultants
Project: Union Rd #2011-100
Sample Matrix: Water

Service Request: R1104718
Date Analyzed: 8/29/11

Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270D
Prep Method: EPA 3510C

Units: µg/L
Basis: NA

Extraction Lot: 140522

Analyte Name	Lab Control Sample RQ1108299-02 Result	Spike Amount	% Rec	Duplicate Lab Control Sample RQ1108299-03 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	56.0	100	56	54.4	100	54	10 - 127	3	30
1,2-Dichlorobenzene	54.3	100	54	51.8	100	52	23 - 130	5	30
1,3-Dichlorobenzene	51.5	100	52	51.0	100	51	21 - 90	<1	30
1,4-Dichlorobenzene	51.8	100	52	49.6	100	50	10 - 124	4	30
2,4,5-Trichlorophenol	95.9	100	96	88.8	100	89	62 - 117	8	30
2,4,6-Trichlorophenol	94.4	100	94	87.6	100	88	62 - 115	8	30
2,4-Dichlorophenol	91.4	100	91	90.7	100	91	62 - 109	<1	30
2,4-Dimethylphenol	92.5	100	93	87.7	100	88	28 - 100	5	30
2,4-Dinitrophenol	101	100	101	98.8	100	99	40 - 156	2	30
2,4-Dinitrotoluene	106	100	106	101	100	101	69 - 122	5	30
2,6-Dinitrotoluene	94.7	100	95	91.2	100	91	48 - 125	4	30
2-Chloronaphthalene	72.3	100	72	67.7	100	68	47 - 98	7	30
2-Chlorophenol	81.4	100	81	76.2	100	76	42 - 112	7	30
2-Methylnaphthalene	71.2	100	71	68.6	100	69	34 - 102	4	30
2-Methylphenol	77.1	100	77	75.1	100	75	51 - 95	3	30
2-Nitroaniline	97.4	100	97	89.4	100	89	60 - 119	9	30
2-Nitrophenol	90.4	100	90	89.3	100	89	60 - 113	1	30
3,3'-Dichlorobenzidine	77.6	100	78	78.8	100	79	44 - 114	1	30
3- and 4-Methylphenol Coelution	154	200	77	144	200	72	49 - 89	7	30
3-Nitroaniline	83.5	100	84	79.0	100	79	49 - 110	6	30
4,6-Dinitro-2-methylphenol	96.3	100	96	98.3	100	98	65 - 141	2	30
4-Bromophenyl Phenyl Ether	102	100	102	101	100	101	63 - 124	<1	30
4-Chloro-3-methylphenol	106	100	106	100	100	100	42 - 124	6	30
4-Chloroaniline	87.6	100	88	81.9	100	82	40 - 111	7	30
4-Chlorophenyl Phenyl Ether	94.2	100	94	90.0	100	90	59 - 112	4	30
4-Nitroaniline	97.3	100	97	91.2	100	91	61 - 122	7	30
4-Nitrophenol	48.0	100	48	52.3	100	52	10 - 126	9	30
Acenaphthene	90.8	100	91	82.6	100	83	54 - 125	9	30
Acenaphthylene	89.6	100	90	85.3	100	85	69 - 111	5	30
Anthracene	99.5	100	100	99.0	100	99	55 - 116	<1	30
Benz(a)anthracene	98.0	100	98	95.0	100	95	66 - 110	3	30
Benzo(a)pyrene	95.7	100	96	92.8	100	93	44 - 114	3	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Unicorn Management Consultants
Project: Union Rd #2011-100
Sample Matrix: Water

Service Request: R1104718
Date Analyzed: 8/29/11

Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270D
Prep Method: EPA 3510C

Units: µg/L
Basis: NA

Extraction Lot: 140522

Analyte Name	Lab Control Sample RQ1108299-02 Result	Spike Amount	% Rec	Duplicate Lab Control Sample RQ1108299-03 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Benzo(b)fluoranthene	106	100	106	104	100	104	64 - 122	2	30
Benzo(g,h,i)perylene	94.7	100	95	92.5	100	93	60 - 127	2	30
Benzo(k)fluoranthene	110	100	110	105	100	105	49 - 133	5	30
Benzyl Alcohol	101	100	101	91.9	100	92	31 - 109	9	30
2,2'-Oxybis(1-chloropropane)	89.8	100	90	84.7	100	85	44 - 112	6	30
Bis(2-chloroethoxy)methane	92.7	100	93	90.8	100	91	53 - 142	2	30
Bis(2-chloroethyl) Ether	82.8	100	83	81.0	100	81	56 - 106	2	30
Bis(2-ethylhexyl) Phthalate	101	100	101	97.9	100	98	62 - 124	3	30
Butyl Benzyl Phthalate	97.2	100	97	92.6	100	93	41 - 148	5	30
Carbazole	94.9	100	95	94.0	100	94	66 - 117	<1	30
Chrysene	99.2	100	99	96.6	100	97	57 - 118	3	30
Di-n-butyl Phthalate	98.6	100	99	97.4	100	97	57 - 139	1	30
Di-n-octyl Phthalate	112	100	112	107	100	107	77 - 120	4	30
Dibenz(a,h)anthracene	96.1	100	96	94.1	100	94	58 - 132	2	30
Dibenzofuran	86.3	100	86	81.1	100	81	58 - 105	6	30
Diethyl Phthalate	106	100	106	98.6	100	99	65 - 122	7	30
Dimethyl Phthalate	97.9	100	98	91.8	100	92	69 - 115	6	30
Fluoranthene	97.6	100	98	99.7	100	100	62 - 123	2	30
Fluorene	99.2	100	99	92.7	100	93	60 - 112	7	30
Hexachlorobenzene	101	100	101	105	100	105	76 - 116	3	30
Hexachlorobutadiene	59.6	100	60	56.0	100	56	16 - 95	6	30
Hexachlorocyclopentadiene	64.7	100	65	60.4	100	60	10 - 99	7	30
Hexachloroethane	52.7	100	53	48.2	100	48	15 - 92	9	30
Indeno(1,2,3-cd)pyrene	90.1	100	90	89.7	100	90	64 - 126	<1	30
Isophorone	89.5	100	90	86.9	100	87	61 - 128	3	30
N-Nitrosodi-n-propylamine	94.5	100	95	86.8	100	87	51 - 119	9	30
N-Nitrosodimethylamine	58.2	100	58	55.2	100	55	37 - 67	5	30
N-Nitrosodiphenylamine	97.8	100	98	97.5	100	97	45 - 123	<1	30
Naphthalene	65.9	100	66	65.4	100	65	36 - 95	<1	30
Nitrobenzene	81.6	100	82	78.5	100	79	51 - 113	4	30
Pentachlorophenol (PCP)	100	100	100	104	100	104	56 - 146	4	30
Phenanthrene	102	100	102	102	100	102	58 - 118	<1	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Unicorn Management Consultants
Project: Union Rd #2011-100
Sample Matrix: Water

Service Request: R1104718
Date Analyzed: 8/29/11

Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270D
Prep Method: EPA 3510C

Units: µg/L
Basis: NA

Extraction Lot: 140522

Analyte Name	Lab Control Sample RQ1108299-02 Result	Spike Amount	% Rec	Duplicate Lab Control Sample RQ1108299-03 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Phenol	37.7	100	38	35.6	100	36	10 - 113	6	30
Pyrene	104	100	104	103	100	103	67 - 118	2	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Columbia Analytical Services™ CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

1 Mustard Street, Suite 250, Rochester, NY 14609 | 585.288.5380 | 800.695.7222 | 585.288.8475 (fax)

Project Name: Union Road	Project Number: 2011-100
Project Manager: Mike O'Connor	Report CC:
Company/Address: Unicorn Management Consultants 52 Federal Road, Suite 2C Danbury, CT 06810	
Phone #: (203)205-9000	E-mail: moconnor@unicornmgt.com
Sampler's Signature:	Sampler's Printed Name:

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOA's ☒ 8260 ☐ 624 ☐ CLP	GC/MS SVOA's ☒ 8270 ☐ 625	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES ☐ 8081 ☐ 608	PCB's ☐ 8082 ☐ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below) 6010C As, Pb	1664	REMARKS/ ALTERNATE DESCRIPTION
MW-10S-2011	001, 002	8-23-11	1500	GW	6	X	X				X	X		
MW-10M-2011	003, 004	8-23-11	1515	GW	6	X	X				X	X		
MW-10D-2011	005, 006	8-23-11	1530	GW	6	X	X				X	X		
MW-11S-2011	007, 008	8-23-11	1545	GW	6	X	X				X	X		
MW-11M-2011	009, 010	8-23-11	1600	GW	6	X	X				X	X		
MW-12S-2011	011, 012	8-23-11	1615	GW	6	X	X				X	X		
MW-12M-2011	013, 014	8-23-11	1630	GW	6	X	X				X	X		
MW-12D-2011	015, 016	8-23-11	1645	GW	6	X	X				X	X		
MW-13S-2011	017, 018	8-23-11	1700	GW	6	X	X				X	X		
MW-13M-2011	019, 020	8-23-11	1715	GW	6	X	X				X	X		

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals Dissolved, require lab filtering.

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED: NY

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day
X Standard

REQUESTED REPORT DATE
_____

REPORT REQUIREMENTS
_____ I. Results Only
X II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
_____ III. Results + QC and Calibration Summaries
_____ IV. Data Validation Report with P-

Edata X Yes _____ No

INVOICE INFORMATION
PO #:
BILL TO:

R1104718
Unicorn Management Consultants
Union Rd #2011-100

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	
Signature: Gary Bohan	Signature: B Doyle	Signature:	Signature:	Signature:	Signature:
Printed Name: Gary Bohan	Printed Name: B Doyle	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Firm: UMC	Firm: CAS	Firm:	Firm:	Firm:	Firm:
Date/Time: 8-24-11 / 845	Date/Time: 8/24/11 0845	Date/Time:	Date/Time:	Date/Time:	Date/Time:

Distribution: White - Lab Copy; Yellow - Return To Originator

Columbia Analytical Services™ CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

1 Mustard Street, Suite 250, Rochester, NY 14609 | 585.288.5380 | 800.695.7222 | 585.288.8475 (fax)

Project Name: Union Road	Project Number: 2011-100
Project Manager: Mike O'Connor	Report CC:
Company/Address: Unicorn Management Consultants 52 Federal Road, Suite 2C Danbury, CT 06810	
Phone #: (203) 205-9000	E-mail: moconnor@unicornmgt.com
Sampler's Signature: Gary Bohan	Sampler's Printed Name: Gary Bohan

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOA's ☒ 8260 ☐ 624 ☐ CLP	GC/MS SVOA's ☒ 8270 ☐ 625	GC VOA's ☐ 8021 ☐ 601/602	PESTICIDES ☐ 8081 ☐ 608	PCB's ☐ 8082 ☐ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below) 6010C As, Pb	1664	REMARKS/ ALTERNATE DESCRIPTION
MW-14S-2011	-021, 022	8-23-11	1730	GW	6									
Trip Blank-2011	-023				3									

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS
Metals Dissolved, require lab filtering.

☐ See QAPP

STATE WHERE SAMPLES WERE COLLECTED: NY

TURNAROUND REQUIREMENTS
_____ RUSH (SURCHARGES APPLY)
_____ 1 day _____ 2 day _____ 3 day
_____ 4 day _____ 5 day
☒ Standard

REQUESTED REPORT DATE
_____

REPORT REQUIREMENTS
_____ I. Results Only
☒ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
_____ III. Results + QC and Calibration Summaries
_____ IV. Data Validation Report with Raw Data

Edata ☒ Yes _____ No

INVOICE INFORMATION
PO #:
BILL TO:

R1104718

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Gary Bohan	Signature: B Doyle	Signature	Signature	Signature	Signature
Printed Name: Gary Bohan	Printed Name: B Doyle	Printed Name	Printed Name	Printed Name	Printed Name
Firm: UMC	Firm: GES	Firm	Firm	Firm	Firm
Date/Time: 8-24-11 / 845	Date/Time: 8/24/11 0845	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Lab Copy; Yellow - Return To Originator

Cooler Receipt And Preservation Check Form

Project/Client Unicorn Folder Number R1104718.

Cooler received on 8/24/11 by: AW/BD **COURIER:** CAS UPS FEDEX VELOCITY (CLIENT)

1.	Were custody seals on outside of cooler?	(YES)	NO			
2.	Were custody papers properly filled out (ink, signed, etc.)?	(YES)	NO			
3.	Did all bottles arrive in good condition (unbroken)?	(YES)	NO			
4.	Did VOA vials, Alkalinity, or Sulfide have significant* air bubbles?	YES	(NO)	N/A		
5.	Were **Ice** or **Ice packs** present?	(YES)	NO			
6.	Where did the bottles originate?	(CAS/ROC), CLIENT				
7.	Temperature of cooler(s) upon receipt:	5.6°	3.5°	3.4°	____	____
	Is the temperature within 0° - 6° C?:	(Yes)	(Yes)	(Yes)	Yes	Yes
	If No, Explain Below	No	No	No	No	No

Date/Time Temperatures Taken: 8/24/11 0850

Thermometer ID: (IR GUN#3) / IR GUN#4 Reading From: (Temp Blank) / Sample Bottle

If out of Temperature, note packing/ice condition, Client Approval to Run Samples: ____

PC Secondary Review: KB 8/24/11

Cooler Breakdown: Date: 8/24/11 Time: 1307 by: AW

1.	Were all bottle labels complete (*i.e.* analysis, preservation, etc.)?	(YES)	NO	
2.	Did all bottle labels and tags agree with custody papers?	(YES)	NO	
3.	Were correct containers used for the tests indicated?	(YES)	NO	
4.	Air Samples: Cassettes / Tubes Intact	Canisters Pressurized	Tedlar® Bags Inflated	(N/A)

Explain any discrepancies: ____

pH	Reagent	YES	NO	Lot Received	Exp
≥12	NaOH				
≤2	HNO_3				
≤2	H_2SO_4			WC10313A	8/12
Residual Chlorine (-)	For TCN and Phenol			If present, contact PM to add ascorbic acid	
	$Na_2S_2O_3$	-	-		
	Zn Aceta	-	-		
	HCl	*	*	4110066	7/12

Sample ID	Vol. Added	Lot Added	Final pH

*Not to be tested before analysis – pH tested and recorded by VOAs or GenChem on a separate worksheet

Yes = All samples OK

No = Samples were preserved at lab as listed

PM OK to Adjust: ____

Bottle lot numbers: 1-045-004, 050911-15, 072511-20D.

Other Comments:

PC Secondary Review: KB 9/14/11

*significant air bubbles: VOA > 5-6 mm : WC >1 in. diameter