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Unicorn Management Consultants, LLC

ANNUAL GROUNDWATER MONITORING REPORT
CLOSURE YEAR 17 (2013)

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

January 21, 2014

Document Authorization Form

Annual Groundwater Monitoring Report
Closure Year 17 (2013)

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

January 21, 2014

AUTHORIZATIONS:

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

1/21/14

Date

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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 a 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.

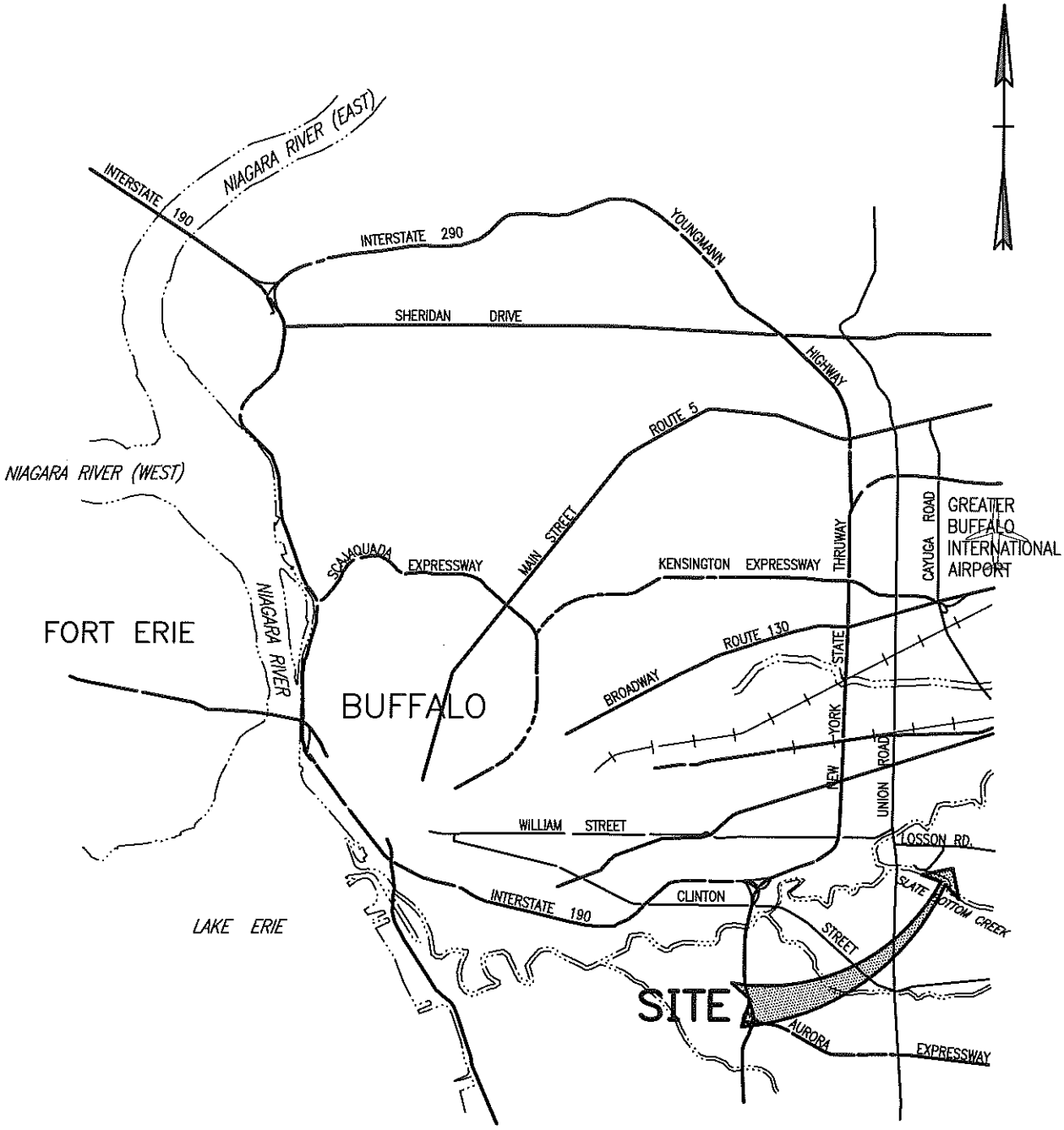
The Union Road site ("the Site") is a Class 2 Site as defined by the New York State Department of Environmental Conservation (NYSDEC). The Site registry number is 915128. The Site is located at 333 Losson Road in Cheektowaga, New York (see Figure 1-1). A Record of Decision (ROD) for the Site was signed 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 17 (2013). This is the 21st sampling event since the landfill closure (December 1997).

The purpose of GMP is as follows:

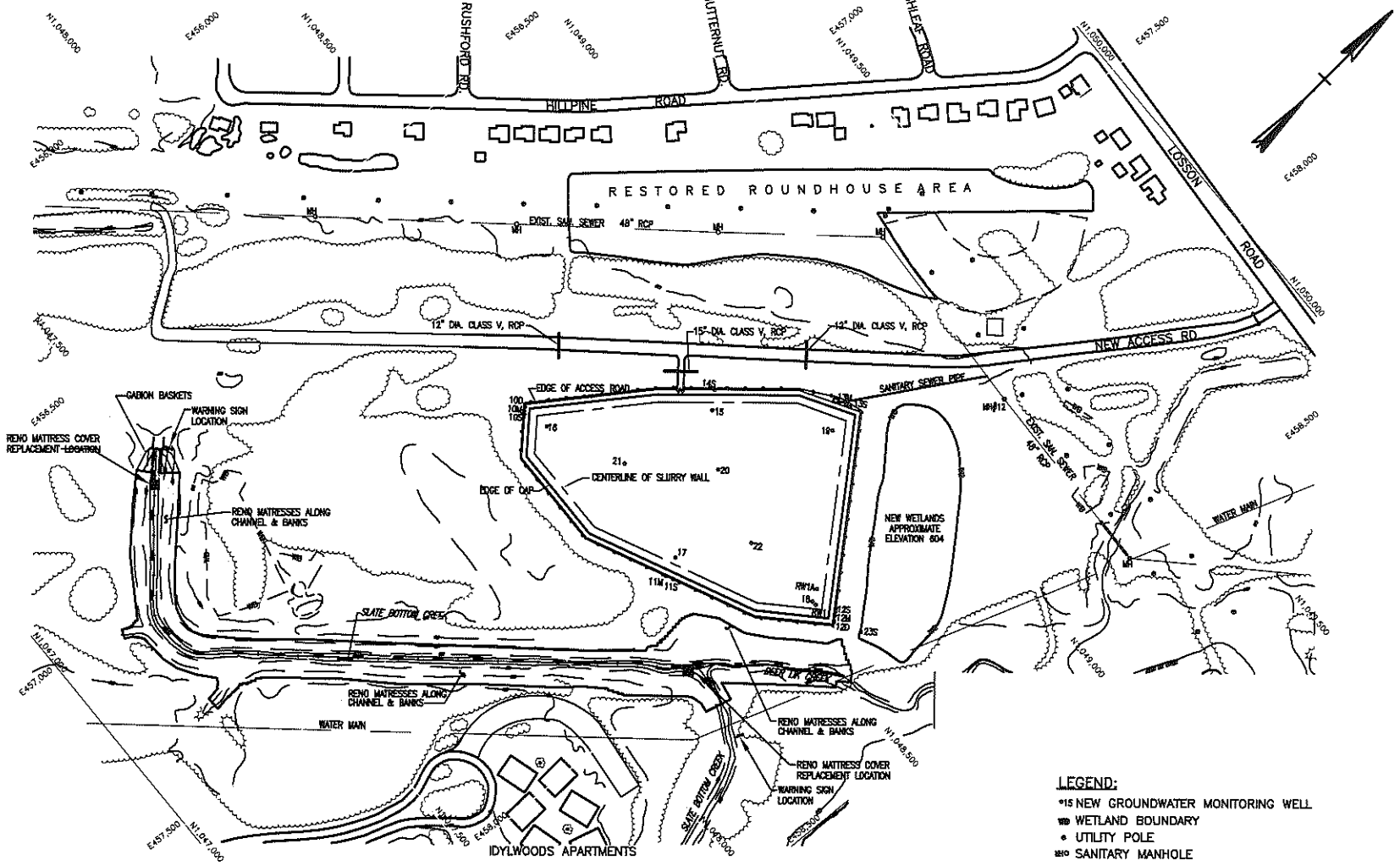
- Monitor the groundwater gradient of the three hydrogeologic units in and around the closure area; and
- Evaluate the groundwater quality to assess the effectiveness of the remedial action performed in accordance with 1995 Design Report.



REVISION NO.				
NO.	DATE			
		PROJECT	UNION ROAD SITE TOWN OF CHEEKTOWAGA, NEW YORK	
		DRAWING	LOCATION MAP	

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:	
FIGURE #	1-1



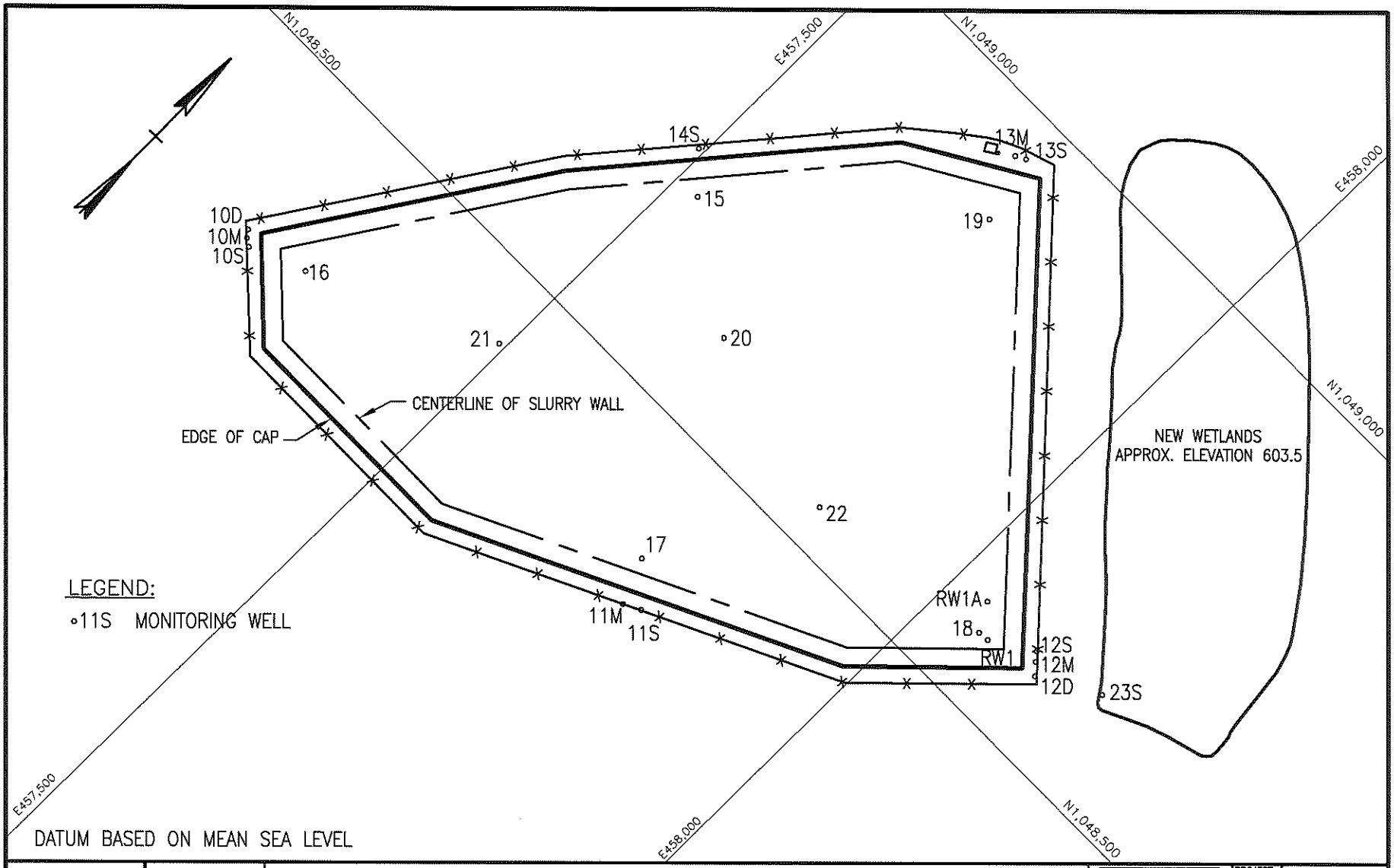
REVISIONS		PROJECT	UNION ROAD SITE TOWN OF CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200
NO.	DATE				FILENAME: 2045100B
		DRAWING	SITE LOCATION		SCALE: 1" =400' DATE: 8/23/06
					BY: AD CK:
					FIGURE # 1-2

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
NO.	DATE				FILENAME: 2045100B
		DRAWING	GROUNDWATER MONITORING WELL LOCATIONS		SCALE: 1"=150' DATE: 1/15/02
					BY: AD CK:
					FIGURE # 2-1

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 2013 was conducted on September 12, 2013. 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.

Acetone was detected in MW-12S, but was not detected in any other sample collected. No other VOCs were detected in any of the monitoring wells during this annual sampling event. Additionally no TPH, Arsenic, Lead, or SVOCs were detected in any of the monitoring wells during this annual 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 17 (2013)

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: MP
Date: 1/9/14
Checked by: MO
Date: 1/21/14

TABLE 3-2
UNION ROAD
GROUNDWATER MONITORING REPORT

Unicorn Management Consultants, LLC

September 12, 2013
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	10.09	613.00	13.10	2.1	6.40	
10M	622.50	589.6	12.40	610.10	20.50	3.3	10.00	
10D	622.02	574.1	16.36	605.66	31.56	5.1	7.00	
11S	622.74	597.1	15.78	606.96	9.86	1.6	4.80	
11M	622.86	578.4	21.43	601.43	23.03	3.7	11.30	
12S	622.62	595.8	21.14	601.48	5.68	0.9	2.00	
12M	622.97	578.8	22.35	600.62	21.82	3.5	10.70	
12D	621.18	557.8	19.59	601.59	43.79	7.0	21.40	
13S	622.96	599.1	12.92	610.04	10.94	1.8	5.30	
13M	621.66	585.8	12.75	608.91	23.11	3.7	9.00	
14S(2)	621.61	602.1	11.71	609.90	7.80	1.3	3.80	

(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: MP
Date: 1/9/14
Checked by: MO
Date: 1/21/14

TABLE 3-3
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2013

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
2-methlynapthalene	ND	ND	ND	ND	ND	9.4
4,6-dinitro-2-methylphenol	ND	ND	ND	ND	ND	47

Prepared by: MP
Date: 1/9/14
Checked by: MO
Date: 1/21/14

TABLE 3-3
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2013

Unicorn Management Consultants, LLC

SHALLOW WELL SVOCs

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: MP
Date: 1/9/14
Checked by: MO
Date: 1/21/14

TABLE 3-4
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2013

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	16	ND	ND	10
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	16	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)
16	10
0.0	2,840
0.0	24
0.0	5,313

ND - Not Detected, above the laboratory detection limit

Prepared by: MP
Date: 1/9/14
Checked by: MO
Date: 1/21/14

TABLE 3-5
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2013

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

Prepared by: MP
Date: 1/9/14
Checked by: MO
Date: 1/21/14

TABLE 3-5
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2013

Unicorn Management Consultants, LLC

MEDIUM WELL SVOCs

2-methylphenol	ND	ND	ND	ND	47
4,6-dinitro-2-methylphenol	ND	ND	ND	ND	9.4
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: MP
Date: 1/9/14
Checked by: MO
Date: 1/21/14

TABLE 3-6
UNION ROAD
ANNUAL GROUNDWATER MONITORNG
for 2013

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	10
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: MP
Date: 1/9/14
Checked by: MO
Date: 1/21/14

TABLE 3-7
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2013
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: MP
Date: 1/9/14
Checked by: MO
Date: 1/21/14

TABLE 3-7
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2013
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: MP
Date: 1/9/14
Checked by: MO
Date: 1/21/14

TABLE 3-8
UNION ROAD
ANNUAL GROUNDWATER MONITORING
for 2013
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	10
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

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 September 12, 2013, 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: MP
Date: 1/9/14
Checked by: MO
Date: 1/21/14

TABLE 4-1
UNION ROAD
GROUNDWATER MONITORING REPORT

Unicorn Management Consultants, LLC

GROUNDWATER WELL MEASUREMENTS
September 12, 2013

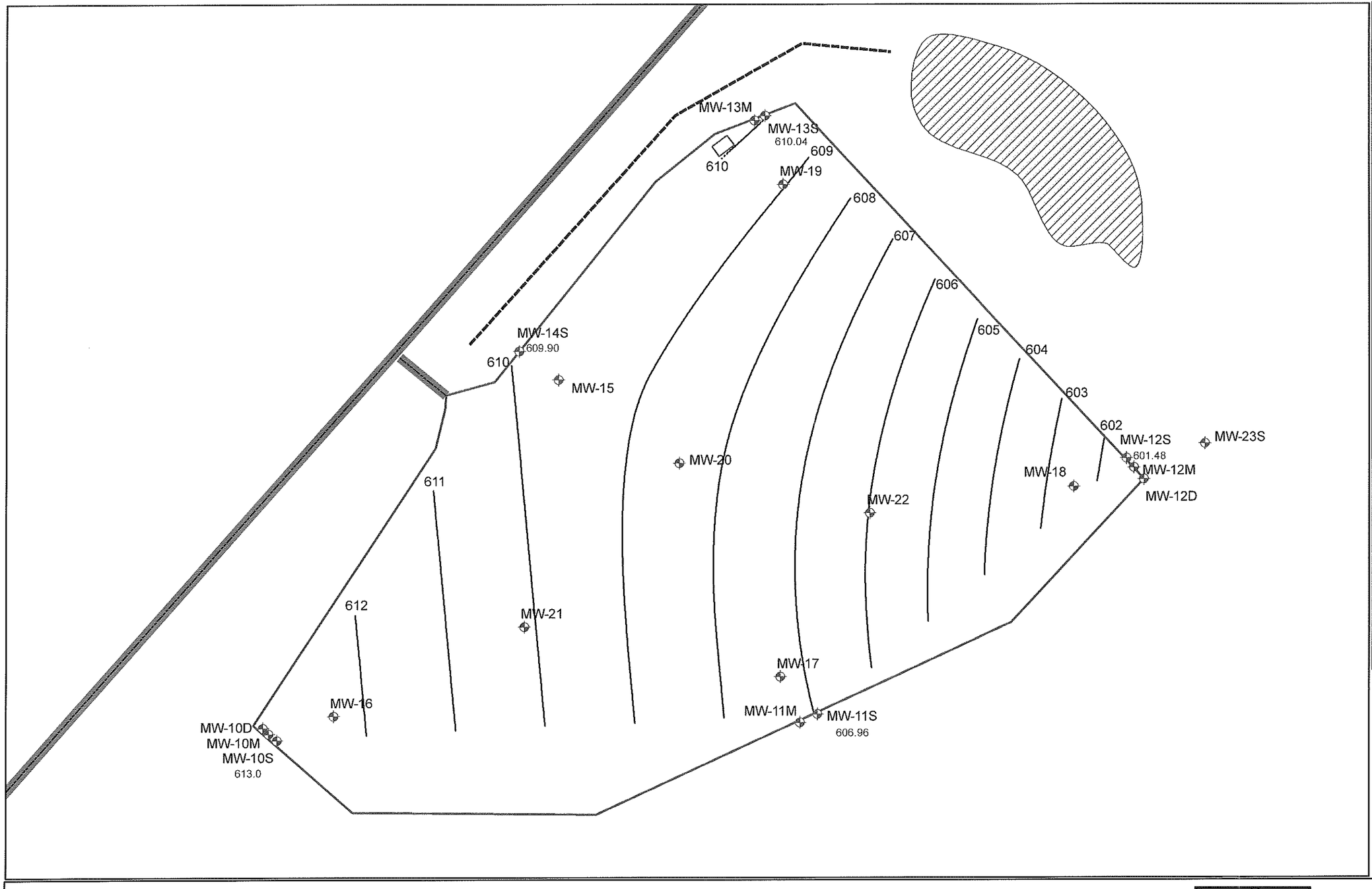
Well Number	Riser Elev.[1] (Feet)	Depth to Water (Feet)	Water Elev. (Feet)
10S	623.09	10.09	613.00
10M	622.50	12.40	610.10
10D	622.02	16.36	605.66
11S	622.74	15.78	606.96
11M	622.86	21.43	601.43
12S	622.62	21.14	601.48
12M	622.97	22.35	600.62
12D	621.18	19.59	601.59
13S	622.96	12.92	610.04
13M	621.66	12.75	608.91
14S [2]	621.61	11.71	609.90
15	624.67	16.65	608.02
16	624.51	15.02	609.49
17	624.44	11.64	612.80
18 [3]	624.67	Dry	<602.75
19	625.08	21.35	603.73
20 [4]	631.98	29.62	602.36
21	629.25	25.44	603.81
22 [4]	629.24	25.80	603.44
23S	607.45	9.98	597.47
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 9/12/2013

Unicorn Management Consultants, LLC

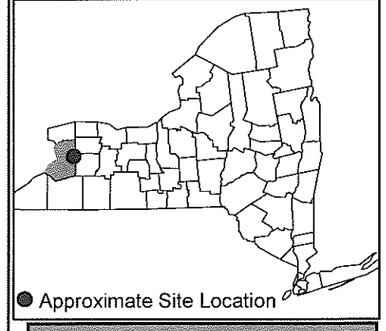
52 Federal Road
Suite 2C
Danbury, CT
06810

(203) 205-9000

Project Name: Union Road

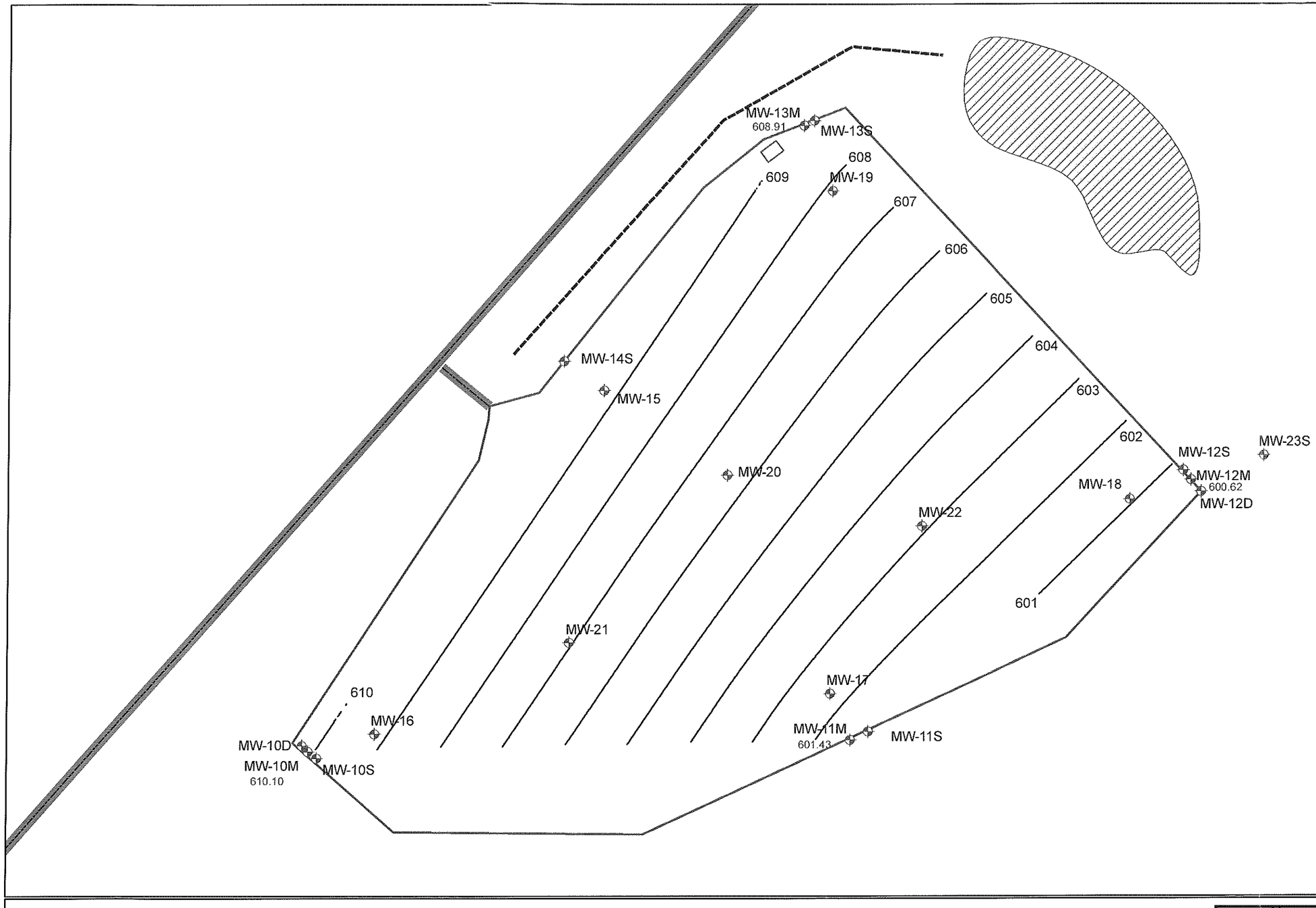
Figure 4-1

Author: RTM	**Checked By:** ----
Project #: 2011	**Created:** 10/10/2011 **Revised:** 1/10/14
Scale: 1 in:100 ft	**File:** GWContour_S_2013



Legend

- Monitoring Wells
- Contour
- Road
- Ditch
- Fence
- Shed
- Pond



0 62.5 125 250 375 500 Feet

Union Road- Middle Groundwater Elevation Contour Map for 9/12/13

N W E S

Unicorn Management Consultants, LLC

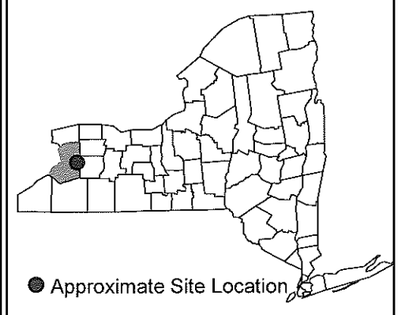
52 Federal Road
Suite 2C
Danbury, CT
06810

(203) 205-9000

Project Name: Union Road

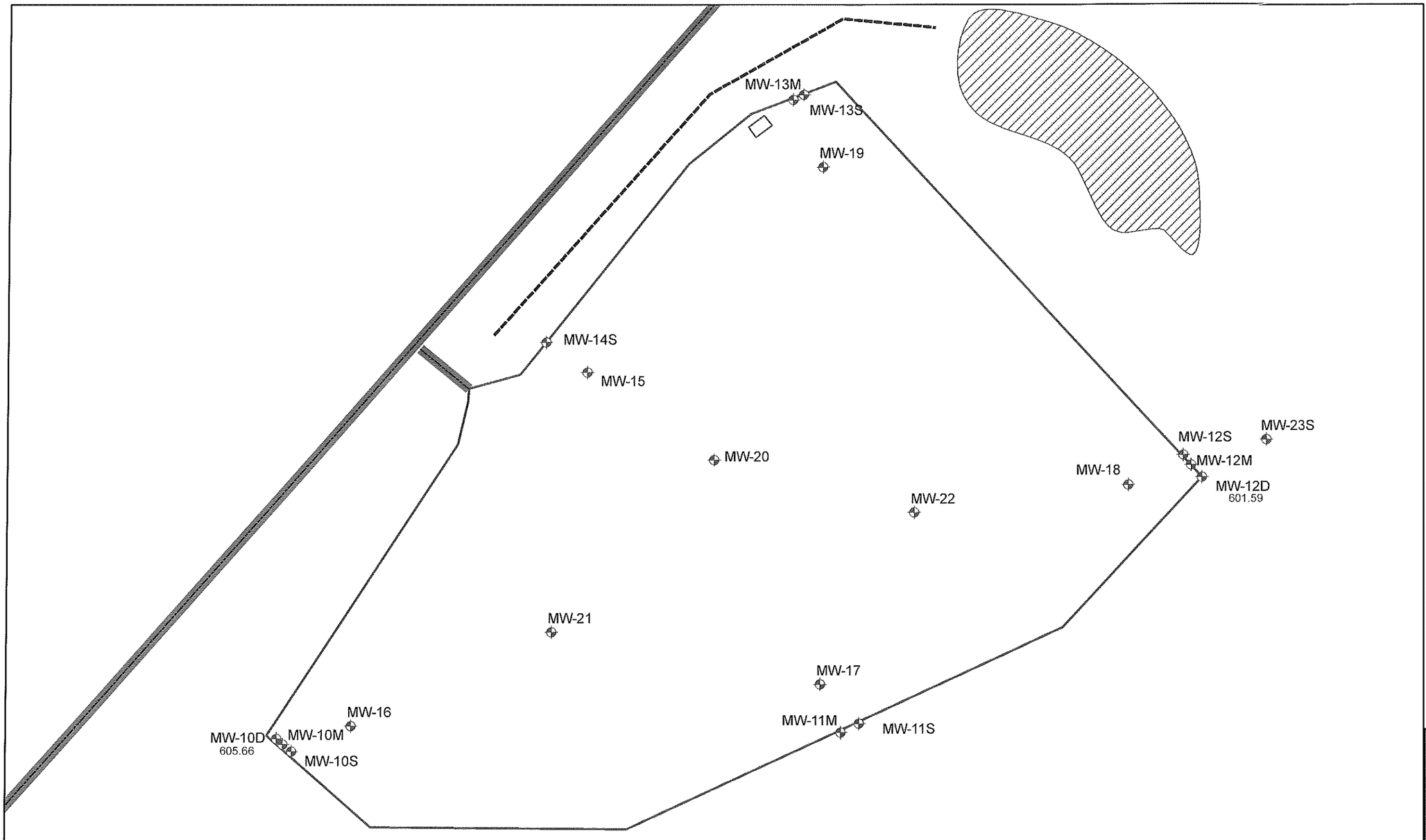
FIGURE 4-2

Author: RTM	**Checked By:** ----
Project #: 2011	**Created:** 10/10/2011 **Revised:** 1/13/14
Scale: 1 in:100 ft	**File:** GWContour_M_2013



Legend

- Monitoring Wells
- Contour
- Road
- Ditch
- Fence
- Shed
- Pond



Unicorn Management Consultants, LLC

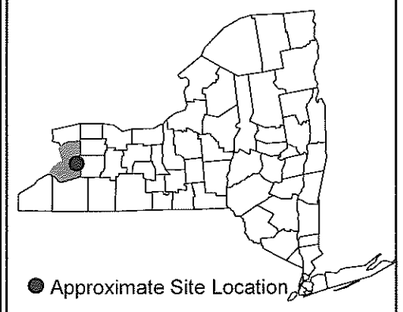
52 Federal Road
Suite 2C
Danbury, CT
06810

(203) 205-9000

Project Name: Union Road

FIGURE 4-3

Author: RTM	**Checked By:** ----
Project #: 2011	**Created:** 10/10/2011 **Revised:** 1/14/14
Scale: 1 in:100 ft	**File:** GWContour_D_2013



Legend

- Monitoring Wells
- Road
- Ditch
- Fence
- Shed
- Pond

0 62.5 125 250 375 500 Feet

N W E S

Union Road-Deep Groundwater Elevation Map 9/12/13

5. CONCLUSION

5.1 SITE INSPECTION AND MAINTENANCE

UMC performed an annual site inspection on April 16, 2013. 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 2013. 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 2013 site inspection, no woodchuck burrows were noted.

As requested by the NYSDEC, grass on the landfill area was mowed only once during August.

On December 19, 2013, while conducting the 4Q13 quarterly discharge sampling on site, UMC discovered that the pump failed to start when manually activated. UMC was unable to diagnose the problem while on site. On January 13, 2014 UMC met with a local electrician to diagnose the electrical system. The electrician concluded that the problem was caused by the loss of an incoming leg between the pole and the pump station and that UMC would have to contact the power company. UMC called New York State Electric and Gas Corporation (NYSEG) and reported the problem. NYSEG met with UMC on site and fixed the leg on January 13, 2014. The remediation system is now operating normally.

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 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 reno mattresses installed along the creek are in good condition with the exception of one area near the confluence of Slate Bottom and Deer Lik Creeks. The mattress cover in this area was repaired once before in August 2006, and is again being worn away by all terrain vehicle (ATV) traffic. Despite the damage to the mattress cover, however, the bank in this area appears stable with all rocks still in place. 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 2013 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 VOCs, other than acetone in MW-12S, were detected in any of the monitoring wells during this annual sampling event. Additionally no TPH, Arsenic, Lead, or SVOCs were detected in 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. 10-5

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

DRILLING CONTRACTOR/DRILLER MANM

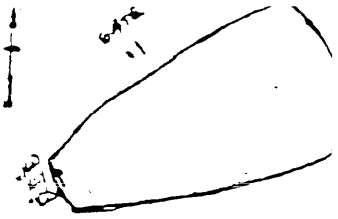
GEOLOGIST. OFFICE JOHN J ZACHER JR

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 .0

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

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
				Sampling Starts At 4' B.G.			
4			6	Br To Tan/Grey Clay w Little Angular Rocks To 1/2"	Stiff, Damp		
5	4	21"	6 5				
	6		10 6	0-3" Brick To Tan/Grey Clay Some Rocks To 3/4"	Stiff Damp		
	6	21"	45 20	3-15" Cinders w/Some Rocks. - Damp			
	8		10	15-21" Brown/Tan Clay Some Sand, Little Silt Trace Rocks	Saturated Little H2O		
	4		8	Tan/Lt Brown Clay	Stiff, Little H2O		
	5	24"	5				
10	10		10				
	10	12"	2 3	Tan/Lt Brown Clay	Med Stiff Some H2O		
	12		3				
	12		2	Tan/Lt Brown Clay - Trace Silts	Med Stiff		
		16"	3		Some H2O		
	14		4				
	14		2	Grey To Lt Brown Clay — Little Rounded Rocks	Med Stiff		
15		20"	2 3		Some H2O		
	16		4				
	16		2	Tan To Lt Brown Clay	Med Stiff		
		18"	3 4		Some H2O		
	18		5				
	18		2	Greyish Brown Clay Trace Organics.	Med Stiff		
		20"	2 3		Some H2O		
20			3	End Boring 21' B.G.S. - 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 Woodward - 2035-200 | LOCATION BUFFALO NY

DRILLING CONTRACTOR/DRILLER MANM

GEOLOGIST. OFFICE JOHN J ZACHER JR

DRILLING EQUIPMENT. METHOD HSA | SIZE TYPE OF BIT 6" HSA | SAMPLING METHOD SPLIT SPOON | START. FINISH D: 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: 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
				SAMPLING STARTS 4' BG.			
5	4	20"	6	BLK TO TAN/GREY CLAY W/LITTLE ROCKS TO 4"	STIFF, DAMP		
	6		6				
	6		6	0-7" BLK TO TAN/GREY CLAY SOME ROCKS	STIFF DAMP		
		22"	8	7-14" CINDERS	DRY		
	8		12	M-22' BROWN TAN CLAY LITTLE ROCKS	MED STIFF, LITTLE H2O		Cont
	3		7				
		24"	8	TAN/LT BROWN CLAY	STIFF, LITTLE H2O		
10	10		9				
	12	15"	13	TAN/LT BROWN CLAY	MED STIFF SOME H2O		
	12		5				
	12	15"	3	TAN/LT BROWN CLAY	MED STIFF SOME H2O		
	14		5				
15	14	20"	3	TAN/LT BROWN CLAY, LITTLE GREY LITTLE ROUND ROCKS	MED STIFF SOME H2O		
	16		4				
	16	19"	3	TAN TO LT BROWN CLAY	MED STIFF SOME H2O		Ben
	18		3				
	18	20"	3	GREYISH BROWN CLAY, SOME ORGANICS	MED STIFF SOME H2O		+ SP
	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.	10 M
PROJECT NO.- NAME	UNION ROAD - 2035 - 200
LOCATION	BUFFALO NY
DRILLING CONTRACTOR/DRILLER	MANM
GEOLOGIST. OFFICE	JOHN J ZACHER JR
DRILLING EQUIPMENT. METHOD	HSA
SIZE/TYPE OF BIT	6" HSA
SAMPLING METHOD	SPLIT SPOON
START. FINISH D.	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 5 8	DARK GREY W/ ~~SOME~~ LITTLE ORGANICS	MED STIFF, SOME H2O
	22 – 24	21	4 5 7 9	GREY & SOME BROWN CLAYS	MED STIFF, LITTLE H2O
25	24 – 26	20	2 3 3 3	GREY CLAY	SOFT, WET
	26 – 28	21	1 2 2 10	TOP 14" GREY CLAY BOT 7" GREY/LT BROWN CLAY, SOME ROCK FRAGS, LITTLE SAND	SOFT WET WET, NOT COHESIVE
30	28 – 30	17"	12 8 4 2	LT BROWN SILTS W/ SOME SAND 0-6" LT BROWN/TAN CLAY, SOME ROCKS 1/2-1" 6-17"	WET, LOOSE SOFT-WET

BoB @ 31' Bgl

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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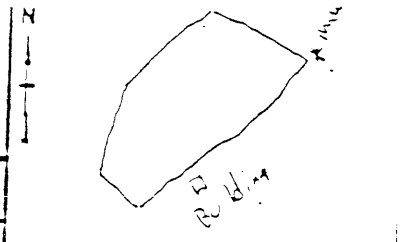
TEST BORING LOG



BORING NO. MW-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	12/6 - 12/7/96

WELL INSTALLED?	CASING MAT./ DIA.	SCREEN: TYPE	MAT.	LENGTH	DIA.	SLOT SIZE
YES ☒ NO ☐	Stainless / 2"	Slot	Stainless	10'	2"	.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
				Sampling started @ 4' BG.			
5		21"	5 6 9 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" Blk Cinder like material w/ ~~same~~ w/ angular Fragmented Rock, 1" in size Bottom 6" Brown/Tan Sand/Silty Clay w/ 10%-20% Rx Frag. 2"	Stiff, Damp Dry Not Cohesive, little H_2O		
		24"	7 8 10 9	Tan to Lt Brown clay, No Rocks	m. stiffness w/ some H_2O		
10		16"	1 2 2 3 3	Tan to lt Brown clay w/o Rocks	m. Stiffness w/ some H_2O		
		15"	1 3 3 5	tan to lt Brown Clay w/o Rocks Possibly Some Silts	m. stiffness w/ some H_2O		
15		20"	2 2 3 4	Grey to lt Brown Mottled clay w/ trace rounded Rocks, ¼ - ⅛" 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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C 01 r

TEST BORING LOG

BORING NO. MW- 10D

PROJECT NO.. NAME: Union Road 2035-200

LOCATION: Buffalo NY

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

GEOLOGIST, OFFICE: James Doan

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 .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
20-22'		21"	1 3 5 8	Greyish/Blk/Dk 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/H Brown/ Clays w/ some Fgy. Rks, Sands	soft wet soft wet Not cohesive wet		
28-30-32'		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 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		
15				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, ST = Shelby Tube, CSC = Continuous Soil Core

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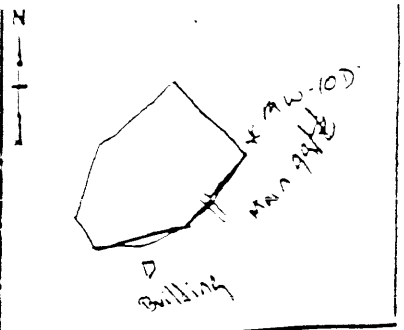
TEST BORING LOG



BORING NO. MW-10D

PROJECT NO.. NAME: 2035-200 Union Road

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:

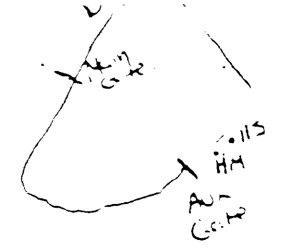
DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
5				@ 45 the water bearing zone The hole has collapsed The Rock isn't very consolidated	B.O.B 45.5' BG		
10							
15							

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

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

TEST BORING LOG

BORING NO.	MW-11S
PROJECT NO., NAME	NiagaRoad 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	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

SAMPLING STARTED AT 4' B.G.

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT - 0.5FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LOG
4'–6'		15"	10, 9, 10, 10	Brown/Dark Brown Silts & Clays, Trace Rx Fragments < 1/8"	Stiff, Dry-Little to no H_2O		
6'–8'		15"	4, 9, 12, 11	Brown/Dark Brown Silts and Clays, no Rxs, Fill	Stiff, Little to no H_2O		
8'–10'		10"	12, 12, 12, 12	Brown/Dark Brown Clays, Trace Rx Frags, Fill	Stiff, Little to no H_2O		
10'–12'		13"	4, 6, 6, 10	Top 9" Dark Brown Clays w/some organics; Bottom 4" - Grey Silts/Clays and organics	Stiff - Little to no H_2O; Stiff - Little H_2O, Med		
12'–14'		20"	8, 9, 10, 13	Grey Clays, Little organics	Medium Stiffness, Some H_2O		
14'–16'		13"	5, 11, 15, 15	Top 6" - Grey Clays, Little organics; Bottom 12" - Reddish Brown Clay, no Rxs, organics	Med Stiffness w/some H_2O; Stiff - Little to no H_2O		
16'–18'		21"	18, 20, 20, 22	Reddish Brown Clays w/Grey Layers. Grey Layers May Be Evidence of Varved Clays	Stiff - Little to no H_2O		
18'–20'		12"	5, 5, 4, 4	Reddish Brown Clays w/Grey Layers. Grey Layers May Be Evidence of Varved Clays	M. Stiffness, Damp		

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	HSA
SIZE/TYPE OF BIT	6" HSA
SAMPLING METHOD	Split Spoon
START, FINISH DATE	1/2/97
WELL INSTALLED?	YES ☒ NO ☐
CASING MAT./DIA.	SS / 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
20	20	24"	3, 5, 6, 5	Brown / Drk Brown Clays, no Ros.	Stiff; Little - no H2O
22	22	23"	2, 4, 5, 4	Brown w/ some Grey Clays	Stiff; Trace H2O
	24			BOB 24' 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

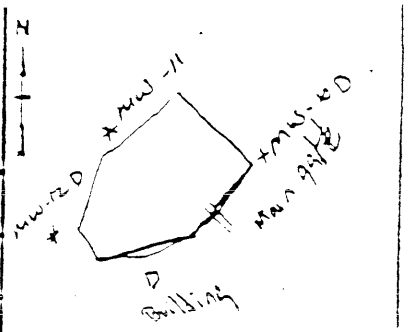
BORING NO. MW-11M

PROJECT NO.. NAME Union Road 2035-200

LOCATION Buffalo NY

DRILLING CONTRACTOR/ DRILLER Maxim

GEOLOGIST, OFFICE James Dean



DRILLING EQUIPMENT. METHOD	SIZE. TYPE OF BIT	SAMPLING METHOD	START. FINISH. DATE
HSA		Split Spoon	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 .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
				Sampling started @ 4' BG			
4'			10				
5 6'		14"	8 10 10	Brown/DrkBrown silts + clays w/ Trace amounts of Rx Fragments. less than ½"	Stiff little to No H_2O		
6'			8	Brown/Drk Brown silts + clays, w/o Rxs	Stiff little to No H_2O		
8'		13"	12 12 14	Most likely Fill			
8'				Drk Brown clays w/ Trace amounts of Rx frags.	Stiff little to No H_2O		
		4"		most liky Fill			
10 10'				Top 8" Drk Brown clays w/ some Organics	Stiff little to No H_2O		
10'		10"	3 4 5	Bottom 2" Grey silts + clays w/ some Organics	~~little to No H_2O~~ soft w/ some H_2O		
12'			9	Top 4" discarded looked as if they fell into hole			
12'		18"	5 18		m. Stiffness Some H_2O		
14'			15	Bottom 14" Grey clays w/ Some organics + Trace ashes or soot.			
14'			7		Stiff		
15		19"	11 11	Reddish Brown clays w/ No Rxs or organics	little to No H_2O		
16'			20				
16'			19		Stiff		
		24"	25 18	Reddish Brown clays w/ Grey layers evidence of The grey layers may be varbed clays.	little to No H_2O		
18'			20		m. Stiffness		
18'			6	Reddish Brown clays w/ Grey layers			
			3 4	The Grey layers may be evedence of Varbed clays	Damn		
20			5				

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

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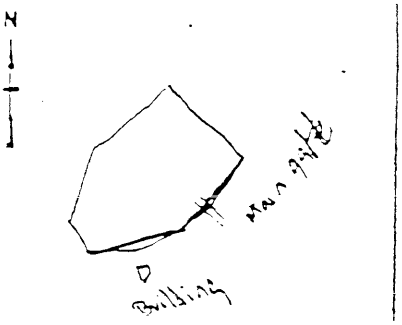
TEST BORING LOG



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

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

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

REMARKS:

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING — DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOG
20'			6	- Reddish brown varbed clays w/ Red, Grey, and dark Brown layers.	Soft Wet		
22'		24"	3 3 3				
22'					Soft		
24'		12"	3 2 4	Reddish/ Brown clays	Wet		
24			1 1 3	Reddish Brown (Fleshy Color) clays ¼" - ½" Rx frags. w/ Rounded edges.	Soft Wet		
26'		18"					
26'			3 4 5	Reddish Brown (Fleshy Color) clays ¼" - 2" Rx frags w/ rounded edges.	Soft Wet		
28'		18					
28'			2 2 2	Reddish Brown (Fleshy Color) clays + 40%-50% Rock fragments w/ some rounded edges	Soft Wet		
30'		13"					
30'			5 6 7	- Mostly Rocks 70% w/ Some Reddish Brown (Fleshy color) clays	Soft Wet		
32'		4"					
32'			3 3 3	- Reddish Brown (Flesh color) clays + silts - Some Sands 20-30% rock mostly smoothed pebbles ¼" - 1"	Soft Wet		
34'		14"					
34'			1 8 15	Reddish Brown/ Grey silts + clays 10% Rocks + Sands	The sample Ranged from Soft → hard Wet Soft → Hard		
36'		13"	22				
36			24	Reddish Brown/ Grey silts, clays, Sands + Rocks.	Wet		
35		5"	54/2"				
				Bed Rock @ 39' BG			

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

CT - Shelby Tube, CSC = Continuous Soil Core

TEST BORING LOG

BORING NO. 17-S

PROJECT NO. NAME Woodlawn - 2035-200 | LOCATION BUFFALO NY

DRILLING CONTRACTOR/ DRILLER MANM

GEOLOGIST. OFFICE JOHN J ZACHER JR

DRILLING EQUIPMENT. METHOD	SIZE TYPE OF BIT	SAMPLING METHOD	START. FINISH DA
HSA	4" 4¼" & HSA	SPLIT SPOON	1-2-97

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

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 LOG
				SAMPLING START AT 15' BG			
15	15	24"	6 9 9 7 6 5	BROWN CLAYS - FILL	STIFF - LITTLE TO SOME H2O		
	17						
	17	24"		BROWN CLAYS FILL	STIFF - TRACE H2O		
	19		5 6 6 7 8 9				
20	21	23		BROWN TO DARK BROWN CLAYS	STIFF LITTLE H2O		
	21						
	23	24"	4 5 5 5 5 5	BROWN TO TAN CLAY W/ LITTLE GREY	STIFF SOME TO LITTLE H2O		
	23						
	25	24"	5 6 5 6	BROWN - GREY CLAY 0-12 12-24	SOFT / MOIST		
25				BB 25'			

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

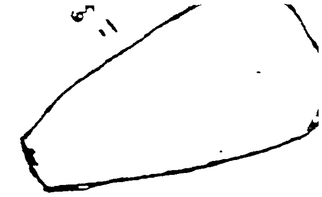
Sampling Abbreviations: SS = Split Spoon, ST = Shelby Tube, CSC = Continuous Soil Core

TEST BORING LOG

BORING NO.	12-M
PROJECT NO. NAME	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" ~~4~~ 8" HSA
SAMPLING METHOD	SPLIT SPOON
START. FINISH DA[TE]	12/31/96
WELL INSTALLED?	YES [x] 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'



LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/6"	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LOG
	20-22	22"	9 5 4 4	BROWN/DRK BROWN CLAYS	STIFF - LITTLE TO NO H_2O		
	22-24	24"	4 4 4 4	BROWN TO TAN CLAY SOME GREY	STIFF SOME TO TRACE H_2O		24
25	24-26	24"	2 1 1 1	GREY TO RED BROWN CLAY, TRACE ROCKS	SOFT, MOIST		
	26-28	19"	4 7 7 8	RED BROWN CLAY	STIFF, LITTLE H_2O		
	28-30	18	2 4 2 7	LT BROWN/TAN CLAY, TRACE SILTS, LITTLE ROCKS (1/8")	SOFT, DAMP		Bent
30	30-32	16	2 2 3 4	LT BROWN/TAN CLAY - LITTLE GREY, LITTLE ROCKS (1/8-1/4)	STIFF DAMP		31.5
	32-34	18	3 8 12 10	TOP 12" - LT BROWN/TAN CLAY - SOME GREYS, LITTLE ROCKS BOT 6" - GREY CLAY AND SAND, NO COHESIVE STRENGTH	SOFT DAMP, SOME H_2O WET		
35	34-36	24"	1 2 2 1	GREY CLAY AND SAND	NO STRENGTH, WET		Scr
	36-38	20"	1 1 1 1	GREY CLAY AND SAND 0-15" 15-20" - GREY CLAY ~~AND~~ AND ROCKS 1/4-1/2"	NO STRENGTH WET WET		
	38-40	6"	7 50/3"	MOSTLY ROCK - W/ SOME GREY/TAN CLAY	WET, STIFF		41.5

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 Bed Rock

BOB - 42.5

44 SHELTER ROCK ROAD
DANBURY, CT 06810
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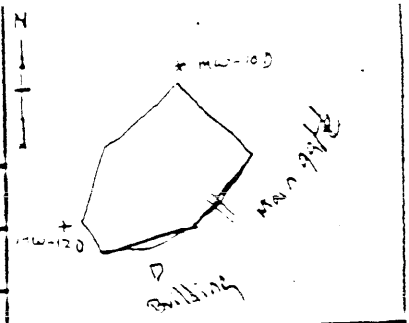
TEST BORING LOG



BORING NO. MW-120

LOCATION Buffalo NY

PROJECT NO.. NAME Union Road 2035-200

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

GEOLOGIST, OFFICE James Dean

DRILLING EQUIPMENT, METHOD HSA / Air Rotary

SIZE TYPE OF BIT 8¼" HSA / 7⅞" Air/5⅞"

SAMPLING METHOD Split Spoon

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:

LOG OF TEST BORING

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

...-10%, Little = 10-20%, Some = 20-35%, And = 35-50%
...Continuous Soil Core

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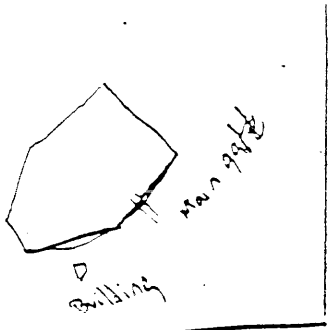
TEST BORING LOG



BORING NO. MW-125

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'			3	Brown to Drk Brown Clays, No Rxs	Stiff little to No H_2O		
		24"	5				
22'			8				
22'			3	Brown/Tan/w/ some Greys	Stiff w/ trace H_2O		
		24"	5				
24'			4		Soft Damp		
24'			1	Greyish/ Red Brown Clays, Trace Rx Fragments ⅛" - ¼"			
5		24"	1				
26'			1		Stiff		
26'			4	Top 6" Red Brown Clay, No Rxs	Soft w/ Some H_2O		
		17"	6				
28'			14	Bottom 11" lt Brown/Tan (Fleshy color) Clays, Trace silts & some Rx Fragments	Soft Some H_2O		
28'			20				
			1	lt Brown/Tan (Fleshy color) clays, Trace silts & Some rock fragments ⅛" - ¼"			
		15"	4				
30'			2		Soft Some H_2O		
10			3				
D'			1	lt Brown/Tan (Flesh Color) clays, Trace silts & some Rock fragments	Soft, Damp		
		14"	3				
32'			4	Top 12" lt Brown/Tan, w/ some Grey clays some Rx fragments.	No Cohesive Strength Wet to Damp		
32'			1	lst 1' lt Brown/Tan (Flesh Color) clays & silts			
		24"	8				
34'			16				
			50	Bottom 5" Grey 50% Sands No Rxs			
				Sample skipped the augers into hard unconsolidated Rocks			
15							
37'		5/6"	5"	lt Brown/Tan/Grey Clays w/ silts & Angular Rock Fragments 40-50% ⅛" - 1"	Soft Wet		
39'							

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

CSC = Continuous Soil Core

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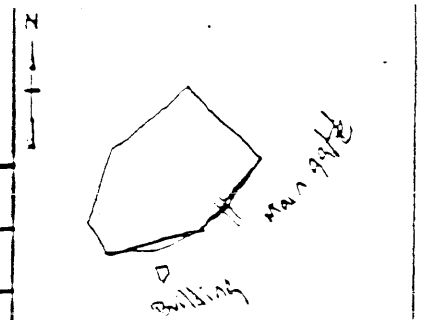
SOT 5

TEST BORING LOG



BORING NO. MW-120

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	LOG OF TEST BORING 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 Bent		
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%
Sample Type: SS = Split Spoon, 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 MAKIM	
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 0.020
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 ~~Casing~~ 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 LITHOLOGY LOG
				SAMPLING STARTED AT 4' B.G.			
4			15	DARK BROWN CLAYS	STIFF		
			10	NO ROCKS	LITTLE NO H2O		
5	14"		15	SOME CINDERS			
6'			12				
6			12	DARK BROWN CLAYS	STIFF		
	12		10	SOME CINDERS	TRACE H2O		
8'			10				
8'			12	8' → DARK BROWN CLAYS, LITTLE CINDERS	STIFF, LITTLE H2O		
	10"		11	8.5" - BLACK SANDS/CINDERS NOT NATIVE	DRY		
10			13				
10			8	TOP 3" - BLACK SAND CINDERS	DRY		
	11'		5				
			4	BOTTOM 3" - WOOD SOME CREOSOTE SMELL			
12			10				
			7	BLACK SAND / CINDERS	WET		
12			8				
	10"		3				
14			6				
			7				
14			7	BLACK SAND / CINDERS	WET		
15	12"		7	SOME BRICK AND WOOD			
			6				
16			5				
16			5	BLACK SAND CINDERS W/SOME RED CLAY	DAMP		
	7"		4				
18			4				
			3		WET		
18			3	TOP 6" BLACK CINDERS			
			3		MED STIFF		
	21"		3	6"-15" RED CLAY, NO ROCKS	SOME H2O		
20			4				
							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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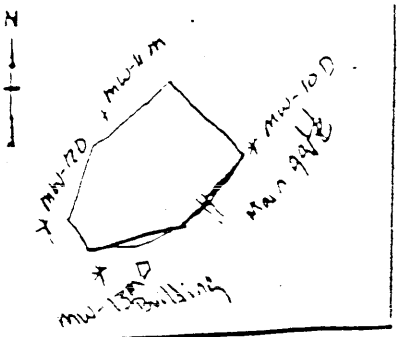
TEST BORING LOG



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	SIZE. TYPE OF BIT	SAMPLING METHOD	START. FINISH DATE
HSA		Split SPOON	12/9/96

WELL INSTALLED?	CASING MAT./DIA.	SCREEN: TYPE	MAT.	LENGTH	DIA.	SLOT SIZE
YES ☒ NO ☐	Stainless Steel/2"	SLOT	Stainless	10'	2"	.025

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
5	5'	12"	18 12 8 17	-Drk Brown clays w/o RXS	Stiff little to No H2O		
	7'						
10	10'	8"	15 14 11 5	Blk sands + cashes or cinders - Not a native material	No Cohesive strength DRY		
	12'						
	12'	11"	7 9 4 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 14'-21'			
	18'						
	19'	3"	50/3"	Wood			

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

CSC = Continuous Soil Core

44 SHELTER ROCK ROAD
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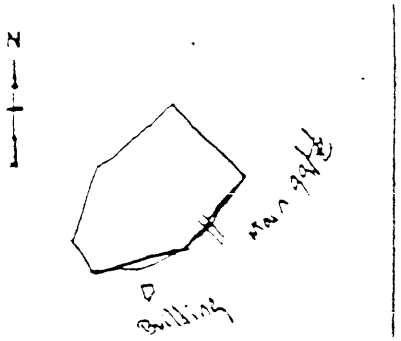
TEST BORING LOG



BORING NO. MW-13M

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
	24'		7	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~~	
	30'		1	Top 2" Wood – Maybe from a plug in Bottom of auger	Soft
10		12"	1	Bottom 10" Reddish / Grey Clays w/ some Rx Frag Pebbles	Wet.
	32'		1		
	32	0"	2	There wasn't a basket in the spoon.	
			5		
	34'		8		
			6		Bottom of Borring
15	34'	0"	50/0"	Bed Rock	
	36'				

WELL CONST. | GRAPHIC LITHOLOGY LOG

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

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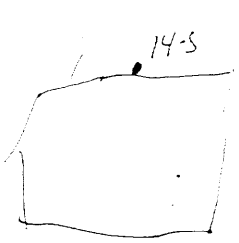
TEST BORING LOG



BORING NO. 14-S

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

DRILLING CONTRACTOR/ DRILLER: Maxim Technologies

GEOLOGIST, OFFICE: Mark Cambra 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.

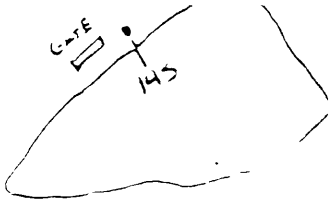
DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOG
				Topsoil		grout	
				Fill - Reddish brown Sandy Clay		3.8 Bentonite	
5						5.3	
				Reddish Brown Clay	SAND	6.8	
10							
15						16.8	
				End of Boring		17.3	

See 14-S Previous

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: MADIM

GEOLOGIST. OFFICE: JOHN J ZACHER JR

DRILLING EQUIPMENT. METHOD	SIZE TYPE OF BIT	SAMPLING METHOD	START. FINISH DAT
HSA	6" HSA	SPLIT SPOON	12-30-91

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

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 LOG
				SAMPLING STARTS AT 4' B.G.			
4'			7	TOP 1" - WOOD			
		20"	14	1-11" - BROWN CLAY W/LITTLE GRAVEL	STIFF, DRY		
5			17	11-17" CINDERS			
6'			12	17-20 BROWN CLAY W/ SOME ORGANIC	DRY STIFF, DRY		
6'			19	0-7" - FILL - CINDERS, STONES, BRICK -			
		19"	14	7-19" - BROWN CLAY W ~~SOME~~ GREY VARBING	STIFF, TRACE H_2O		
8'			17				
			23				
8'			5	0-7" BROWN CLAY W/ LITTLE ROOTS (TR*)	STIFF, LITTLE TO H_2O		
		22"	7	7-22" REDIBROWN CLAY	STIFF, LITTLE TO H_2O		
10'			9				
10			10				
			16	REDIBROWN CLAY, TRACE ORGANICS (ROOTS)	STIFF - LITTLE TO H_2O		
		22"	12				
			13				
12'			14				
12			8	REDIBROWN CLAY - SOME GREY VARBING	STIFF LITTLE TO H_2O		
			7				
		24"	8		~~WET~~ 4" - SOME H_2O		
14			10				
			12	REDIBROWN CLAY SOME GREY VARBING	STIFF / LITTLE H_2O		15
14			3				
15		24"	5				-Bed
16'			7				
			12	REDIBROWN CLAY W/SOME GREY	STIFF - LITTLE H_2O		17
		24"	13				
			15				
18			13				
			0	0-4" MIX BROWN/GREY CLAY	MEDSTIFF SOME TO H_2O		
19		24"	3				19
			5	4-24" GREY SANDY CLAY (40-50%)	SOFT, WET		
20			3				

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 LOG
20			6 9	GREY CLAY	SOFT, WET		
22		18"	3 7				
22			weight of	GREY CLAY	VERY SOFT, WET		
24		15"	ROD				
24			0	GREY CLAY	SOFT, WET		
25		18"	0 3				
26			2				
26			2	GREY CLAY	SOFT		
28		24"	3 3		SATURATED)		
28			3	G-S GREY CLAY	SATURATED, SOFT		
29			0				
30		24"	0 1 4	5-20' GREY CLAY, SOME ROCKS BOB	VERY WET SOFT		

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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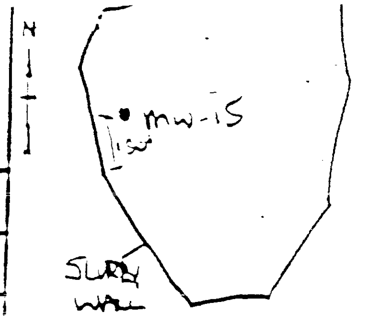
TEST BORING LOG



BORING NO.	
mw-15	
PROJECT NO., NAME: UNION ROAD	LOCATION: ON LANDFILL CAP
DRILLING CONTRACTOR/DRILLER: MAXIM - EMPIRE P. JENCE	
GEOLOGIST, OFFICE: HANLON / SZWAJA DANBURY	

DRILLING EQUIPMENT, METHOD	SIZE, TYPE OF BIT	SAMPLING METHOD	START, FINISH DATE
B53 ATA HSA	6.25" H.S.A	SS	2/20/06

WELL INSTALLED?	CASING MAT., DIA.	SCREEN: TYPE	MAT.	LENGTH	DIA.	SLOT SIZE
YES ☒ NO ☐	SS 2"		SS	10'	2"	0.D

ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	DATE
	618.8	620.0'	610'-600'	NA	2/20/06

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	WELL CONST.	GRAPHIC LITHO LOG
0-2		2'	26/8	Posth graded clay silt & gravel. Roots organic. TAN/BROWN. Hard/firm. Moist (frozen) + little 1/4" gravel.			
2-4		1'	13/4	TAN/BROWN CLAY, FIRM, NO COARSE MATERIALS. Resembling			
4-6		1.5'	27/8	COARSE FILL MAT'L COARSE. BLACK SAND & GRAVEL w/ TRACE FINES. TAN. 1" SUBANGULAR ROCK 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	8/6	SAME BUT BLACK. SILTY CLAY. TRACE ORANGE. SAME BUT GREEN/GREY. SILTY CLAY.	Coarse sand		
10-12		2'	5/56	Green/Grey Silt. 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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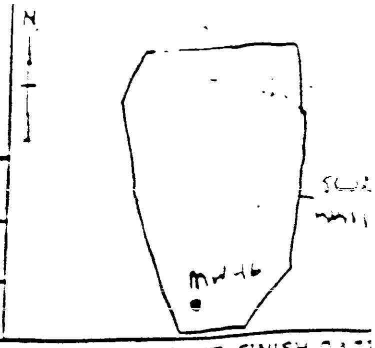
TEST BORING LOG



BORING NO.	MW-16
PROJECT NO., NAME	UNION ROAD
LOCATION	CAP INTERIOR
DRILLING CONTRACTOR/DRILLER	MAXIM/EMPIRE BENCE
GEOLOGIST/OFFICE	HANLON/SZWAJA Danbury
DRILLING EQUIPMENT, METHOD	CME 850 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	0.20
MAT.	SS
LENGTH	10
DIA.	2"
SLOT SIZE	0.20
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 LITHOLOGY LOG
0–2'		2.0'	35	Hard Brown Clay, 10% Gravel	Frozen		
2'–4'		1.5'	20	Upper 12" Same; Bottom 6" CINDERS	DRY	Grout →	
4'–6'		1.0	8/ft	SAME	DRY		
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 COARSE MATERIAL; SOFT TAN/BROWN CLAY, NO COARSE MATERIAL. SLIGHT Fe STAINING; SAME but gray/green			
10'–12'		1.5'	5/ft	SAME + TRACE ORGANICS.			
12'–14'		1.5'	5/ft	SAME			
14'–16'		1.5'	4/ft	SAME + 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-Spring / 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:	

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING — DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
		2.25'	20/ft	TAN/BROWN CLAY. FROZEN. NO COARSE MATERIAL	FROZEN		
2'				2'			
		2.5'	42/ft	BLACK/DARK RED SILTY SAND. GRAVEL PRESENT. FE STAINING.	WET		
4'				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). ODOR			
8'		1.5'	11/ft	8' SOFT BROWN CLAY. FE STAINING. NO COARSE MAT'L. TRACE BLACK CINDER FILL MAT'L.			
10		0.5'	11/ft	SAME			
12'		0	7/ft	NO RECOVERY	WET		
14'							
15		0	8/ft	NO RECOVERY			
16		0.8'	11/ft	SAME. NO FILL MAT'L. TRACE ORGANICS (MOTTLED) GRAVEL.			
18				18.5'			
		1.5	14/ft	GRAY/BROWN CLAY W/ BLACK STAINING. TRACE ORGANICS (WOOD) NO COARSE MAT'L. FE STAINING (SLIGHT)			

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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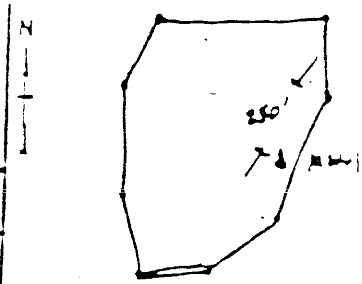
TEST BORING LOG



BORING NO.	MW-17
PROJECT NO., NAME	[illegible] Road
LOCATION	Landfill cap
DRILLING CONTRACTOR/DRILLER	Mulrin - Empire / D. Bence
GEOLOGIST, OFFICE	M. Szwaya / 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. / LENGTH / DIA. / SLOT SIZE	MAT. SS; LENGTH 10'; DIA. 2"; SLOT SIZE 20
ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE	619.1
TOP OF WELL CASING	620'
TOP & BOTTOM SCREEN	605' - 595'
GW SURFACE	~605'
DATE	2/22
REMARKS	Elevations & depths relative to pre-cap topo.

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
20–22'		2'	14/ft.	(SAME) Grey/black w/ yellow/brown staining. Trace organic/no clean mat'l. Sulfide staining	WRT ↓
22–24'		1.5'	15/ft	23.0' Black silt & sand. Trace organic mat'l.	
24'				E.O.B. 24.0'	

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

A DIVISION OF NES
44 SHELTER ROCK ROAD
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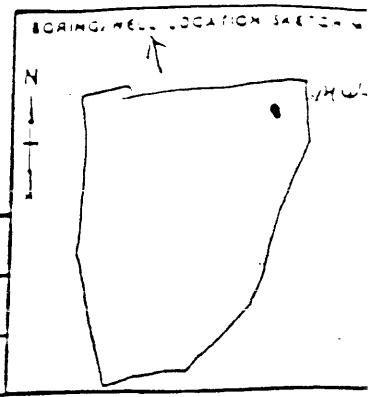
TEST BORING LOG

BORING/WELL LOCATION SKETCH



BORING NO. MW-3	
PROJECT NO.. NAME UNION ROAD	LOCATION CAP INTERIOR
DRILLING CONTRACTOR/ DRILLER MAINE EMPIRE PHIL BENGE	
GEOLOGIST/ OFFICE Hanlon/Schlatz, DANBURY	
DRILLING EQUIPMENT. METHOD CME 55	SIZE TYPE OF BIT 6" HSA / SAMPLING METHOD SS / START. FINISH DAT 2/19/96
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 2/19/96
REMARKS: ELEVATIONS AND DEPTHS RELATIVE TO PRE-CAP GURFACE	

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING — DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOG
		2'	32/FT	Tan clay, Hard, No coarse, Dry	(Topsoil)		
		1'	10/FT	Tan clay, ~~S-H~~ Firm, No coarse, Dry			
5		1'	12/FT	Tan/Brn Clay, Firm, No Coarse, Dry	grout		
		2'	15/FT	Brown clay, ~~S-H~~ Firm, No Coarse, Dry Festering			
		1'	14/FT	Same			
10		1.5'	24/FT	Same w/ trace organics + SH bottom 6"			
		1.5'	27/FT	Same w/ trace rock frags (angular, fine)	Fine Sand		
15		1.5'	20/FT	Same (5% clast to 10%)			
		2'	34/FT	Same	Coarse Sand		
		1.5	4/FT	Same but SH + 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 NO. MW-3

PROJECT NO.. NAME UNION HILL | LOCATION INSIDE CAP AREA

DRILLING CONTRACTOR/ DRILLER MAXTON/CAMPBELL P. BURKE

GEOLOGIST. OFFICE HALEY/SEWARD DANBURY

DRILLING EQUIPMENT. METHOD	SIZE. TYPE OF BIT	SAMPLING METHOD	START. FINISH DATE
CME 850 HSA	6 1/4 HSA	SS	2/14/96

WELL INSTALLED?	CASING MAT.. DIA.	SCREEN: TYPE	MAT.	LENGTH	DIA.	SLOT SIZE
YES X NO	SS 2"		SS	10'	2"	0.02

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

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOG
0	1'	9/12		Sand, Trace Black Shale Chips	Coarse Sand →		
2	2'	3/12		Brown Sand, Clay, 20% Organic Very Soft Trace Rock Frags Bottom 6" Very Soft Wet Brown Clay trace Rock Fragments - 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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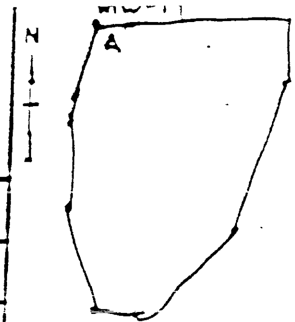
TEST BORING LOG



BORING NO.	MW-19
PROJECT NO., NAME	Union Road
LOCATION	Landfill Cap
DRILLING CONTRACTOR/DRILLER	Mann-Lamar, P. Benz
GEOLOGIST, OFFICE	Szwaka 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/hard	Frozen		
2'–4'		1.0'	12/ft	2' Firm brown/tan clay. Fe⁺ & black staining. No coarse mat'l.	Dry		
4'–6'		1.5	15/ft	Same		Grout	
6'–8'		1.5'	26/ft	7.0' Same with trace 1/4" gravel (rounded), v. hard	Dry		
8'–10		0.5'	62/ft	8.0 Tan, dry, hard, clay & silt. Fe⁺ staining. Trace gravel. Pockets, single black organic mat'l & staining	Fine Sand		
10–12'		1.75'	24/ft	11 Brown, firm, dry clay. Trace organics. Angular silty gravel & black organic mat'l. Gravels and Frags.			
12'–14		1.0'	14/ft	Black, wet, silty sand. Some gravel. Ansom. Petrol. odor. Trace organics	Wet	Coarse Sand	
14–16		1.0'	10/ft	Same. Slight sheen present. Brick/Block frags. Present.			
16'–18'		1.0'	6/ft	16' Soft, wet, gray/clay clay. Black mottling from organics. Trace organic mat'l. Fe staining. No coarse mat'l.			
18'–20'		1.25'	11/ft	18.5 Same as 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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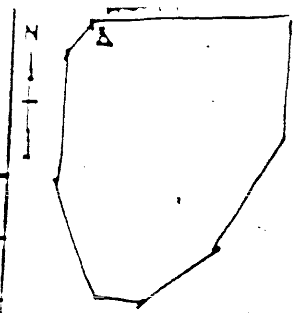

TEST BORING LOG

BORING NO.	MW-19
PROJECT NO., NAME	Union Road
LOCATION	Landfill Cap
DRILLING CONTRACTOR/DRILLER	Maxim-Empire, P. Bence
GEOLOGIST, OFFICE	S. Waya, Danbury
DRILLING EQUIPMENT, METHOD	B58 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	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	DATE
	618.5'	617.5	605' - 595'	n/a	2/23/96

REMARKS: Elevations & depths relative to pre-cap elev.

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHO LOG
				← 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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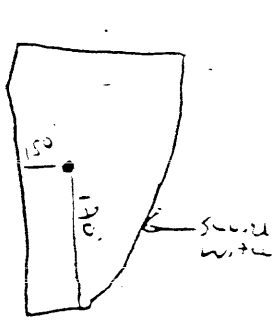
TEST BORING LOG



BORING NO.	MW-20
PROJECT NO.. NAME	UNION RD
LOCATION	INTERIM CAP
DRILLING CONTRACTOR/ DRILLER	MAXIM/EMPIRE BENCE/BOITNOTT
GEOLOGIST. OFFICE	HANSON/SUWAYA DANBURY

DRILLING EQUIPMENT. METHOD	SIZE TYPE OF BIT	SAMPLING METHOD	START. FINISH DATE
CME 850 HSA	6 1/4"	SS	2/2/96

WELL INSTALLED?	CASING MAT./ DIA.	SCREEN: TYPE	MAT.	LENGTH	DIA.	SLOT SIZE
YES ☒ NO ☐	SS 7"		SS	10'	7"	0.20

ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	DATE
	614.6	617.0	607.0 – 597.00	NA	2/11/96

REMARKS: ELEVATION AND DEPTHS RELATIVE TO PRE-CAP SURFACE

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOGY
		1.5	8	Brown Clay; NO coarse, frozen, BOTTOM 4" Black w/15% organics	FROZEN		
		1.0	26	FIRM Brown Clay trace organics and 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 1/2" 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 cinesy ash w/30% wood	moist		
		0.5'	8	soft tan Clay, No coarse	wet		
				Fine sand/silt red w/Black Stringy 10% organics			
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 Stringy, Strong Petroleum ODOR, Sheening, 20% rock frags upto 0.5"	WET		

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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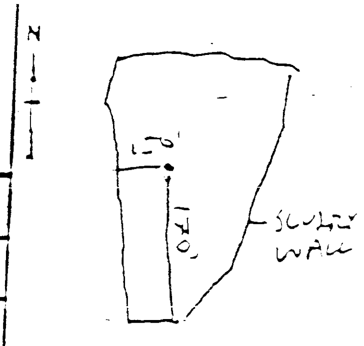
TEST BORING LOG



BORING NO.	MW-20
PROJECT NO., NAME	UNION ROAD
LOCATION	INTERIOR OF CAP
DRILLING CONTRACTOR/DRILLER	MAXIM / EMRIL BENCE
GEOLOGIST, OFFICE	HANLON/SWAIN DANBURY
DRILLING EQUIPMENT, METHOD	CME 850 HSA
SIZE, TYPE OF BIT	6 1/4"
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	0.020
ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE	~~62?.6~~ 624.6
TOP OF WELL CASING	627.0
TOP & BOTTOM SCREEN	607.0 - 597.0
GW SURFACE	NA
DATE	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 LITHOLOGY
20		0	3	~~?~~ ? 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	Soft ~~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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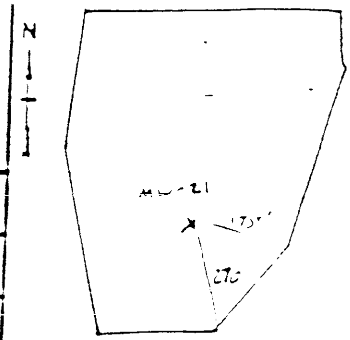
TEST BORING LOG



BORING NO.	MW-21
PROJECT NO., NAME	Union Road
LOCATION	Landfill cap
DRILLING CONTRACTOR/DRILLER	Maxim-Empire
GEOLOGIST, OFFICE	Szwaja / Hanley 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'	[illegible]	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/ft	Brown frozen clay. Black coal and cinder clinker fill material, trace organics. Frozen/very hard.	Frozen
2'					
		1.25'	UNK	Same	Air hammer on SS broken. Use manual 140# hammer.
4'					
5		1.25'	9/ft	Same w/ grey/black clay. Fe+ staining. 10-15% organics. Black coal cinders present.	O24
6		1'	50/ft	→ Light tan, dry, sand & gravel. No fines. Angular [illegible]. → Black & dark red cinder fill material. Dry. Trace fines, rock frags 1", angular. → Medium silt & sand. Poorly graded. Dry.	
8'		1'	7/ft	Same w/ major gravel (1/4") rock & marble frags, rounded. Black silt & fine sand. Trace organics. Dry.	
10		1.25'	9/ft	Poorly graded red sand. No coarse material. Dry. Fe+ stained	
12		0'	15/ft		
14'					
15		1'	5/ft	Same	
16'		0.5'	9/ft	Red silt & sand. With gravel & rock frags.	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

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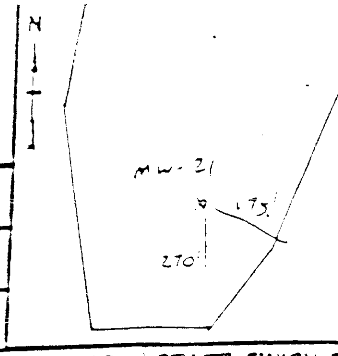
TEST BORING LOG



BORING NO.	MW-21
PROJECT NO., NAME	Union Road
LOCATION	Landfill Cap
DRILLING CONTRACTOR/DRILLER	Maxim-Empire; D. Rence
GEOLOGIST, OFFICE	M. Szuaka; Danbury
DRILLING EQUIPMENT, METHOD	55 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'	UNK	2/22/[illegible]

REMARKS: All Elevations & Depths relative to Ir-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
		.25'	40/4"	Some 2" Rock Boulder SS opening			
22		1'	19/ft	Black silt & sand, Angular Rock Frags. Slight petrol. odor			
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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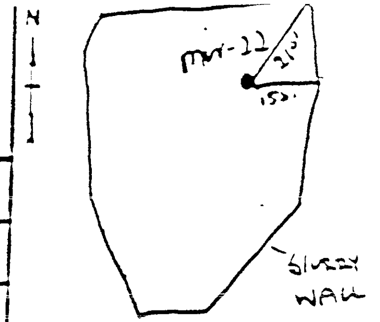
TEST BORING LOG



BORING NO.	MW-22
PROJECT NO., NAME	Union Road
LOCATION	Inside Landfill Cap
DRILLING CONTRACTOR/DRILLER	Maxim Empire, D. Benke
GEOLOGIST, OFFICE	Hanlon/Szwaja, Danbury
DRILLING EQUIPMENT, METHOD	CME 55?, 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" S.S.
SCREEN: TYPE / MAT. / LENGTH / DIA. / SLOT SIZE	10 slot / SS / 10' / 2" / 10
ELEVATION OF (FT. ABOVE M.S.L.): GROUND SURFACE	623.4
TOP OF WELL CASING	626.40
TOP & BOTTOM SCREEN	606.0' - 596.0'
GW SURFACE	NA
DATE	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/ft	TAN CLAY, WET, FIRM. Bottom 6" ..., black staining, 20% organic ... matl	
2–4'		1'	5/ft	SAME, NOT AS COARSE	
4'–6'		1.5'	12/ft	SAME → RED FINE/MED. SAND, NO FINES, MOSTLY GRAVEL	
6'–8'		1	10/ft	SAME / CINDER FILL MATERIAL, COARSE BLACK MATERIAL, ROCK FRAGS TO 1/2"	
8'–10		1'	5/ft	SAME w/ 1/2" ROCKY ...-LIKE MAT'L	
10–12		1'	4/ft	SAME	
12–14		1'	5/ft	SAME w/ WOOD WASTE & Fe STAINING	
14–16		1'	2/ft	SAME	Fine Sand →
16–18		1'	2/ft	SAME	Coarse Sand →
18–20		1'	6/ft	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

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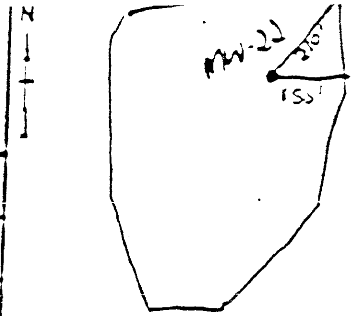
TEST BORING LOG



BORING NO. MW-22

PROJECT NO., NAME	LOCATION
Union Road	Inside Cap

DRILLING CONTRACTOR/DRILLER: Maxim - Engineering P. Jencc

GEOLOGIST, OFFICE: Hanlon / Szwarc Danbury

DRILLING EQUIPMENT, METHOD	SIZE, TYPE OF BIT	SAMPLING METHOD	START, FINISH DATE
CME 85	6.25" HSA	SS	2/20/96

WELL INSTALLED?	CASING MAT./DIA.	SCREEN: TYPE	MAT.	LENGTH	DIA.	SLOT SIZE
YES ☒ NO ☐	2" SS		SS	10'	2"	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' 596'	NA	2/20/96

REMARKS: PRE-CAP SURFACE

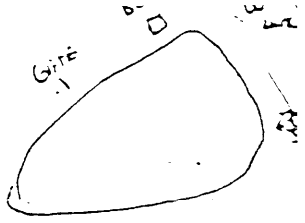
LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHO LOG
20–22		6"	15/ft	Angular gravelly mat'l. Asphalt, wood & shear. Trace wire! 2" angular rock.			
22–24		6"	15/ft	Same			
24–26		1'	11/ft	Grey clay, firm, thick clay pieces, no coarse mat'l.	Coarse sand ?		
26–28		2'	9/ft	Same			
				EOB 28.0'			

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

TEST BORING LOG



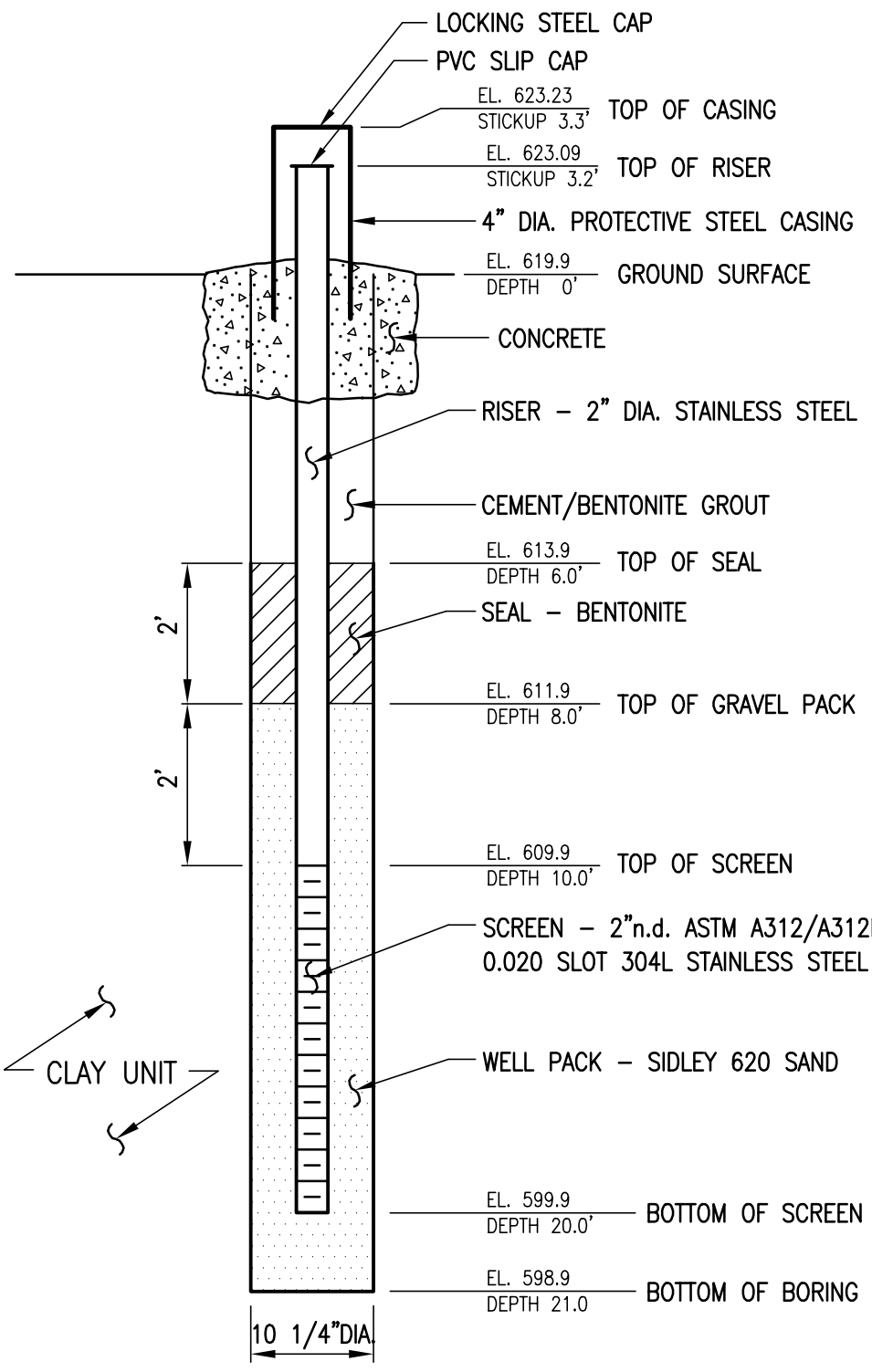
BORING NO. 23S	
PROJECT NO., NAME UNION ROAD 2035-200	LOCATION BUFFALO NY
DRILLING CONTRACTOR/DRILLER MAXIM	
GEOLOGIST, OFFICE JOHN J ZACHER JR	
DRILLING EQUIPMENT, METHOD HSA	SIZE, TYPE OF BIT 10" HSA / SAMPLING METHOD SPLIT SPOON / START, FINISH DA 1-6-97
WELL INSTALLED? YES ☒ NO ☐ / CASING MAT./DIA. 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:	

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

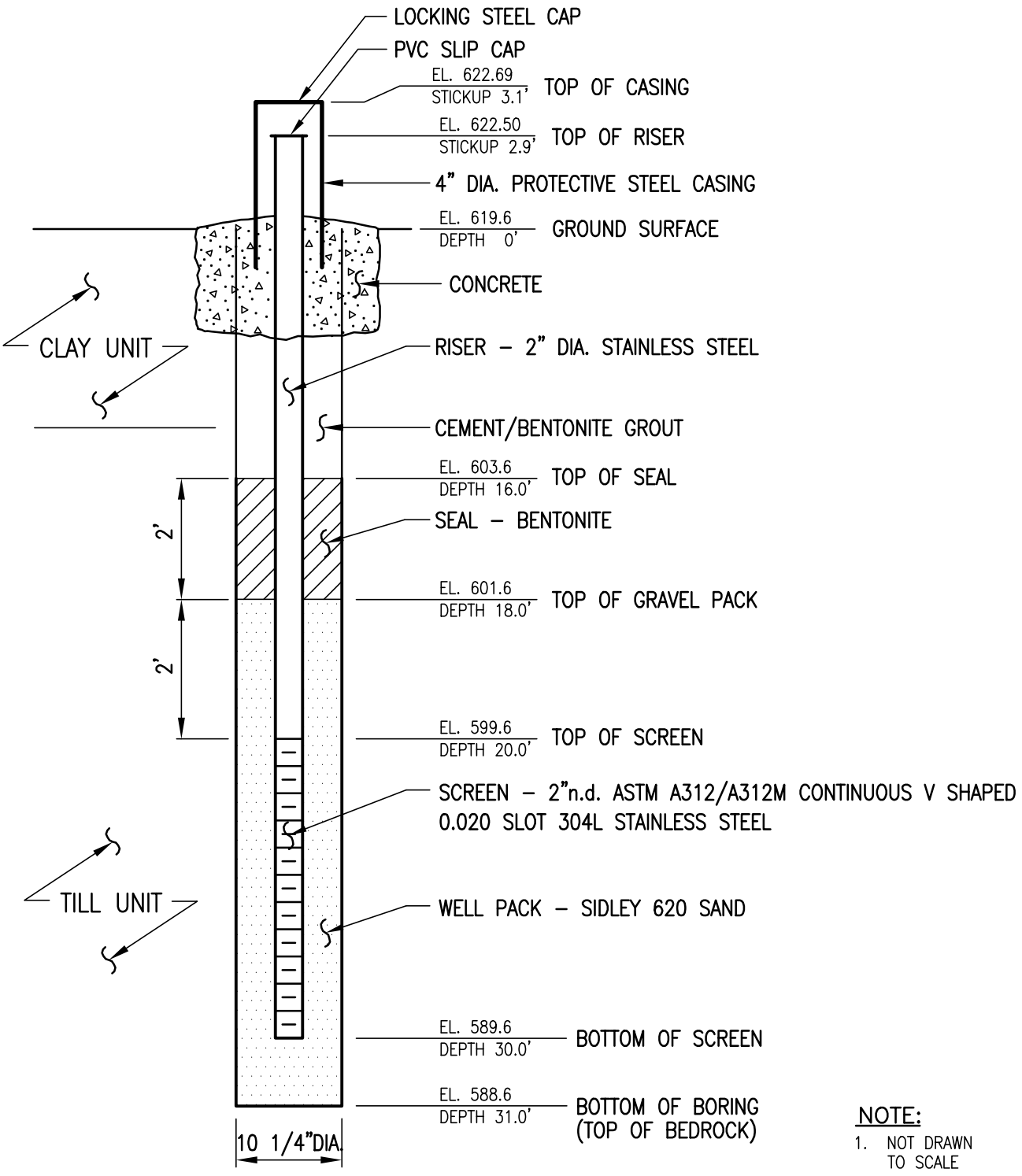


NOTE:

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
NO.	DATE				FILENAME: 2035200A
		DRAWING	SHALLOW GROUNDWATER MONITORING WELL DETAIL		SCALE: NTS DATE: 1/15/02
					BY: AD CK:
					FIGURE # MW–10S

MW–10M



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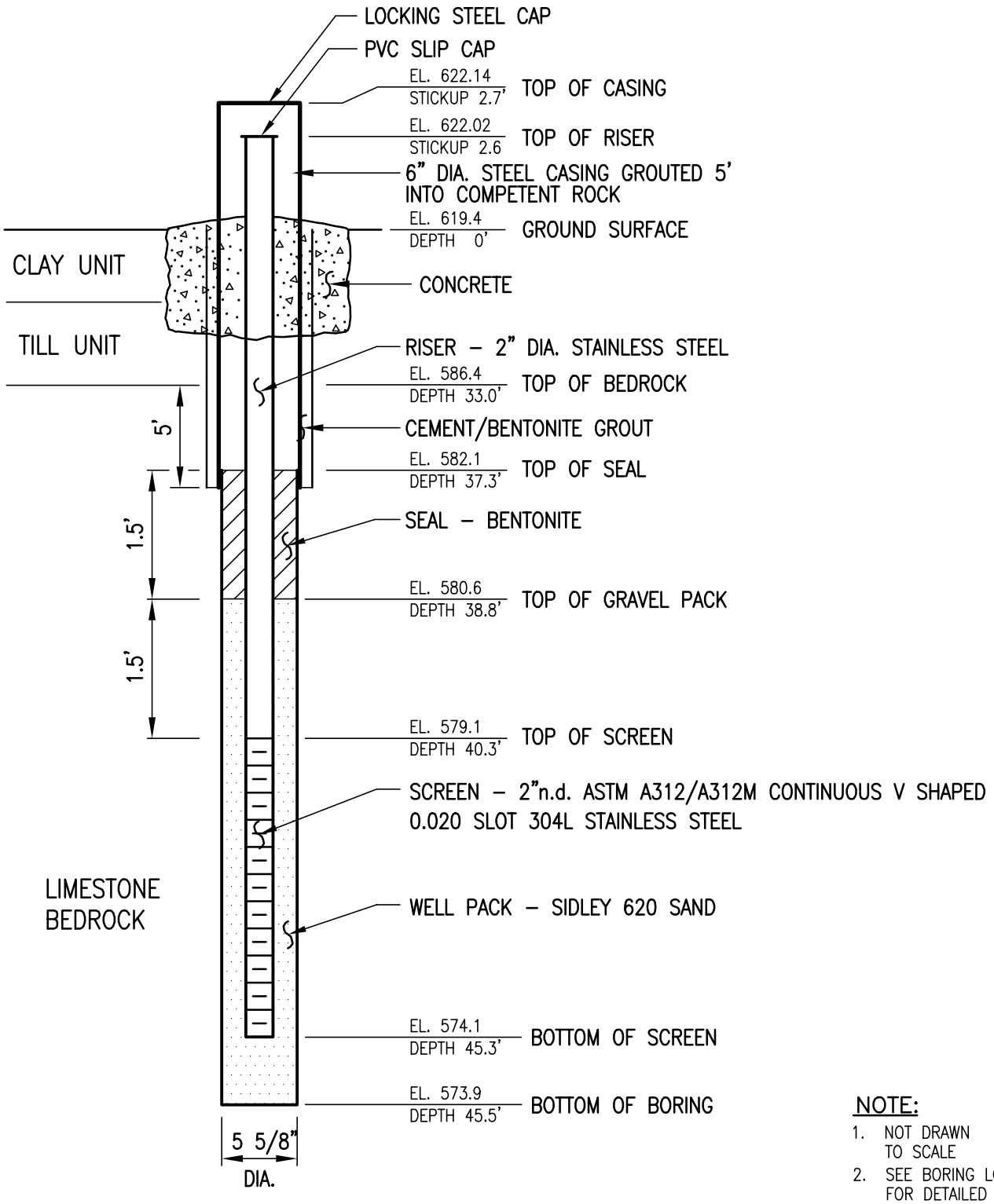
REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011–200 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK:
NO.	DATE	DRAWING	MEDIUM GROUNDWATER MONITORING WELL DETAIL		FIGURE # MW–10M

MW–10D



NOTE:

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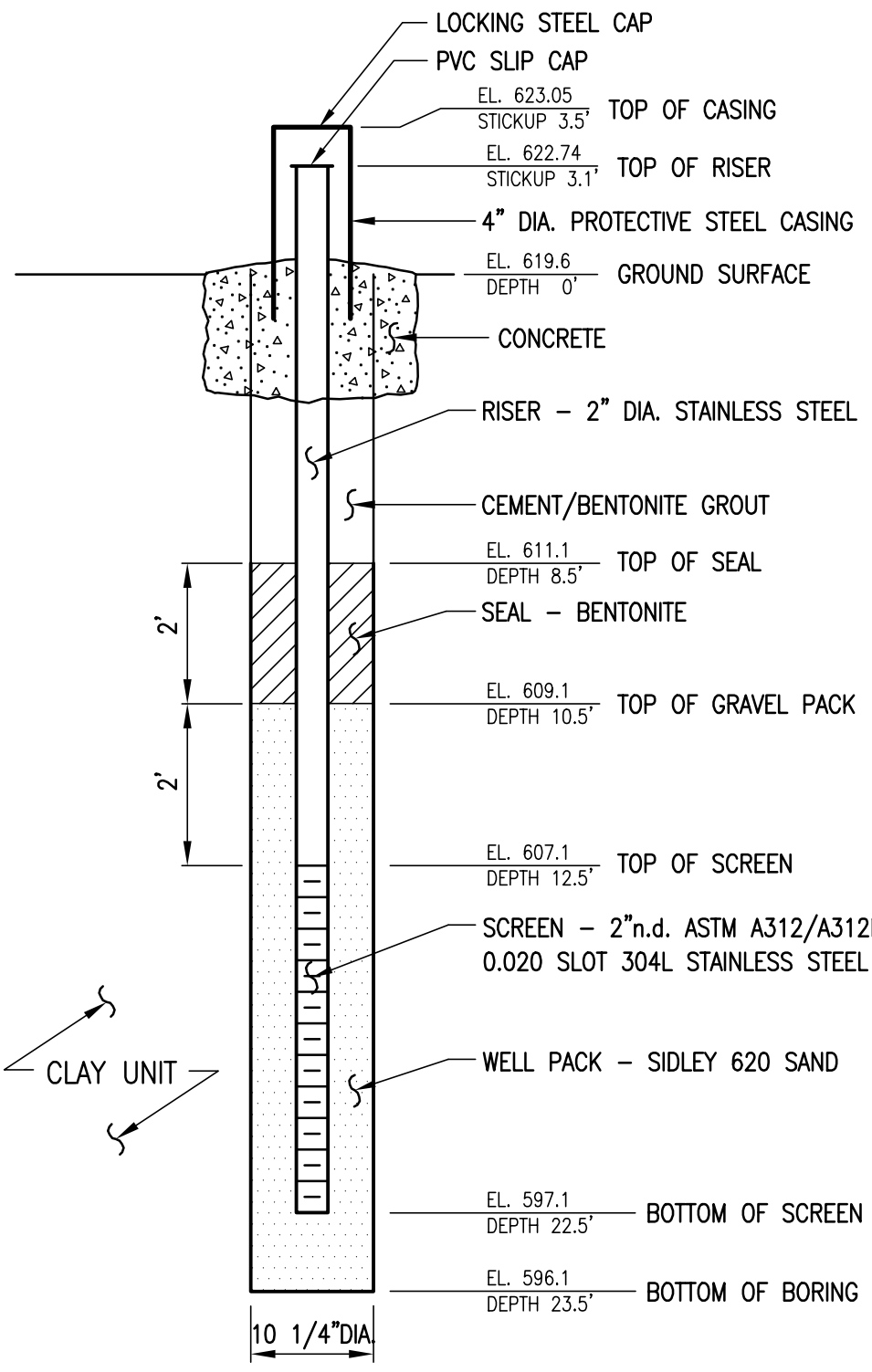
REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011–200
NO.	DATE				FILENAME: 2035200A
					SCALE: NTS / DATE: 1/15/02
		DRAWING	BEDROCK GROUNDWATER MONITORING WELL DETAIL		BY: AD / CK:
					FIGURE # MW–10D

MW–11S



NOTE:

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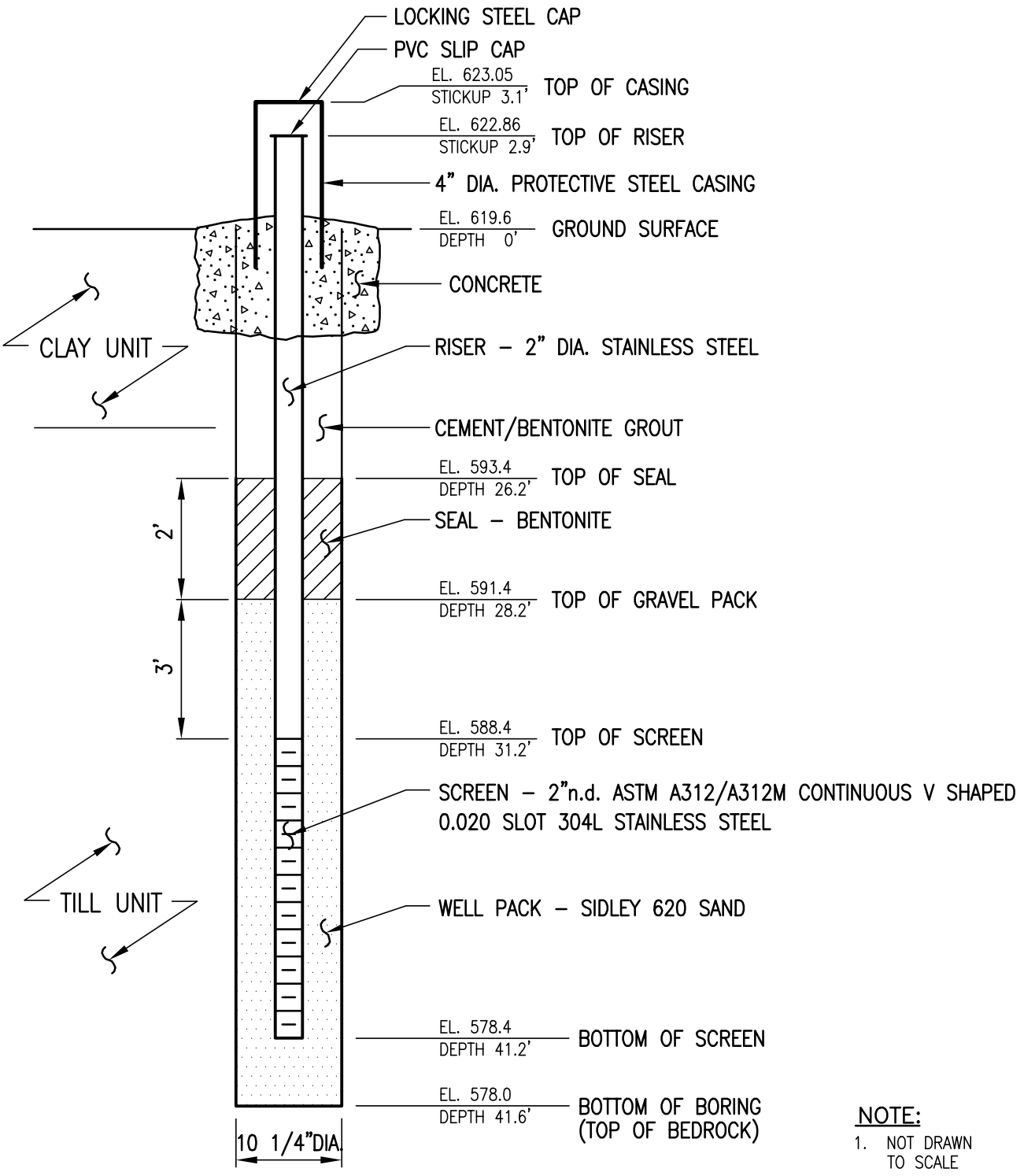
REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011–200
NO.	DATE				FILENAME: 2035200A
					SCALE: NTS / DATE: 1/15/02
		DRAWING	SHALLOW GROUNDWATER MONITORING WELL DETAIL		BY: AD / CK:
					FIGURE # MW–11S

MW–11M



NOTE:

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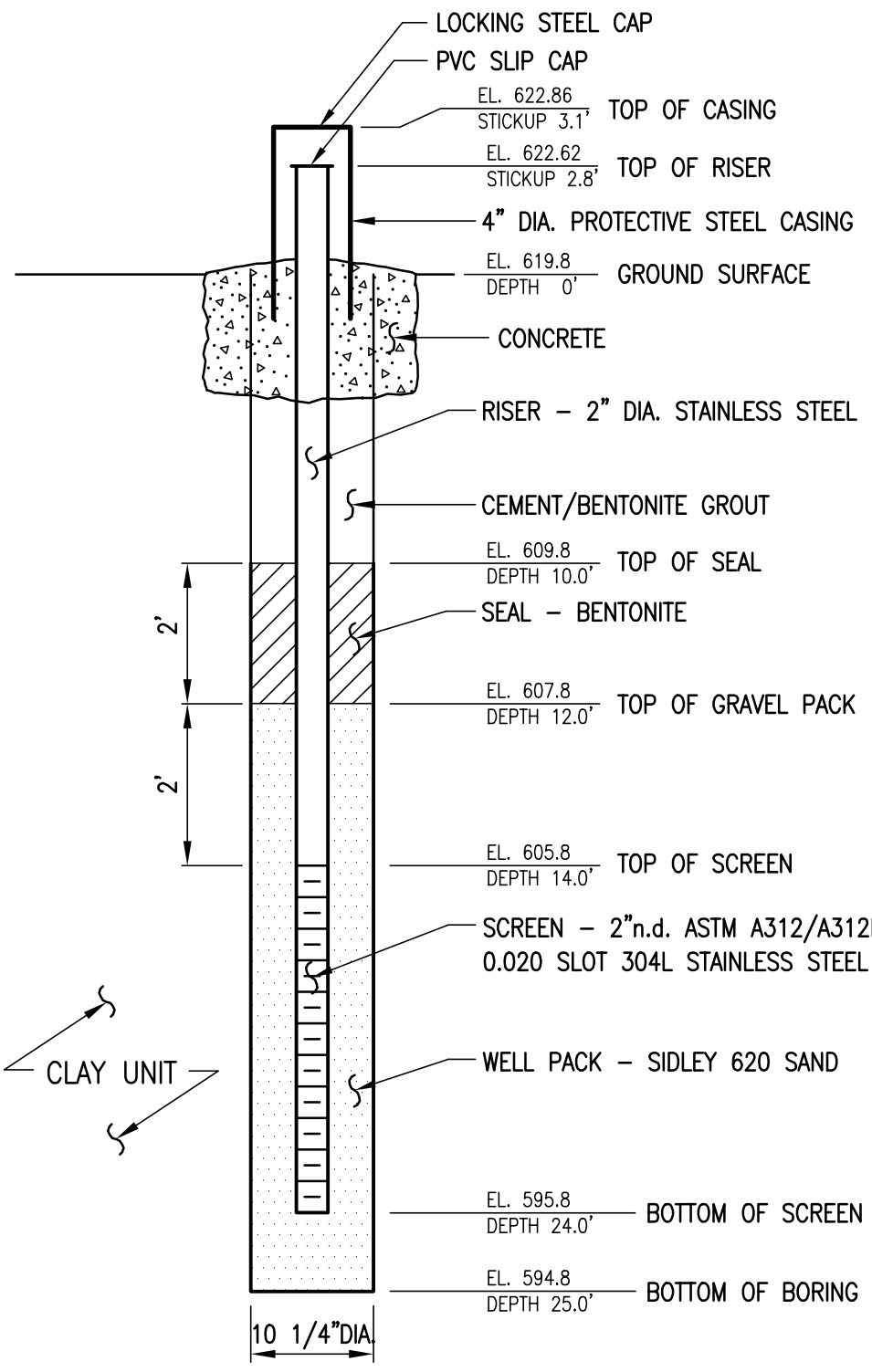
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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–11M

MW–12S

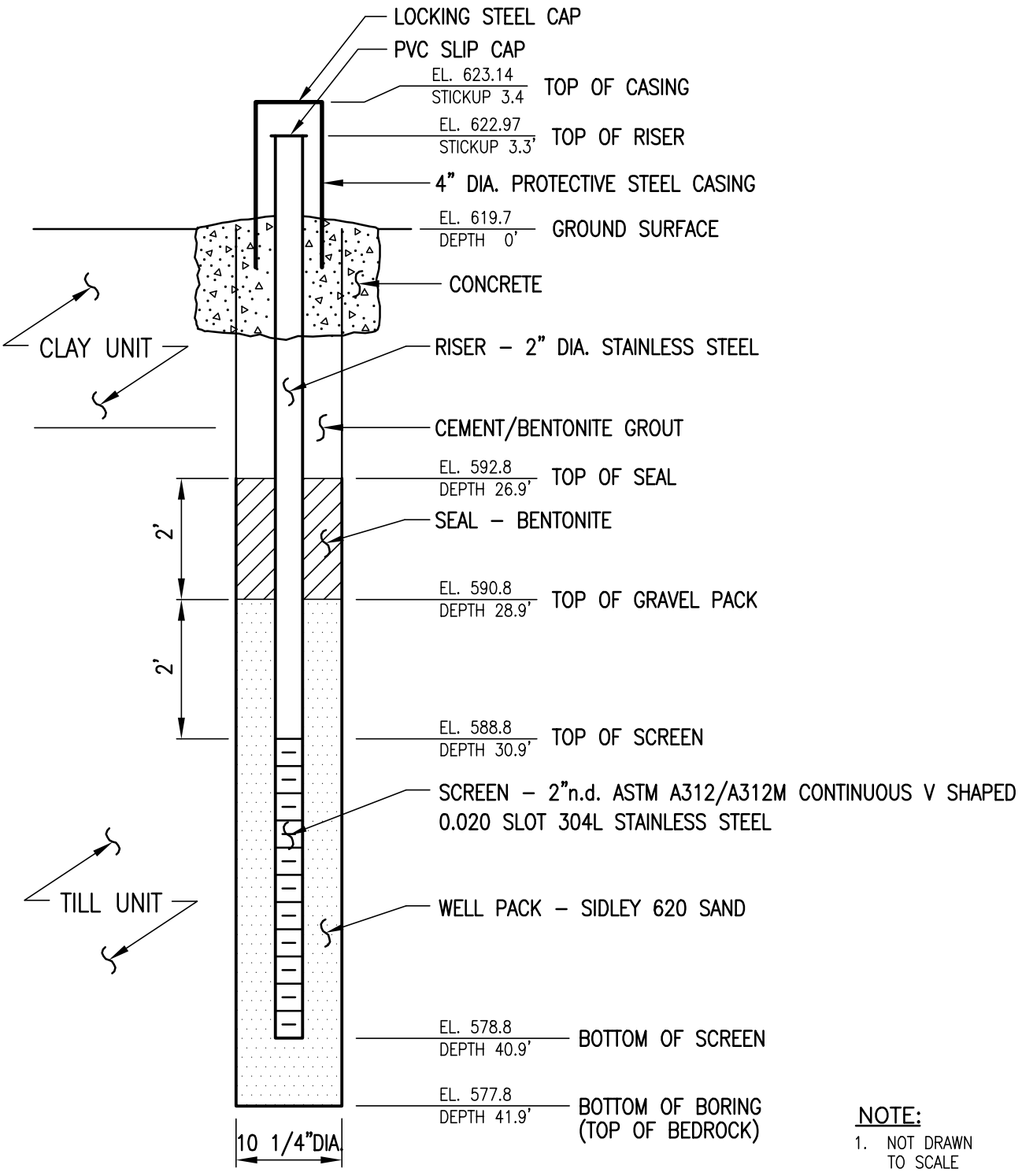


NOTE:

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
NO.	DATE				FILENAME: 2035200A
		DRAWING	SHALLOW GROUNDWATER MONITORING WELL DETAIL		SCALE: NTS DATE: 1/15/02
					BY: AD CK:
					FIGURE # MW–12S

MW–12M



NOTE:

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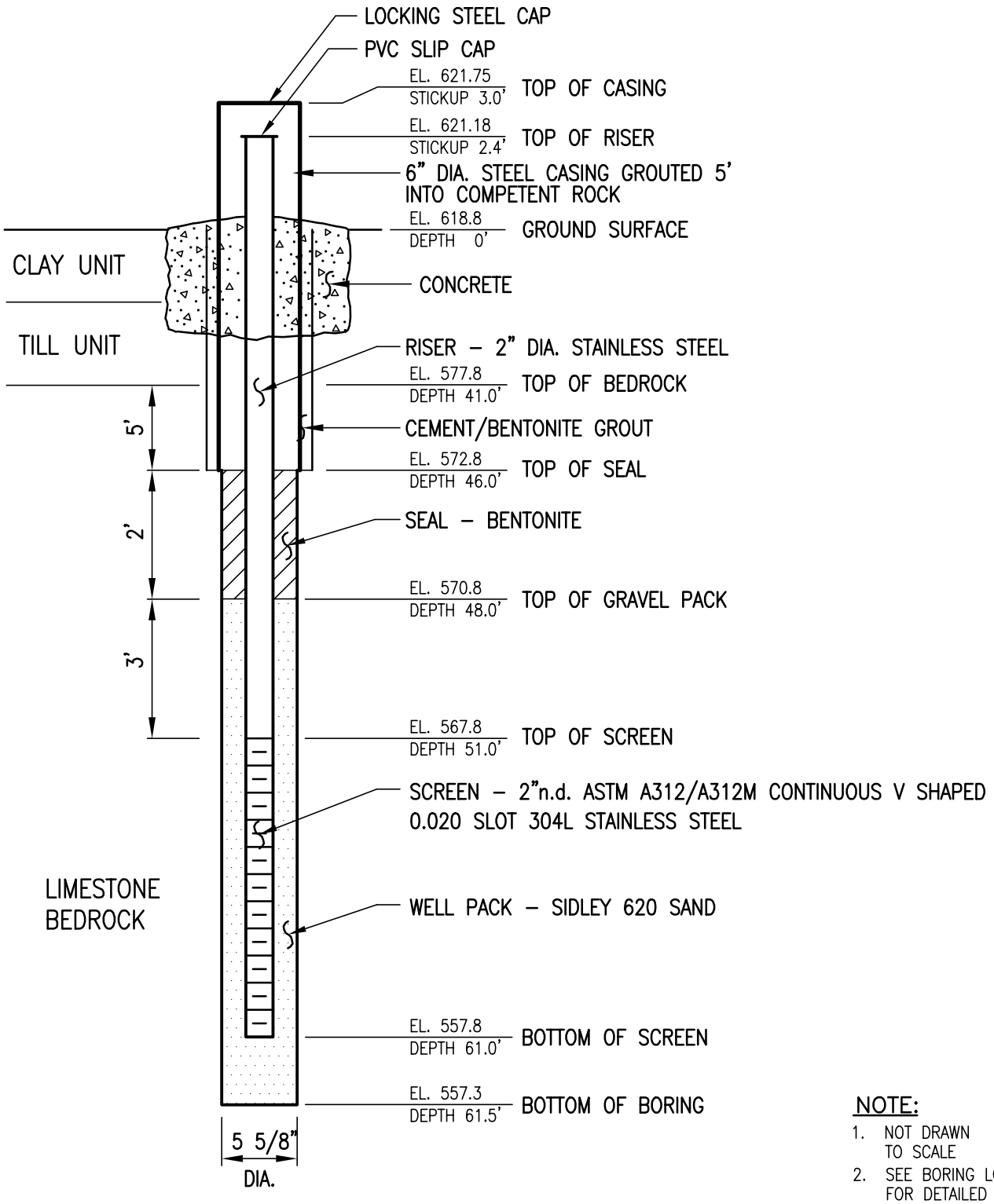
REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011–200
NO.	DATE				FILENAME: 2035200A
					SCALE: NTS / DATE: 1/15/02
		DRAWING	MEDIUM GROUNDWATER MONITORING WELL DETAIL		BY: AD / CK:
					FIGURE # MW–12M

MW–12D



NOTE:

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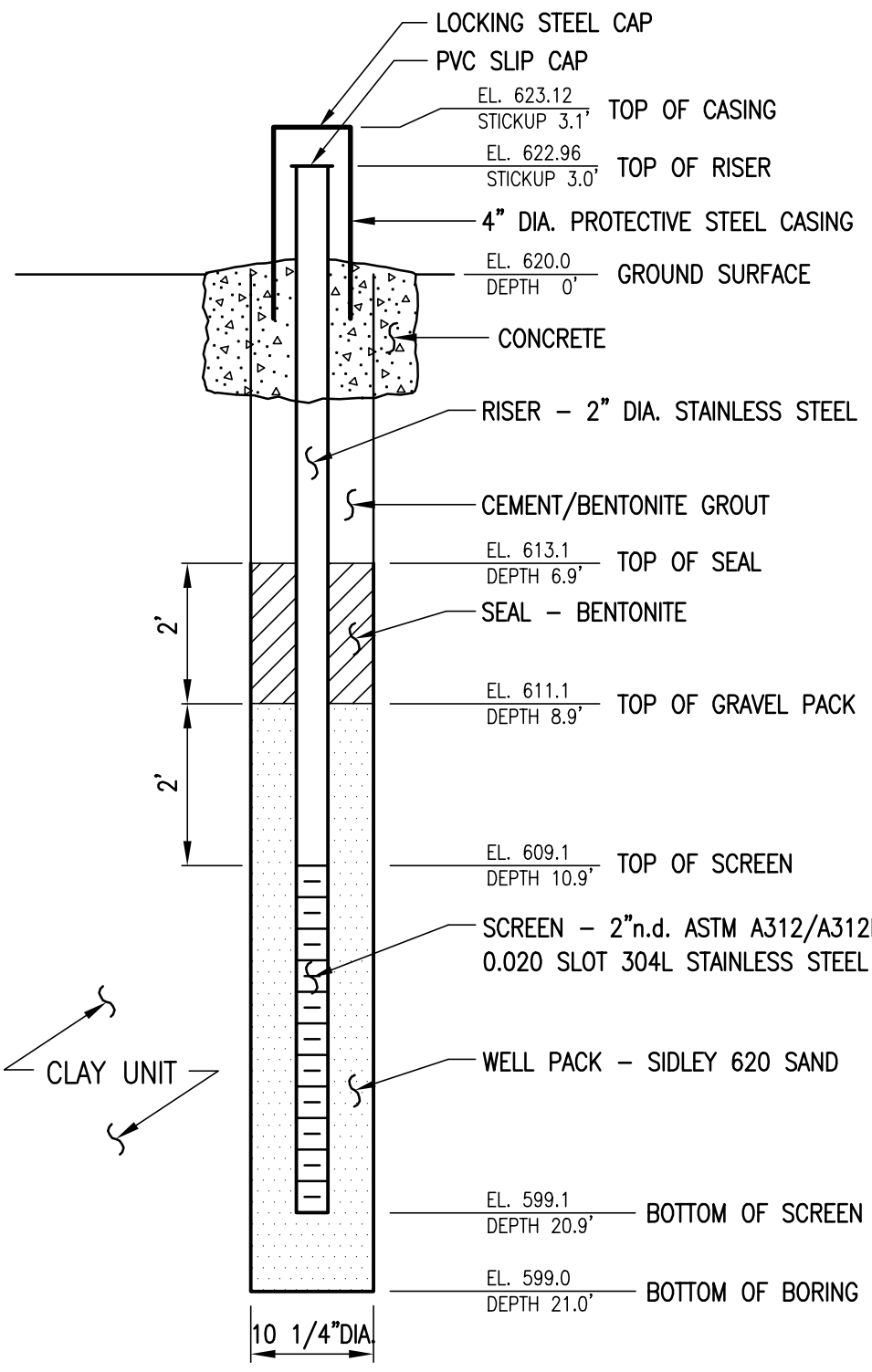
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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

MW–13S

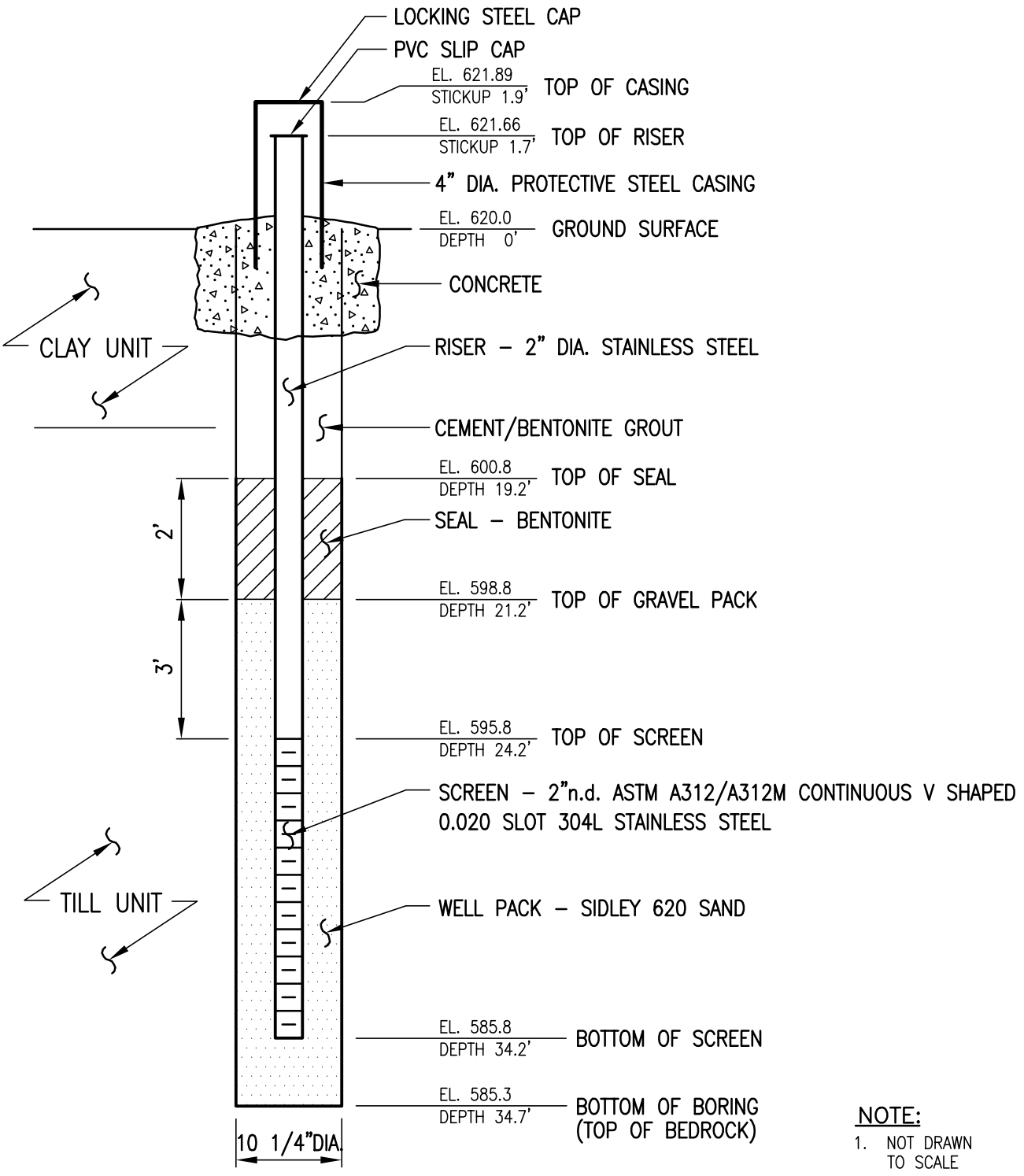


NOTE:

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

REVISION NO.		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	SHALLOW GROUNDWATER MONITORING WELL DETAIL		SCALE: NTS DATE: 1/15/02
					BY: AD CK:
					FIGURE # MW–13S

MW–13M



NOTE:

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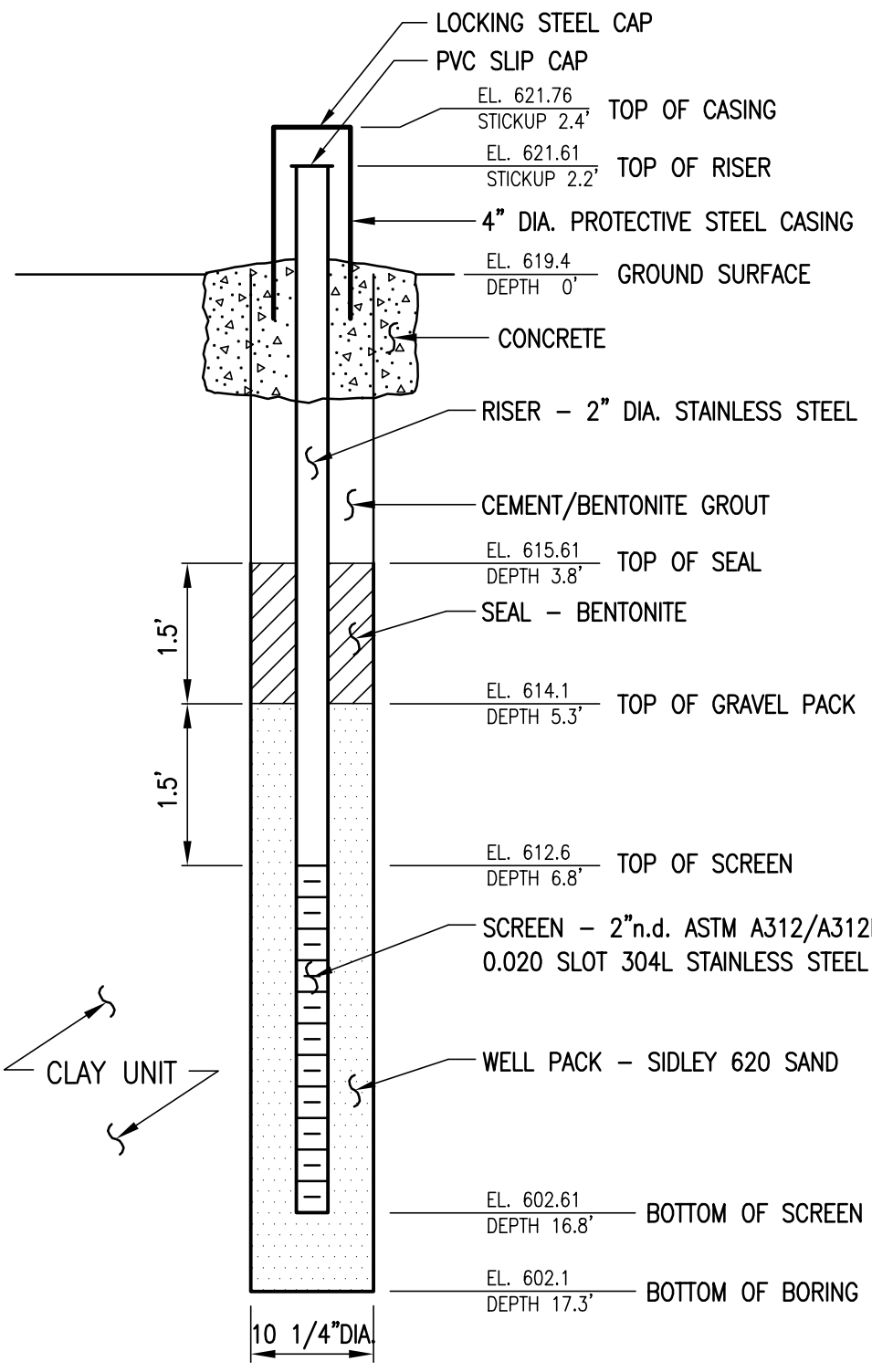
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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
					SCALE: NTS / DATE: 1/15/02
		DRAWING	MEDIUM GROUNDWATER MONITORING WELL DETAIL		BY: AD / CK:
					FIGURE # MW–13M

MW–14S

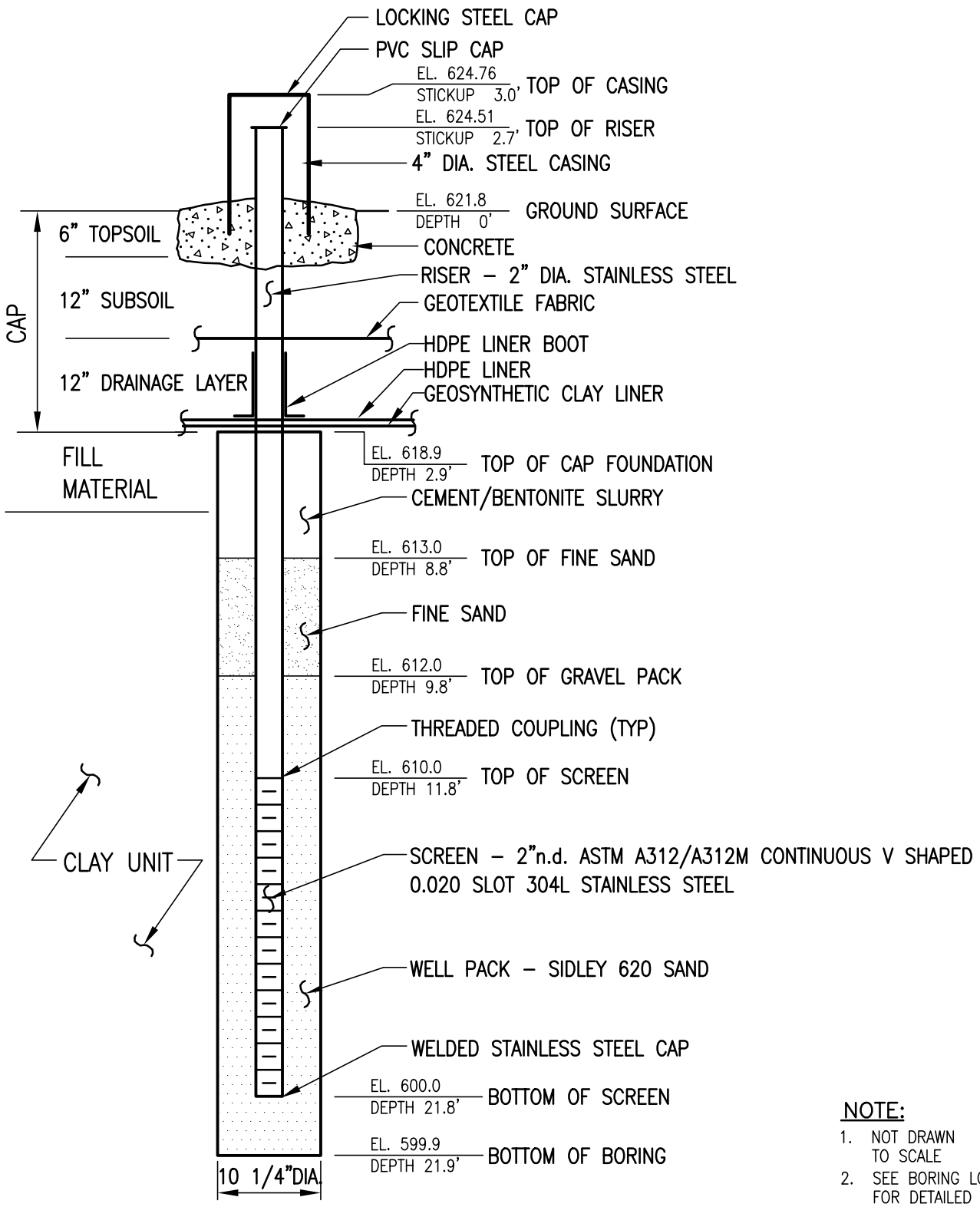


NOTE:

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–14S

MW–16



NOTE:

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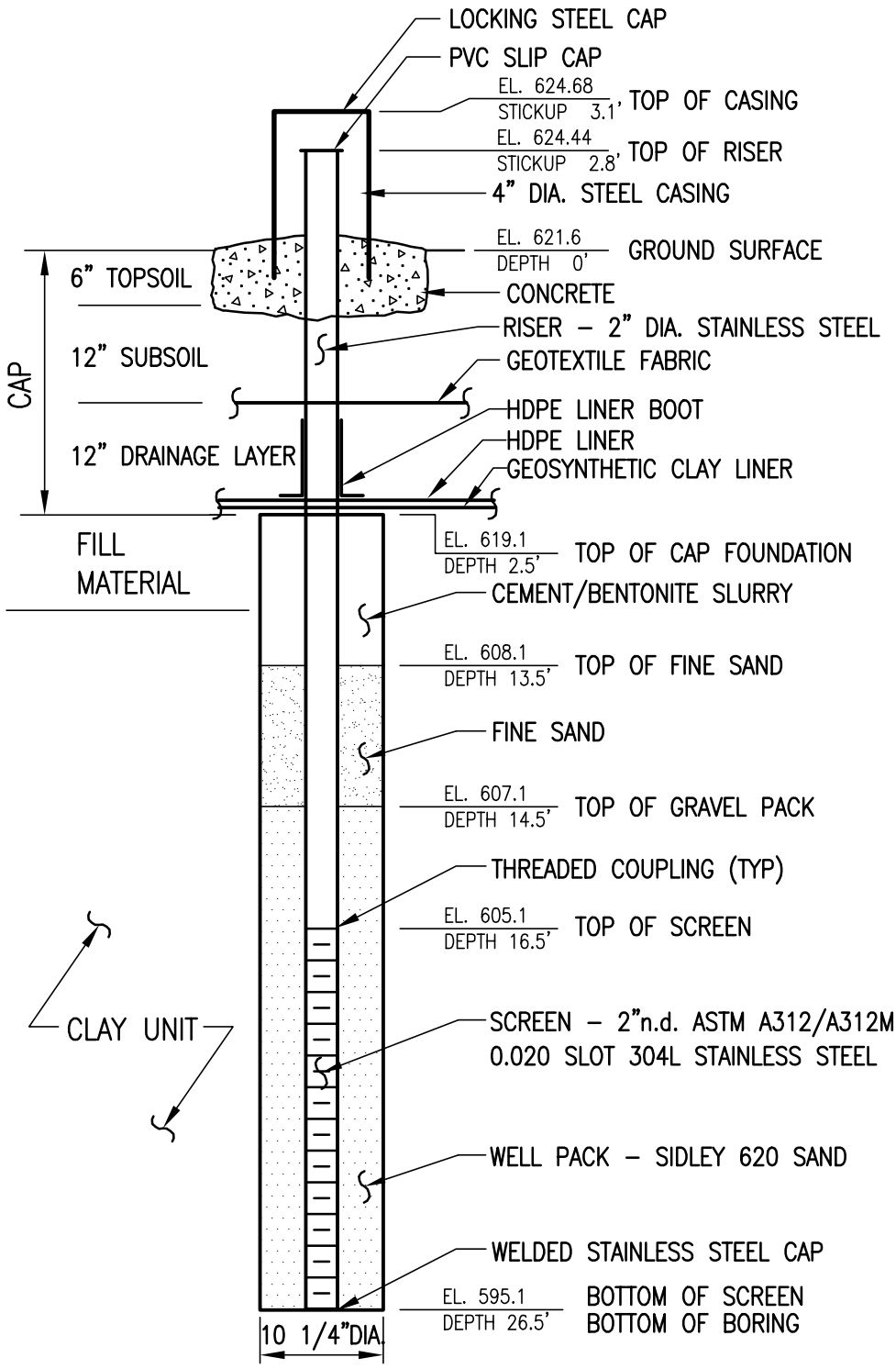
REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011–200
NO.	DATE				FILENAME: 2035200A
					SCALE: NTS / DATE: 1/15/02
		DRAWING	GROUNDWATER OBSERVATION WELL DETAIL		BY: AD / CK:
					FIGURE # MW–16

MW–17



NOTE:

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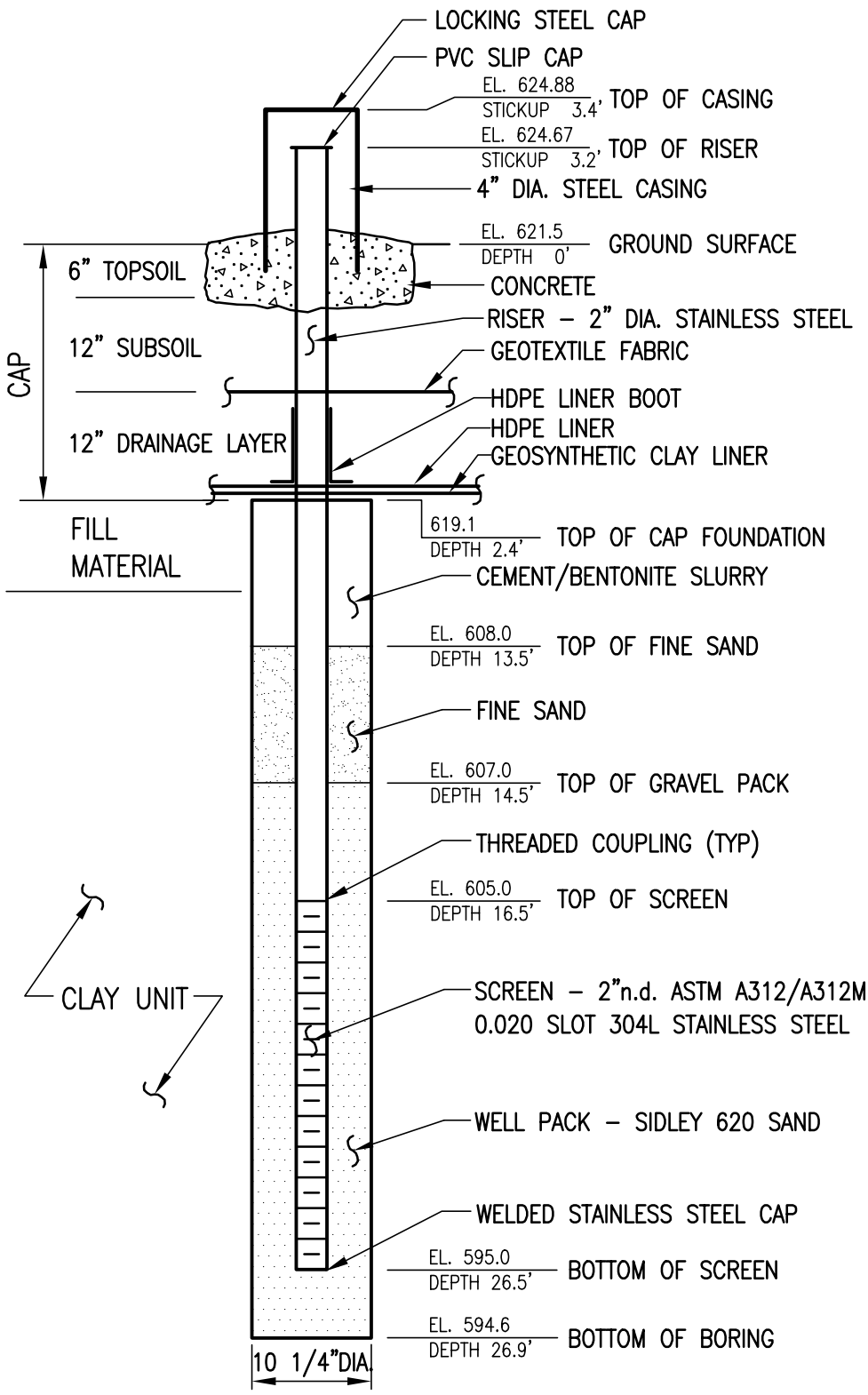
REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011–200 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK:
NO.	DATE	DRAWING	GROUNDWATER OBSERVATION WELL DETAIL		FIGURE # MW–17

MW–18

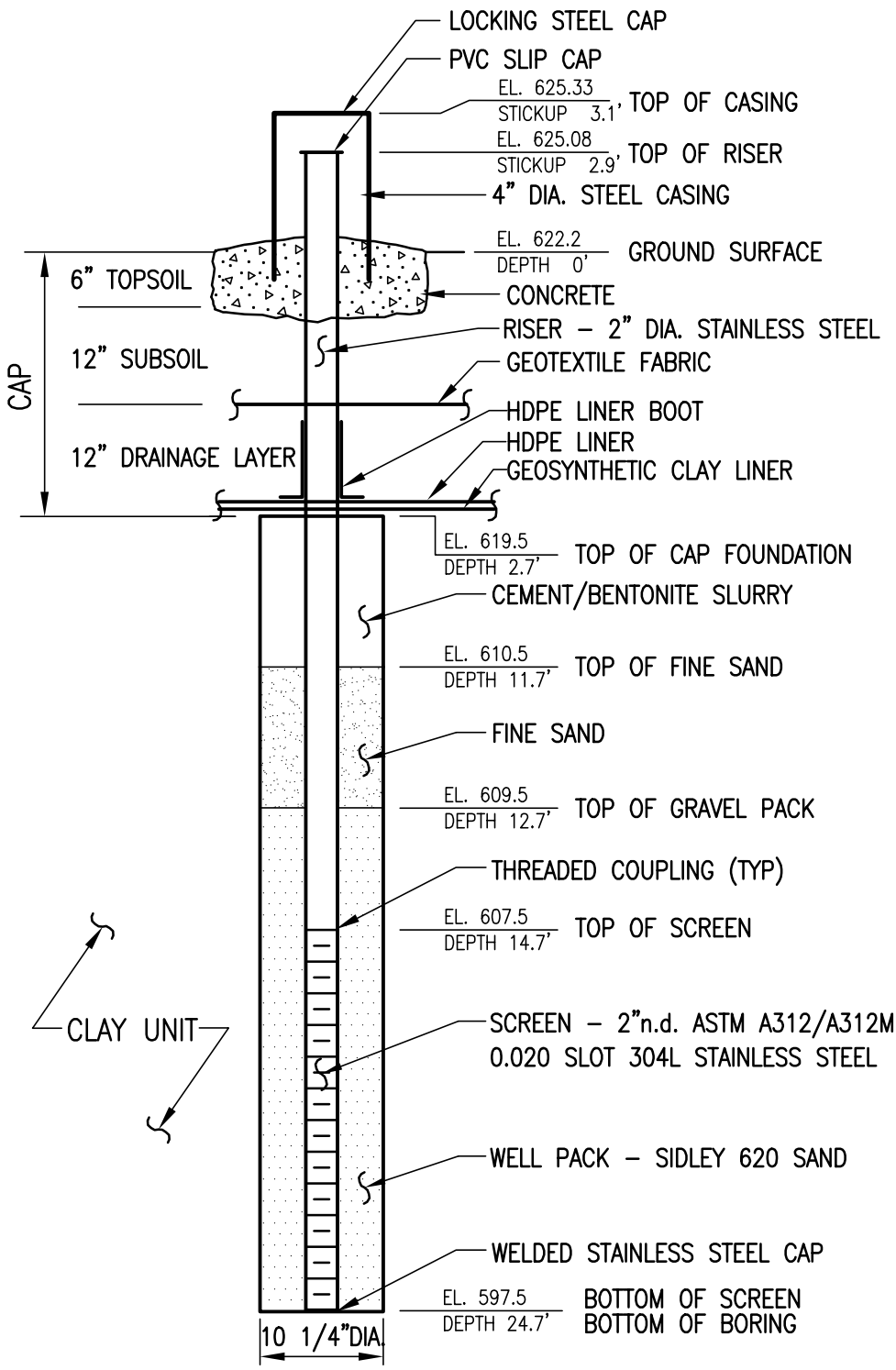


NOTE:

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
NO.	DATE				FILENAME: 2035200A
					SCALE: NTS / DATE: 1/15/02
		DRAWING	GROUNDWATER OBSERVATION WELL DETAIL		BY: AD / CK:
					FIGURE # MW–18

MW–19



NOTE:

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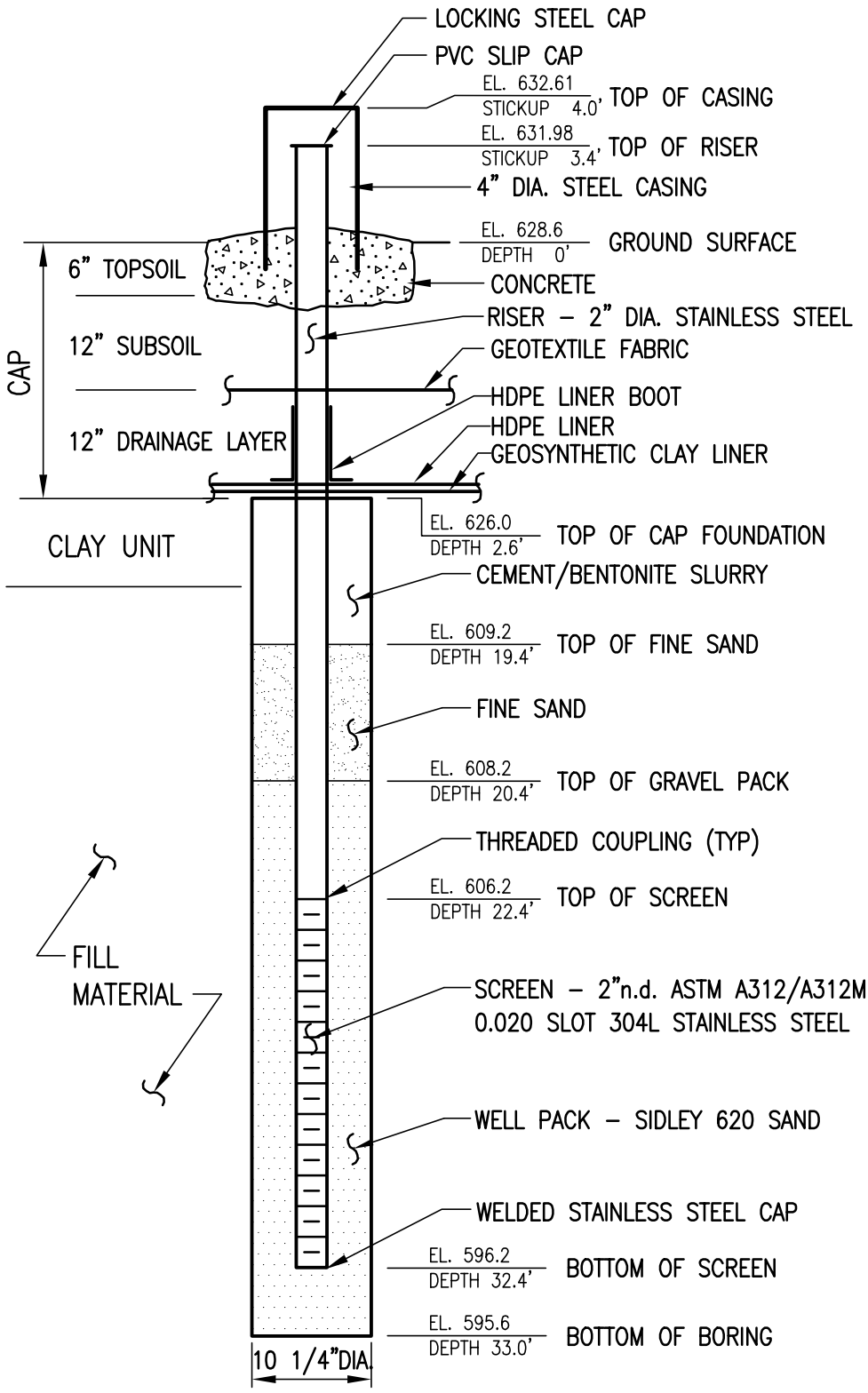
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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
					SCALE: NTS / DATE: 1/15/02
		DRAWING	GROUNDWATER OBSERVATION WELL DETAIL		BY: AD / CK:
					FIGURE # MW–19

MW–20



NOTE:

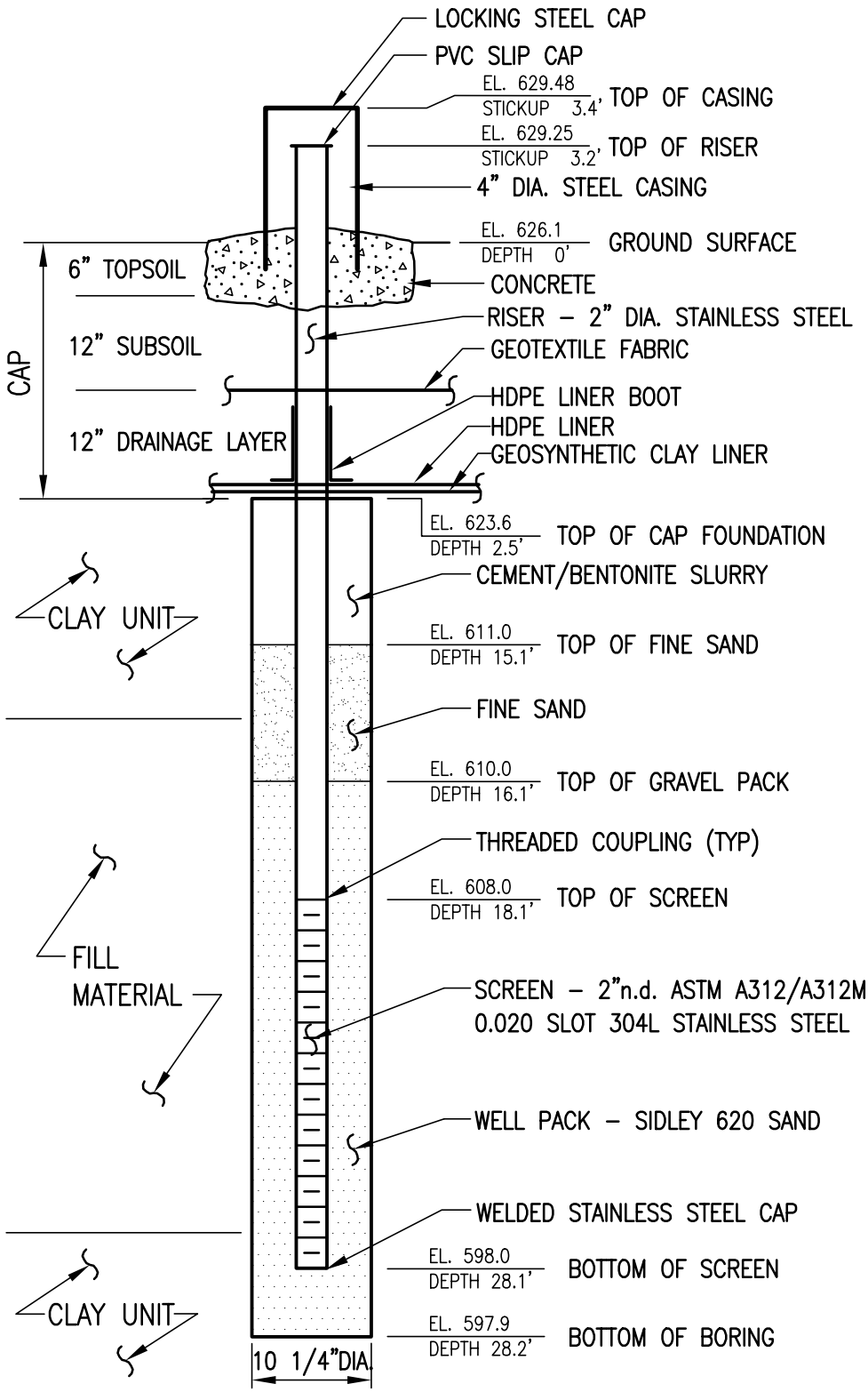
1. NOT DRAWN TO SCALE
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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:

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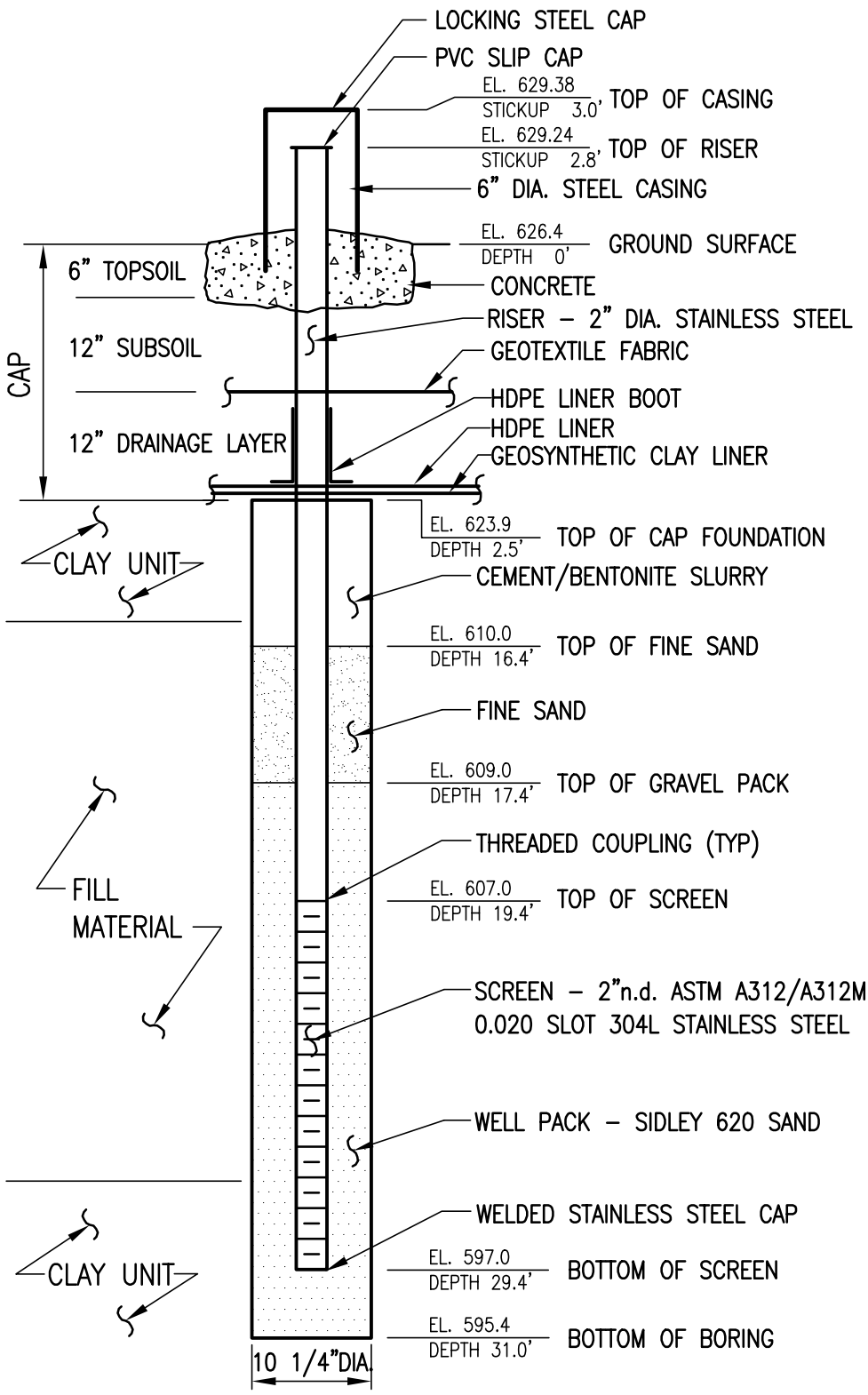
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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

MW–22



NOTE:

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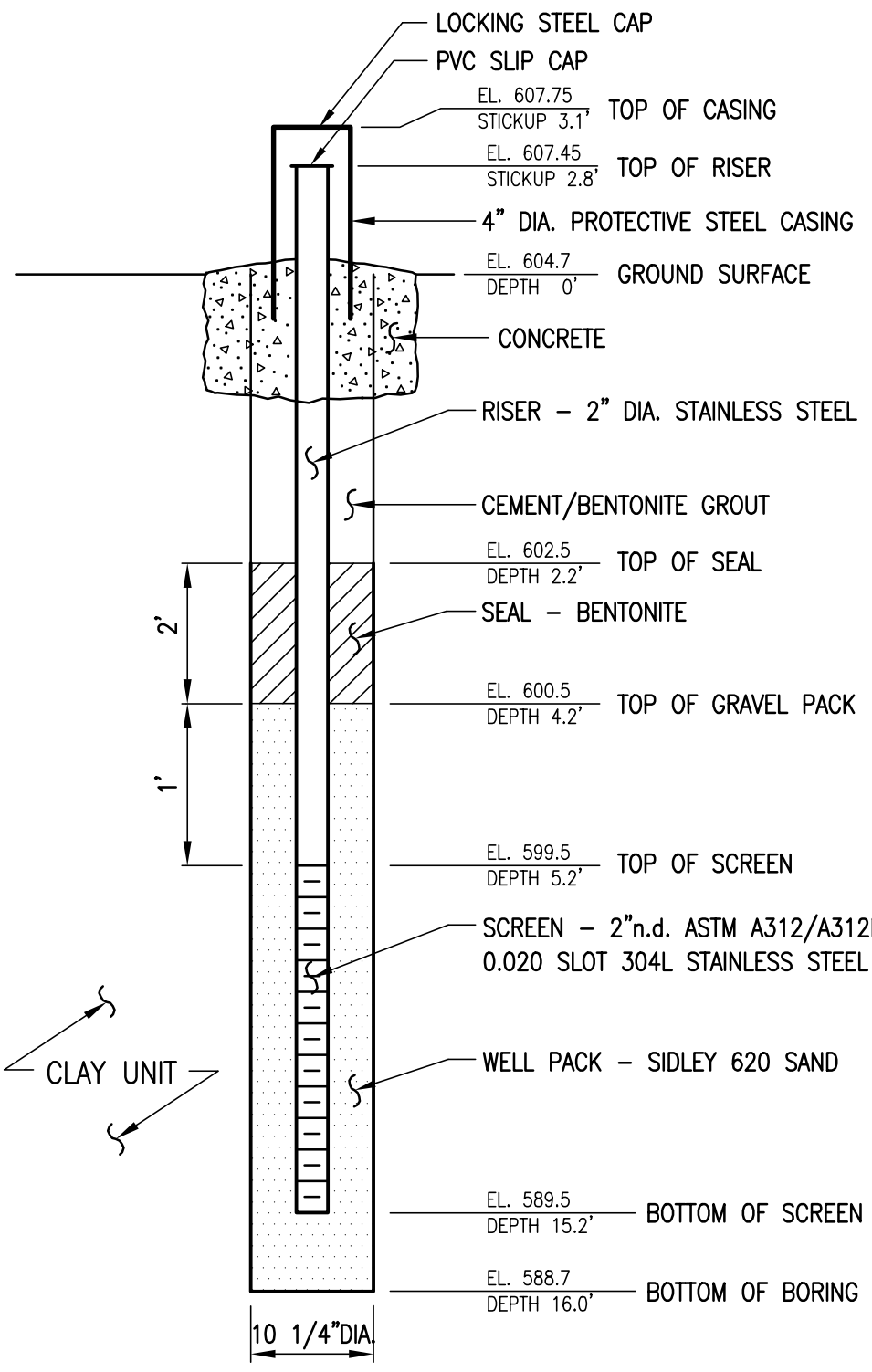
REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011–200
NO.	DATE				FILENAME: 2035200A
					SCALE: NTS / DATE: 1/15/02
		DRAWING	GROUNDWATER OBSERVATION WELL DETAIL		BY: AD / CK:
					FIGURE # MW–22

MW–23S



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	SHALLOW GROUNDWATER MONITORING WELL DETAIL		FIGURE # MW–23S

APPENDIX B

LABORATORY REPORT (ON CD)

October 02, 2013

Service Request No: R1306715

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

Laboratory Results for: Union Rd #2011-100

Dear Mr. Persico:

Enclosed are the results of the sample(s) submitted to our laboratory on September 12, 2013. For your reference, these analyses have been assigned our service request number **R1306715.**

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 ALS Environmental (ALS) 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 Karen.Bunker@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Karen Bunker
Project Manager

ADDRESS 1565 Jefferson Rd, Building 300, Suite 360, Rochester, NY 14623 PHONE 585-288-5380 | FAX 585-288-8475
ALS GROUP USA, CORP. Part of the ALS Group An ALS Limited Company

Client:	Unicorn Management Consultants	**Service Request No.:**	R1306715
Project:	Union Rd #2011-100	**Date Received:**	9/12/13
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental (ALS). 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

Eleven (11) water samples including one (1) Trip Blank were collected by the client on 9/12/13 and were received at the lab via the client on the same day as sampled. The samples were received at a cooler temperature range of 4.4- 6.8°C, with one cooler slightly over the guidelines of 0-6°C, however all samples were received on ice the same day as collected. . All samples were received intact. No bubbles were noted in any of the sample vials on the Cooler Receipt and Preservation Check Form.

Volatile Organic Compounds

Twelve (12) water samples were analyzed for Volatile Organics by GC/MS Method 8260C from SW-846.

The Initial and Continuing calibration criteria was met for these samples.

All BFB Tune requirements were met for the GC/MS method.

Surrogate standard recoveries were within acceptance limits.

All Laboratory Method Blanks (MB) were free from contamination.

Batch QC is included in the report. All Laboratory Control Sample (LCS) recoveries were within QC 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 or run within the 7 day holding time for unpreserved samples.

No other analytical or QC problems were encountered.

SemiVolatile Organic Compounds

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

The initial calibration criteria were met for all samples. Continuing Calibration criteria was acceptable except for the following CCV compounds which were outside the ±20% D on the following runs:

2-Nitrophenol on the 9/18/13 run,
2-Nitrophenol, 2,4-Dinitrotoluene, and 4,6-Dinitro-2-methylphenol on the 9/19/13 run, and
2-Nitrophenol, Hexachlorocyclopentadiene, and 4,6-Dinitro, 2-methylphenol on the 9/20/13 run.

Any data hits for these compounds associated with these CCV's should be considered as estimated.

All Tune requirements were met for the GC/MS method.

Surrogate standard recoveries were within acceptance limits for all samples.

Approved by Karen Burke **Date** 10/2/13

The Laboratory Method Blanks (MB) were free from contamination for target compounds.

Batch QC is included in the report. All Laboratory Control Sample (LCS), LCS Duplicate (LCSD) recoveries and RPD calculations were within acceptance limits on the regular level and low level runs.

All samples were extracted within the 7 day holding time from collection and analyzed within the 40 day holding time from extraction to analysis.

No other analytical or QC problems were encountered.

Inorganic and Metals Parameters

Eleven (11) water samples were analyzed for Oil and Grease by method 1664A and Dissolved Arsenic and Lead by ICP Method 6010C. Dissolved metals were filtered in the laboratory.

All Initial and Continuing Calibration Criteria was met for all analyses.

Metals analyses are reported in ug/L in this report.

Batch QC is included in the report. All Laboratory Control Sample (LCS), LCS Duplicate (LCSD) and RPD's were within acceptance limits.

All Laboratory Method Blanks (MB) were free from contamination.

All samples were analyzed within the 28 day (O/G) and 6 month (ICP Metals) holding times for these analyses.

No problems were encountered during the analysis of these samples.

Approved by Karen Burdee **Date** 10/2/13

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1306715

Lab ID	Client ID
R1306715-001	MW-10S
R1306715-002	MW-10S Dissolved
R1306715-003	MW-10M
R1306715-004	MW-10M Dissolved
R1306715-005	MW-10D
R1306715-006	MW-10D Dissolved
R1306715-007	MW-11S
R1306715-008	MW-11S Dissolved
R1306715-009	MW-11M
R1306715-010	MW-11M Dissolved
R1306715-011	MW-12S
R1306715-012	MW-12S Dissolved
R1306715-013	MW-12M
R1306715-014	MW-12M Dissolved
R1306715-015	MW-12D
R1306715-016	MW-12D Dissolved
R1306715-017	MW-13S
R1306715-018	MW-13S Dissolved
R1306715-019	MW-13M
R1306715-020	MW-13M Dissolved
R1306715-021	MW-14S
R1306715-022	MW-14S Dissolved
R1306715-023	TB091213

ALS Environmental

REPORT QUALIFIERS AND DEFINITIONS

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.

MRL Method Reporting Limit. Also known as:
LOQ Limit of Quantitation (LOQ)
The lowest concentration at which the method analyte may be reliably quantified under the method conditions.

MDL Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).

LOD Limit of Detection. A value at or above the MDL which has been verified to be detectable.

ND Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

ACCREDITED IN ACCORDANCE WITH nelac

Rochester Lab ID # for State Certifications[1]

NELAP Accredited	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Connecticut ID # PH0556	Nebraska Accredited	
Delaware Accredited	Nevada ID # NY-00032	North Carolina #676
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047		Virginia #460167

[1] Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the laboratory case narrative provided. For a specific list of accredited analytes, refer to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

INORGANIC PREPARATION METHODS

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	3010A
200.8	ILM05.3
6010C	3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3010A
6010 SPLP (1312) extract	3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1010
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-10S		
Lab Code:	R1306715-001	**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)	1664A	4.7	U	mg/L	4.7	1	NA	9/23/13 09:07	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1010
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-10S Dissolved		
Lab Code:	R1306715-002	**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	9/25/13	9/30/13 17:47	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/25/13	9/30/13 17:47	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1010
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 13:08
Sample Name:	MW-10S	**Units:**	µg/L
Lab Code:	R1306715-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2235.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
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	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1010
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 13:08
Sample Name:	MW-10S	**Units:**	µg/L
Lab Code:	R1306715-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2235.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85-122	9/21/13 13:08	
Toluene-d8	92	87-121	9/21/13 13:08	
Dibromofluoromethane	104	89-119	9/21/13 13:08	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1010
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 19:42
Sample Name:	MW-10S	**Units:**	µg/L
Lab Code:	R1306715-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ700.D\	**Instrument Name:**	R-MS-54
		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	
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1010
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 19:42
Sample Name:	MW-10S	**Units:**	µg/L
Lab Code:	R1306715-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ700.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1010
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 19:42
Sample Name:	MW-10S	**Units:**	µg/L
Lab Code:	R1306715-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ700.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	80	28-157	9/18/13 19:42	
2-Fluorobiphenyl	71	39-119	9/18/13 19:42	
2-Fluorophenol	37	10-105	9/18/13 19:42	
Nitrobenzene-d5	74	37-117	9/18/13 19:42	
Phenol-d6	24	10-107	9/18/13 19:42	
p-Terphenyl-d14	84	40-133	9/18/13 19:42	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1020
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-10M		
Lab Code:	R1306715-003	**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)	1664A	4.7	U	mg/L	4.7	1	NA	9/23/13 09:07	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1020
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-10M Dissolved		
Lab Code:	R1306715-004	**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	9/25/13	9/30/13 17:53	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/25/13	9/30/13 17:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1020
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 13:38
Sample Name:	MW-10M	**Units:**	µg/L
Lab Code:	R1306715-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2236.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
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	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1020
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 13:38
Sample Name:	MW-10M	**Units:**	µg/L
Lab Code:	R1306715-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2236.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	9/21/13 13:38	
Toluene-d8	94	87-121	9/21/13 13:38	
Dibromofluoromethane	105	89-119	9/21/13 13:38	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1020
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 20:14
Sample Name:	MW-10M	**Units:**	µg/L
Lab Code:	R1306715-003	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ701.D\	**Instrument Name:**	R-MS-54
		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	
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1020
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 20:14
Sample Name:	MW-10M	**Units:**	µg/L
Lab Code:	R1306715-003	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ701.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

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

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1020
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 20:14
Sample Name:	MW-10M	**Units:**	µg/L
Lab Code:	R1306715-003	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ701.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	83	28-157	9/18/13 20:14	
2-Fluorobiphenyl	68	39-119	9/18/13 20:14	
2-Fluorophenol	40	10-105	9/18/13 20:14	
Nitrobenzene-d5	74	37-117	9/18/13 20:14	
Phenol-d6	26	10-107	9/18/13 20:14	
p-Terphenyl-d14	81	40-133	9/18/13 20:14	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1030
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-10D		
Lab Code:	R1306715-005	**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)	1664A	4.7	U	mg/L	4.7	1	NA	9/23/13 09:07	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1030
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-10D Dissolved		
Lab Code:	R1306715-006	**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	9/25/13	9/30/13 17:59	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/25/13	9/30/13 17:59	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1030
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 14:08
Sample Name:	MW-10D	**Units:**	µg/L
Lab Code:	R1306715-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2237.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
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	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1030
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 14:08
Sample Name:	MW-10D	**Units:**	µg/L
Lab Code:	R1306715-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2237.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	9/21/13 14:08	
Toluene-d8	93	87-121	9/21/13 14:08	
Dibromofluoromethane	106	89-119	9/21/13 14:08	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1030
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 20:46
Sample Name:	MW-10D	**Units:**	µg/L
Lab Code:	R1306715-005	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ702.D\	**Instrument Name:**	R-MS-54
		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	
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1030
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 20:46
Sample Name:	MW-10D	**Units:**	µg/L
Lab Code:	R1306715-005	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ702.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

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

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1030
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 20:46
Sample Name:	MW-10D	**Units:**	µg/L
Lab Code:	R1306715-005	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ702.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	74	28-157	9/18/13 20:46	
2-Fluorobiphenyl	67	39-119	9/18/13 20:46	
2-Fluorophenol	37	10-105	9/18/13 20:46	
Nitrobenzene-d5	73	37-117	9/18/13 20:46	
Phenol-d6	23	10-107	9/18/13 20:46	
p-Terphenyl-d14	76	40-133	9/18/13 20:46	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1110
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-11S		
Lab Code:	R1306715-007	**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)	1664A	4.7	U	mg/L	4.7	1	NA	9/23/13 09:07	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1110
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-11S Dissolved		
Lab Code:	R1306715-008	**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	9/25/13	9/30/13 18:05	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/25/13	9/30/13 18:05	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1110
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 14:39
Sample Name:	MW-11S	**Units:**	µg/L
Lab Code:	R1306715-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2238.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
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	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1110
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 14:39
Sample Name:	MW-11S	**Units:**	µg/L
Lab Code:	R1306715-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2238.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	9/21/13 14:39	
Toluene-d8	93	87-121	9/21/13 14:39	
Dibromofluoromethane	107	89-119	9/21/13 14:39	

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1110
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 21:18
Sample Name:	MW-11S	**Units:**	µg/L
Lab Code:	R1306715-007	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ703.D\	**Instrument Name:**	R-MS-54
		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	
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1110
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 21:18
Sample Name:	MW-11S	**Units:**	µg/L
Lab Code:	R1306715-007	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ703.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

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

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1110
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 21:18
Sample Name:	MW-11S	**Units:**	µg/L
Lab Code:	R1306715-007	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ703.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	65	28-157	9/18/13 21:18	
2-Fluorobiphenyl	60	39-119	9/18/13 21:18	
2-Fluorophenol	29	10-105	9/18/13 21:18	
Nitrobenzene-d5	63	37-117	9/18/13 21:18	
Phenol-d6	19	10-107	9/18/13 21:18	
p-Terphenyl-d14	72	40-133	9/18/13 21:18	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1120
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-11M		
Lab Code:	R1306715-009	**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)	1664A	4.7	U	mg/L	4.7	1	NA	9/23/13 09:07	

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1120
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-11M Dissolved		
Lab Code:	R1306715-010	**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	9/25/13	9/30/13 18:47	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/25/13	9/30/13 18:47	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1120
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 15:09
Sample Name:	MW-11M	**Units:**	µg/L
Lab Code:	R1306715-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2239.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
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	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1120
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 15:09
Sample Name:	MW-11M	**Units:**	µg/L
Lab Code:	R1306715-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2239.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	9/21/13 15:09	
Toluene-d8	93	87-121	9/21/13 15:09	
Dibromofluoromethane	106	89-119	9/21/13 15:09	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1120
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 14:13
Sample Name:	MW-11M	**Units:**	µg/L
Lab Code:	R1306715-009	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ718.D\	**Instrument Name:**	R-MS-54
		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	
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1120
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 14:13
Sample Name:	MW-11M	**Units:**	µg/L
Lab Code:	R1306715-009	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ718.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

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

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1120
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 14:13
Sample Name:	MW-11M	**Units:**	µg/L
Lab Code:	R1306715-009	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ718.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	84	28-157	9/19/13 14:13	
2-Fluorobiphenyl	68	39-119	9/19/13 14:13	
2-Fluorophenol	36	10-105	9/19/13 14:13	
Nitrobenzene-d5	72	37-117	9/19/13 14:13	
Phenol-d6	24	10-107	9/19/13 14:13	
p-Terphenyl-d14	80	40-133	9/19/13 14:13	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1150
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-12S		
Lab Code:	R1306715-011	**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)	1664A	4.8	U	mg/L	4.8	1	NA	9/23/13 09:07	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1150
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-12S Dissolved		
Lab Code:	R1306715-012	**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	9/25/13	9/30/13 18:53	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/25/13	9/30/13 18:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1150
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 15:40
Sample Name:	MW-12S	**Units:**	µg/L
Lab Code:	R1306715-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2240.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	**16**		10	
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	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1150
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 15:40
Sample Name:	MW-12S	**Units:**	µg/L
Lab Code:	R1306715-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2240.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	9/21/13 15:40	
Toluene-d8	95	87-121	9/21/13 15:40	
Dibromofluoromethane	107	89-119	9/21/13 15:40	

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1150
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 14:45
Sample Name:	MW-12S	**Units:**	µg/L
Lab Code:	R1306715-011	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ719.D\	**Instrument Name:**	R-MS-54
		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	
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1150
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 14:45
Sample Name:	MW-12S	**Units:**	µg/L
Lab Code:	R1306715-011	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ719.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

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

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1150
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 14:45
Sample Name:	MW-12S	**Units:**	µg/L
Lab Code:	R1306715-011	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ719.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	76	28-157	9/19/13 14:45	
2-Fluorobiphenyl	76	39-119	9/19/13 14:45	
2-Fluorophenol	31	10-105	9/19/13 14:45	
Nitrobenzene-d5	81	37-117	9/19/13 14:45	
Phenol-d6	23	10-107	9/19/13 14:45	
p-Terphenyl-d14	85	40-133	9/19/13 14:45	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1200
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-12M		
Lab Code:	R1306715-013	**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)	1664A	4.7	U	mg/L	4.7	1	NA	9/23/13 09:07	

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1200
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-12M Dissolved		
Lab Code:	R1306715-014	**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	9/25/13	9/30/13 18:59	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/25/13	9/30/13 18:59	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1200
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 16:10
Sample Name:	MW-12M	**Units:**	µg/L
Lab Code:	R1306715-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2241.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
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	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1200
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 16:10
Sample Name:	MW-12M	**Units:**	µg/L
Lab Code:	R1306715-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2241.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	9/21/13 16:10	
Toluene-d8	94	87-121	9/21/13 16:10	
Dibromofluoromethane	107	89-119	9/21/13 16:10	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1200
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 16:55
Sample Name:	MW-12M	**Units:**	µg/L
Lab Code:	R1306715-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ723.D\	**Instrument Name:**	R-MS-54
		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	
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1200
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 16:55
Sample Name:	MW-12M	**Units:**	µg/L
Lab Code:	R1306715-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ723.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1200
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 16:55
Sample Name:	MW-12M	**Units:**	µg/L
Lab Code:	R1306715-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ723.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	75	28-157	9/19/13 16:55	
2-Fluorobiphenyl	69	39-119	9/19/13 16:55	
2-Fluorophenol	35	10-105	9/19/13 16:55	
Nitrobenzene-d5	75	37-117	9/19/13 16:55	
Phenol-d6	24	10-107	9/19/13 16:55	
p-Terphenyl-d14	83	40-133	9/19/13 16:55	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1210
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-12D		
Lab Code:	R1306715-015	**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)	1664A	4.8	U	mg/L	4.8	1	NA	9/23/13 09:07	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1210
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-12D Dissolved		
Lab Code:	R1306715-016	**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	9/25/13	9/30/13 19:05	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/25/13	9/30/13 19:05	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1210
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 16:41
Sample Name:	MW-12D	**Units:**	µg/L
Lab Code:	R1306715-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2242.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
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	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1210
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 16:41
Sample Name:	MW-12D	**Units:**	µg/L
Lab Code:	R1306715-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2242.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	9/21/13 16:41	
Toluene-d8	95	87-121	9/21/13 16:41	
Dibromofluoromethane	106	89-119	9/21/13 16:41	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1210
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 17:27
Sample Name:	MW-12D	**Units:**	µg/L
Lab Code:	R1306715-015	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ724.D\	**Instrument Name:**	R-MS-54
		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	
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1210
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 17:27
Sample Name:	MW-12D	**Units:**	µg/L
Lab Code:	R1306715-015	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ724.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

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

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1210
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 17:27
Sample Name:	MW-12D	**Units:**	µg/L
Lab Code:	R1306715-015	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ724.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	74	28-157	9/19/13 17:27	
2-Fluorobiphenyl	69	39-119	9/19/13 17:27	
2-Fluorophenol	34	10-105	9/19/13 17:27	
Nitrobenzene-d5	75	37-117	9/19/13 17:27	
Phenol-d6	24	10-107	9/19/13 17:27	
p-Terphenyl-d14	88	40-133	9/19/13 17:27	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1240
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-13S		
Lab Code:	R1306715-017	**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)	1664A	4.8	U	mg/L	4.8	1	NA	9/23/13 09:07	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1240
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-13S Dissolved		
Lab Code:	R1306715-018	**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	9/25/13	9/30/13 19:11	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/25/13	9/30/13 19:11	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1240
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 17:11
Sample Name:	MW-13S	**Units:**	µg/L
Lab Code:	R1306715-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2243.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
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	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1240
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 17:11
Sample Name:	MW-13S	**Units:**	µg/L
Lab Code:	R1306715-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2243.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	85-122	9/21/13 17:11	
Toluene-d8	95	87-121	9/21/13 17:11	
Dibromofluoromethane	109	89-119	9/21/13 17:11	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1240
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 17:59
Sample Name:	MW-13S	**Units:**	µg/L
Lab Code:	R1306715-017	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ725.D\	**Instrument Name:**	R-MS-54
		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	
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1240
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 17:59
Sample Name:	MW-13S	**Units:**	µg/L
Lab Code:	R1306715-017	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ725.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1240
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/19/13 17:59
Sample Name:	MW-13S	**Units:**	µg/L
Lab Code:	R1306715-017	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359348
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091913\AQ725.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	84	28-157	9/19/13 17:59	
2-Fluorobiphenyl	77	39-119	9/19/13 17:59	
2-Fluorophenol	36	10-105	9/19/13 17:59	
Nitrobenzene-d5	83	37-117	9/19/13 17:59	
Phenol-d6	24	10-107	9/19/13 17:59	
p-Terphenyl-d14	94	40-133	9/19/13 17:59	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1250
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-13M		
Lab Code:	R1306715-019	**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)	1664A	4.7	U	mg/L	4.7	1	NA	9/23/13 09:07	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1250
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-13M Dissolved		
Lab Code:	R1306715-020	**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	9/25/13	9/30/13 19:18	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/25/13	9/30/13 19:18	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1250
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 17:41
Sample Name:	MW-13M	**Units:**	µg/L
Lab Code:	R1306715-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2244.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
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	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1250
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 17:41
Sample Name:	MW-13M	**Units:**	µg/L
Lab Code:	R1306715-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2244.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	9/21/13 17:41	
Toluene-d8	94	87-121	9/21/13 17:41	
Dibromofluoromethane	107	89-119	9/21/13 17:41	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1250
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/20/13 17:14
Sample Name:	MW-13M	**Units:**	µg/L
Lab Code:	R1306715-019	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359712
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\092013\AQ741.D\	**Instrument Name:**	R-MS-54
		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	
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1250
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/20/13 17:14
Sample Name:	MW-13M	**Units:**	µg/L
Lab Code:	R1306715-019	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359712
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\092013\AQ741.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1250
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/20/13 17:14
Sample Name:	MW-13M	**Units:**	µg/L
Lab Code:	R1306715-019	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359712
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\092013\AQ741.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	79	28-157	9/20/13 17:14	
2-Fluorobiphenyl	66	39-119	9/20/13 17:14	
2-Fluorophenol	33	10-105	9/20/13 17:14	
Nitrobenzene-d5	66	37-117	9/20/13 17:14	
Phenol-d6	22	10-107	9/20/13 17:14	
p-Terphenyl-d14	78	40-133	9/20/13 17:14	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1315
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-14S		
Lab Code:	R1306715-021	**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)	1664A	4.8	U	mg/L	4.8	1	NA	9/23/13 09:07	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1315
Sample Matrix:	Water	**Date Received:**	9/12/13
Sample Name:	MW-14S Dissolved		
Lab Code:	R1306715-022	**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	9/25/13	9/30/13 19:24	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/25/13	9/30/13 19:24	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1315
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 18:12
Sample Name:	MW-14S	**Units:**	µg/L
Lab Code:	R1306715-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2245.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
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	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1315
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 18:12
Sample Name:	MW-14S	**Units:**	µg/L
Lab Code:	R1306715-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2245.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	85-122	9/21/13 18:12	
Toluene-d8	93	87-121	9/21/13 18:12	
Dibromofluoromethane	108	89-119	9/21/13 18:12	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1315
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/20/13 17:46
Sample Name:	MW-14S	**Units:**	µg/L
Lab Code:	R1306715-021	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359712
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\092013\AQ742.D\	**Instrument Name:**	R-MS-54
		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	
205-99-2	Benzo(b)fluoranthene	9.4	U	9.4	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1315
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/20/13 17:46
Sample Name:	MW-14S	**Units:**	µg/L
Lab Code:	R1306715-021	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359712
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\092013\AQ742.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13 1315
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Extracted:	9/17/13
		Date Analyzed:	9/20/13 17:46
Sample Name:	MW-14S	**Units:**	µg/L
Lab Code:	R1306715-021	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359712
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\092013\AQ742.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	82	28-157	9/20/13 17:46	
2-Fluorobiphenyl	70	39-119	9/20/13 17:46	
2-Fluorophenol	37	10-105	9/20/13 17:46	
Nitrobenzene-d5	73	37-117	9/20/13 17:46	
Phenol-d6	25	10-107	9/20/13 17:46	
p-Terphenyl-d14	72	40-133	9/20/13 17:46	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 12:37
Sample Name:	TB091213	**Units:**	µg/L
Lab Code:	R1306715-023	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2234.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
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	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	9/12/13
Sample Matrix:	Water	**Date Received:**	9/12/13
		Date Analyzed:	9/21/13 12:37
Sample Name:	TB091213	**Units:**	µg/L
Lab Code:	R1306715-023	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2234.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	98	85-122	9/21/13 12:37	
Toluene-d8	92	87-121	9/21/13 12:37	
Dibromofluoromethane	107	89-119	9/21/13 12:37	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1306715-MB1	**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)	1664A	5.0	U	mg/L	5.0	1	NA	9/23/13 09:07	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1306715-MB2	**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)	1664A	5.0	U	mg/L	5.0	1	NA	9/23/13 09:07	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1306715-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	9/25/13	9/30/13 17:29	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/25/13	9/30/13 17:29	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1306715-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	9/25/13	9/30/13 17:35	
Lead, Dissolved	6010C	50	U	µg/L	50	1	9/25/13	9/30/13 17:35	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	9/21/13 12:07
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1311736-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2233.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note
67-64-1	Acetone	10	U	10	
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	
179601-23-1	m,p-Xylenes	5.0	U	5.0	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Analyzed:	9/21/13 12:07
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1311736-01	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analytical Method:	8260C	**Analysis Lot:**	359515
Data File Name:	I:\ACQUDATA\msvoa10\data\092113\F2233.D\	**Instrument Name:**	R-MS-10
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	99	85-122	9/21/13 12:07	
Toluene-d8	95	87-121	9/21/13 12:07	
Dibromofluoromethane	106	89-119	9/21/13 12:07	

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 13:14
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1311148-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ688.D\	**Instrument Name:**	R-MS-54
		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	
205-99-2	Benzo(b)fluoranthene	10	U	10	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 13:14
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1311148-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ688.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1306715
Project:	Union Rd #2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	9/17/13
		Date Analyzed:	9/18/13 13:14
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	RQ1311148-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analytical Method:	8270D	**Analysis Lot:**	359185
Prep Method:	EPA 3510C	**Extraction Lot:**	191851
Data File Name:	I:\ACQUDATA\5973D\DATA\091813\AQ688.D\	**Instrument Name:**	R-MS-54
		Dilution Factor:	1

CAS No.	Analyte Name	Result	Q	MRL	Note

Surrogate Name	%Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	79	28-157	9/18/13 13:14	
2-Fluorobiphenyl	74	39-119	9/18/13 13:14	
2-Fluorophenol	44	10-105	9/18/13 13:14	
Nitrobenzene-d5	82	37-117	9/18/13 13:14	
Phenol-d6	29	10-107	9/18/13 13:14	
p-Terphenyl-d14	80	40-133	9/18/13 13:14	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

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

Service Request: R1306715
Date Analyzed: 9/23/13

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1306715-LCS1 Result	Spike Amount	% Rec	Duplicate Lab Control Sample R1306715-DLCS1 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Oil and Grease, Nonpolar (SGT-HEM)	1664A	42.7	42.0	102	39.1	42.0	93	64 - 132	9	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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

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

Service Request: R1306715
Date Analyzed: 9/23/13

Lab Control Sample Summary
General Chemistry Parameters

Units: mg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1306715-LCS2 Result	Spike Amount	% Rec	Duplicate Lab Control Sample R1306715-DLCS2 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Oil and Grease, Nonpolar (SGT-HEM)	1664A	37.3	42.0	89	39.9	42.0	95	64 - 132	7	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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

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

Service Request: R1306715
Date Analyzed: 9/30/13

Lab Control Sample Summary
Inorganic Parameters

Units: µg/L
Basis: NA

		Lab Control Sample R1306715-LCS			
Analyte Name	**Method**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
Arsenic, Dissolved	6010C	38.1	40	95	80 - 120
Lead, Dissolved	6010C	509	500	102	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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

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

Service Request: R1306715
Date Analyzed: 9/21/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 359515

Analyte Name	Lab Control Sample RQ1311736-02 Result	Spike Amount	% Rec	% Rec Limits
Acetone	20.2	20.0	101	61 - 138
Benzene	17.4	20.0	87	76 - 118
Bromodichloromethane	18.9	20.0	94	79 - 123
Bromoform	18.5	20.0	93	72 - 128
Bromomethane	20.5	20.0	103	46 - 157
2-Butanone (MEK)	19.0	20.0	95	60 - 133
Carbon Disulfide	20.4	20.0	102	61 - 144
Carbon Tetrachloride	18.5	20.0	92	64 - 129
Chlorobenzene	17.3	20.0	86	80 - 121
Chloroethane	17.9	20.0	89	69 - 128
Chloroform	18.5	20.0	92	75 - 123
Chloromethane	19.3	20.0	96	55 - 139
Dibromochloromethane	18.7	20.0	93	78 - 127
1,1-Dichloroethane	17.7	20.0	89	76 - 128
1,2-Dichloroethane	17.3	20.0	87	72 - 130
1,1-Dichloroethene	21.0	20.0	105	74 - 135
cis-1,2-Dichloroethene	19.3	20.0	96	77 - 123
trans-1,2-Dichloroethene	18.5	20.0	93	72 - 120
1,2-Dichloropropane	16.5	20.0	83	80 - 119
cis-1,3-Dichloropropene	17.2	20.0	86	77 - 125
trans-1,3-Dichloropropene	16.4	20.0	82	69 - 127
Ethylbenzene	16.6	20.0	83	75 - 123
2-Hexanone	17.7	20.0	89	61 - 131
Methylene Chloride	19.0	20.0	95	73 - 122
4-Methyl-2-pentanone (MIBK)	19.7	20.0	98	61 - 132
Styrene	16.6	20.0	83	80 - 121
1,1,2,2-Tetrachloroethane	18.3	20.0	91	72 - 124
Tetrachloroethene	17.2	20.0	86	71 - 127
Toluene	16.9	20.0	84	77 - 120
1,1,1-Trichloroethane	17.6	20.0	88	67 - 121
1,1,2-Trichloroethane	18.0	20.0	90	81 - 117
Trichloroethene	19.7	20.0	98	75 - 122
Vinyl Chloride	19.0	20.0	95	68 - 139

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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

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

Service Request: R1306715
Date Analyzed: 9/21/13

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analytical Method: 8260C

Units: µg/L
Basis: NA

Analysis Lot: 359515

	Lab Control Sample RQ1311736-02			
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**
o-Xylene	16.2	20.0	81	77 - 131
m,p-Xylenes	33.3	40.0	83	77 - 124

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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

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

Service Request: R1306715
Date Analyzed: 9/18/13

Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270D
Prep Method: EPA 3510C

Units: µg/L
Basis: NA

Extraction Lot: 191851

Analyte Name	Lab Control Sample RQ1311148-02 Result	Spike Amount	% Rec	Duplicate Lab Control Sample RQ1311148-03 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	53.7	100	54	52.3	100	52	10 - 127	4	30
1,2-Dichlorobenzene	52.6	100	53	50.7	100	51	23 - 130	4	30
1,3-Dichlorobenzene	50.0	100	50	47.4	100	47	21 - 90	6	30
1,4-Dichlorobenzene	51.1	100	51	47.7	100	48	10 - 124	6	30
2,4,5-Trichlorophenol	87.4	100	87	84.3	100	84	62 - 117	4	30
2,4,6-Trichlorophenol	85.5	100	86	82.8	100	83	62 - 115	4	30
2,4-Dichlorophenol	81.3	100	81	79.6	100	80	62 - 109	1	30
2,4-Dimethylphenol	78.8	100	79	74.8	100	75	28 - 100	5	30
2,4-Dinitrophenol	89.1	100	89	89.3	100	89	40 - 156	<1	30
2,4-Dinitrotoluene	100	100	100	95.4	100	95	69 - 122	5	30
2,6-Dinitrotoluene	106	100	106	103	100	103	48 - 125	3	30
2-Chloronaphthalene	67.5	100	67	67.4	100	67	47 - 98	<1	30
2-Chlorophenol	71.1	100	71	67.4	100	67	42 - 112	6	30
2-Methylnaphthalene	61.6	100	62	60.9	100	61	34 - 102	2	30
2-Methylphenol	69.0	100	69	65.4	100	65	51 - 95	6	30
2-Nitroaniline	85.7	100	86	82.5	100	82	60 - 119	5	30
2-Nitrophenol	94.9	100	95	93.5	100	94	60 - 113	1	30
3,3'-Dichlorobenzidine	61.7	100	62	48.2	100	48	44 - 114	25	30
3- and 4-Methylphenol Coelution	134	200	67	127	200	64	49 - 89	5	30
3-Nitroaniline	78.0	100	78	65.4	100	65	49 - 110	18	30
4,6-Dinitro-2-methylphenol	107	100	107	101	100	101	65 - 141	6	30
4-Bromophenyl Phenyl Ether	81.7	100	82	79.2	100	79	63 - 124	4	30
4-Chloro-3-methylphenol	85.3	100	85	80.9	100	81	42 - 124	5	30
4-Chloroaniline	65.2	100	65	52.9	100	53	40 - 111	20	30
4-Chlorophenyl Phenyl Ether	82.6	100	83	80.5	100	81	59 - 112	2	30
4-Nitroaniline	85.0	100	85	78.9	100	79	61 - 122	7	30
4-Nitrophenol	39.6	100	40	36.0	100	36	10 - 126	11	30
Acenaphthene	74.5	100	75	72.6	100	73	54 - 125	3	30
Acenaphthylene	77.5	100	78	75.7	100	76	69 - 111	3	30
Anthracene	83.5	100	84	79.2	100	79	55 - 116	6	30
Benz(a)anthracene	82.8	100	83	78.2	100	78	66 - 110	6	30
Benzo(a)pyrene	81.9	100	82	78.0	100	78	44 - 114	5	30
Benzo(b)fluoranthene	88.8	100	89	81.7	100	82	64 - 122	8	30

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

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

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

Service Request: R1306715
Date Analyzed: 9/18/13

Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270D
Prep Method: EPA 3510C

Units: µg/L
Basis: NA

Extraction Lot: 191851

Analyte Name	Lab Control Sample RQ1311148-02 Result	Spike Amount	% Rec	Duplicate Lab Control Sample RQ1311148-03 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Benzo(g,h,i)perylene	88.6	100	89	86.7	100	87	60 - 127	2	30
Benzo(k)fluoranthene	86.4	100	86	80.8	100	81	49 - 133	6	30
Benzyl Alcohol	69.0	100	69	65.6	100	66	31 - 109	4	30
2,2'-Oxybis(1-chloropropane)	77.5	100	77	74.4	100	74	44 - 112	4	30
Bis(2-chloroethoxy)methane	79.7	100	80	77.8	100	78	53 - 142	3	30
Bis(2-chloroethyl) Ether	77.5	100	77	69.8	100	70	56 - 106	10	30
Bis(2-ethylhexyl) Phthalate	80.4	100	80	76.9	100	77	62 - 124	4	30
Butyl Benzyl Phthalate	78.6	100	79	74.8	100	75	41 - 148	5	30
Carbazole	83.0	100	83	78.4	100	78	66 - 117	6	30
Chrysene	83.3	100	83	78.5	100	78	57 - 118	6	30
Di-n-butyl Phthalate	82.2	100	82	78.7	100	79	57 - 139	4	30
Di-n-octyl Phthalate	79.1	100	79	77.8	100	78	77 - 120	1	30
Dibenz(a,h)anthracene	93.0	100	93	91.2	100	91	58 - 132	2	30
Dibenzofuran	76.2	100	76	74.4	100	74	58 - 105	3	30
Diethyl Phthalate	83.5	100	83	80.6	100	81	65 - 122	2	30
Dimethyl Phthalate	85.8	100	86	82.0	100	82	69 - 115	5	30
Fluoranthene	87.2	100	87	82.7	100	83	62 - 123	5	30
Fluorene	80.6	100	81	77.8	100	78	60 - 112	4	30
Hexachlorobenzene	84.3	100	84	80.3	100	80	76 - 119	5	30
Hexachlorobutadiene	51.0	100	51	50.0	100	50	16 - 95	2	30
Hexachlorocyclopentadiene	50.9	100	51	54.4	100	54	10 - 99	6	30
Hexachloroethane	46.9	100	47	42.9	100	43	15 - 92	9	30
Indeno(1,2,3-cd)pyrene	85.2	100	85	83.3	100	83	64 - 126	2	30
Isophorone	79.6	100	80	77.3	100	77	61 - 128	4	30
N-Nitrosodi-n-propylamine	82.4	100	82	78.6	100	79	51 - 119	4	30
N-Nitrosodimethylamine	43.1	100	43	42.0	100	42	37 - 67	2	30
N-Nitrosodiphenylamine	83.7	100	84	79.3	100	79	45 - 123	6	30
Naphthalene	60.6	100	61	59.7	100	60	36 - 95	2	30
Nitrobenzene	80.0	100	80	78.1	100	78	51 - 113	3	30
Pentachlorophenol (PCP)	82.0	100	82	77.6	100	78	56 - 146	5	30
Phenanthrene	84.1	100	84	80.4	100	80	58 - 118	5	30
Phenol	37.3	100	37	36.3	100	36	10 - 113	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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

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

Service Request: R1306715
Date Analyzed: 9/18/13

Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Analytical Method: 8270D
Prep Method: EPA 3510C

Units: µg/L
Basis: NA

Extraction Lot: 191851

Analyte Name	Lab Control Sample RQ1311148-02 Result	Spike Amount	% Rec	Duplicate Lab Control Sample RQ1311148-03 Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Pyrene	81.6	100	82	77.9	100	78	67 - 118	5	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.

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 10714

ALS Environmental

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE _____ OF _____

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

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 1 | 0 | | | | | | 0 | | | | | | | | |

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 _____

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GCMS VOAs 8260	624 CLP	GCMS SVOAs 8270	625	GC VOAs 8021 601/602	PESTICIDES 8081 608	PCBs 8082 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below) As+Pb	1664A/OG SGT
MW-10S	-001,002	9/12/13	1010	GW	6	X		X						X	X
MW-10M	003,004	9/12/13	1020	GW	6	X		X						X	X
MW-10D	-005,006	9/12/13	1030	GW	6	X		X						X	X
MW-11S	-007,008	9/12/13	1110	GW	6	X		X						X	X
MW-11M	-009,010	9/12/13	1120	GW	6	X		X						X	X
MW-12S	011,012	9/12/13	1150	GW	6	X		X						X	X
MW-12M	013,014	9/12/13	1200	GW	6	X		X						X	X
MW-12D	-015,016	9/12/13	1210	GW	6	X		X						X	X
MW-13S	-017, 018	9/12/13	1240	GW	6	X		X						X	X
MW-13M	-019,020	9/12/13	1250	GW	6	X		X						X	X
MW-14S	021,022	9/12/13	1315	GW	6	X		X						X	X

SPECIAL INSTRUCTIONS/COMMENTS
Metals Dissolved As and Pb
☆ Please filter in lab ☆

See QAPP ☐ TB-023

STATE WHERE SAMPLES WERE COLLECTED

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

INVOICE INFORMATION
PO # 2011-100
BILL TO: Isabel Miller
imiller@unicornmgt.com

R1306715 5
Unicorn Management Consultants
Union Rd #2011-100

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	
Signature: Gary Bohan	Signature: Daniel Ward	Signature	Signature	Signature	
Printed Name: Gary Bohan	Printed Name: ALS	Printed Name	Printed Name	Printed Name	Printed Name
Firm: UMC	Firm: 9/12/13/1735	Firm	Firm	Firm	Firm
Date/Time: 9/12/13 1735	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

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

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 10611

ALS Environmental

1565 Jefferson Road, Building 300, Suite 360 • Rochester, NY 14623 | +1 585 288 5380 +1 585 288 8475 (fax) PAGE _____ OF _____

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

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE: 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs (8260) ○ 624 ○ CLP	GC/MS SVOAs ○ 8270 ○ 625	GC VOAs ○ 8021 ○ 601/602	PESTICIDES ○ 8081 ○ 608	PCBs ○ 8082 ○ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	REMARKS/ ALTERNATE DESCRIPTION
TB091213	-023	9/12/13	LAB	LAB	3	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

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 ___X___ Yes _____

INVOICE INFORMATION
PO # 2011-100
BILL TO: Isabel Miller
imiller@unicornmgt.com

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	
Signature: Gary Bohan	Signature: Daniel Ward	Signature	Signature	Signature	Signature
Printed Name: Gary Bohan	Printed Name: DW	Printed Name	Printed Name	Printed Name	Printed Name
Firm: UMC	Firm: 9/12/13/ 1735	Firm	Firm	Firm	Firm
Date/Time: 9/12/13 1735	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

R1306715 5
Unicorn Management Consultants
Union Rd #2011-100

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

Cooler Receipt and Preservation Check Form

Project/Client Unicorn Folder Number RN3006715

Cooler received on 9/12/13 by: DW **COURIER:** ALS 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?	~~ALS/ROC~~, CLIENT	

		Bulk Jar	Encore	TerraCore	Lab5035set	~~N/A~~
7.	Soil VOA samples received as:					
8.	Temperature of cooler(s) upon receipt:	4.4°	6.8° *	4.8°		
	Is the temperature within 0° - 6° C?:	~~Y~~ N	Y ~~N~~	~~Y~~ N	Y N	Y N

If No, Explain Below Date/Time Temperatures Taken: 9/12/13/1820

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:

All Samples held in storage location R-002 by DW on 9/12/13 at 1820
5035 samples placed in storage location _____ by _____ on _____ at _____

PC Secondary Review: VB 9/16/13 Rec'd on ice same day as collected

Cooler Breakdown: Date: 9/13/13 Time: 1312 by: JPS

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	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3								
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For TCN Phenol and 522			If present, contact PM to add ascorbic acid Or sodium sulfite (522)					
	$Na_2S_2O_3$	-	-						
	Zn Aceta	-	-						
	HCl	*	*	4112101	8/14				

*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: 072213-1CC, 3-122-002, 072213-2AA0

Other Comments:

PC Secondary Review: VB 10/2/13

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