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Unicorn Management Consultants, LLC

ANNUAL GROUNDWATER MONITORING REPORT
CLOSURE YEAR 20 (2016)

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

December 14, 2016

Document Authorization Form

Annual Groundwater Monitoring Report
Closure Year 20 (2016)

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

December 14, 2016

AUTHORIZATIONS:

Michael J. O'Connor

12/14/16

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

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.

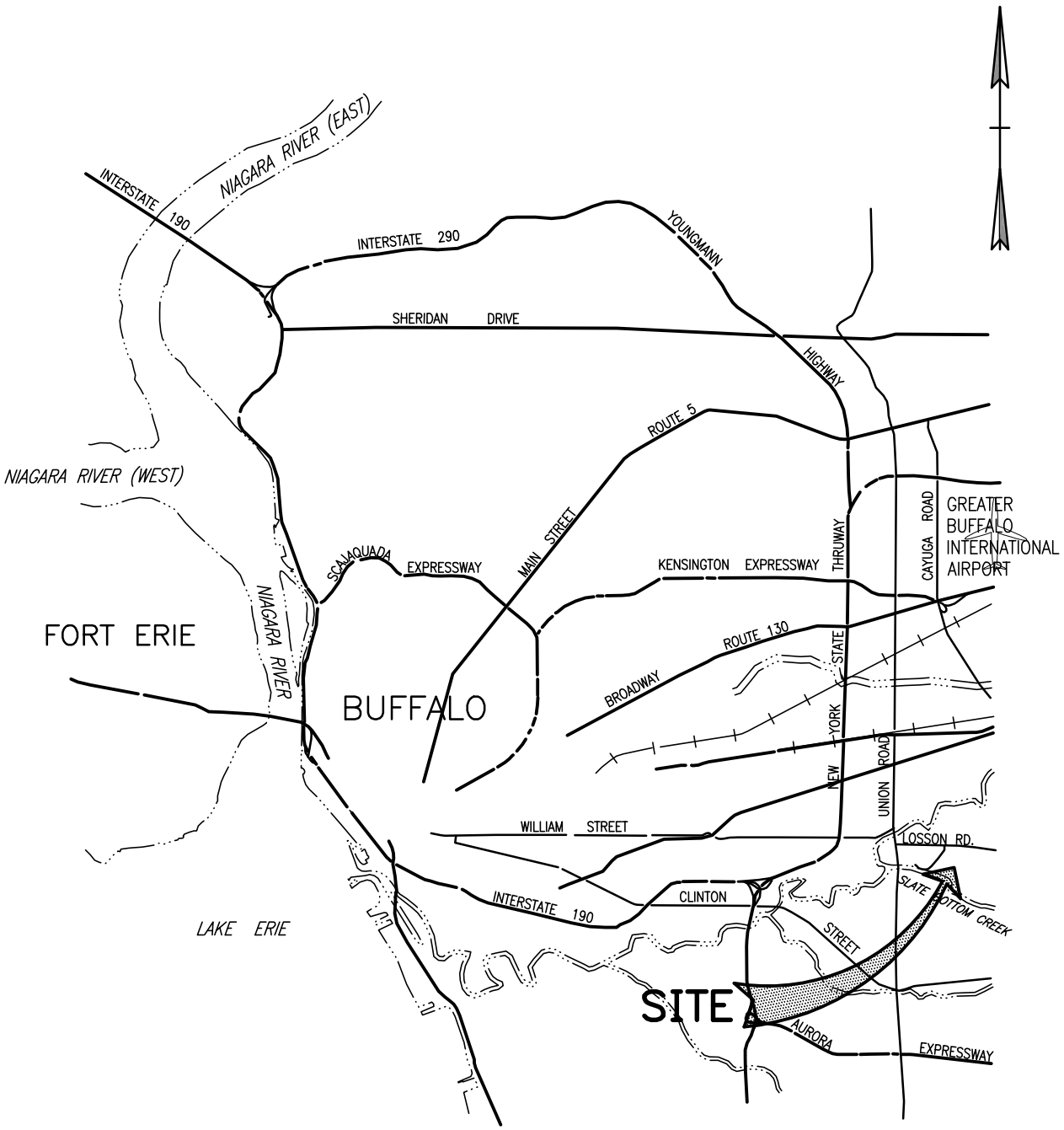
The Union Road site ("the Site") is a Class 4 Site as defined by the New York State Department of Environmental Conservation (NYSDEC). The Site registry number is 915128. The Site is located at 333 Losson Road in Cheektowaga, New York (see Figure 1-1). A Record of Decision (ROD) for the Site was signed 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.

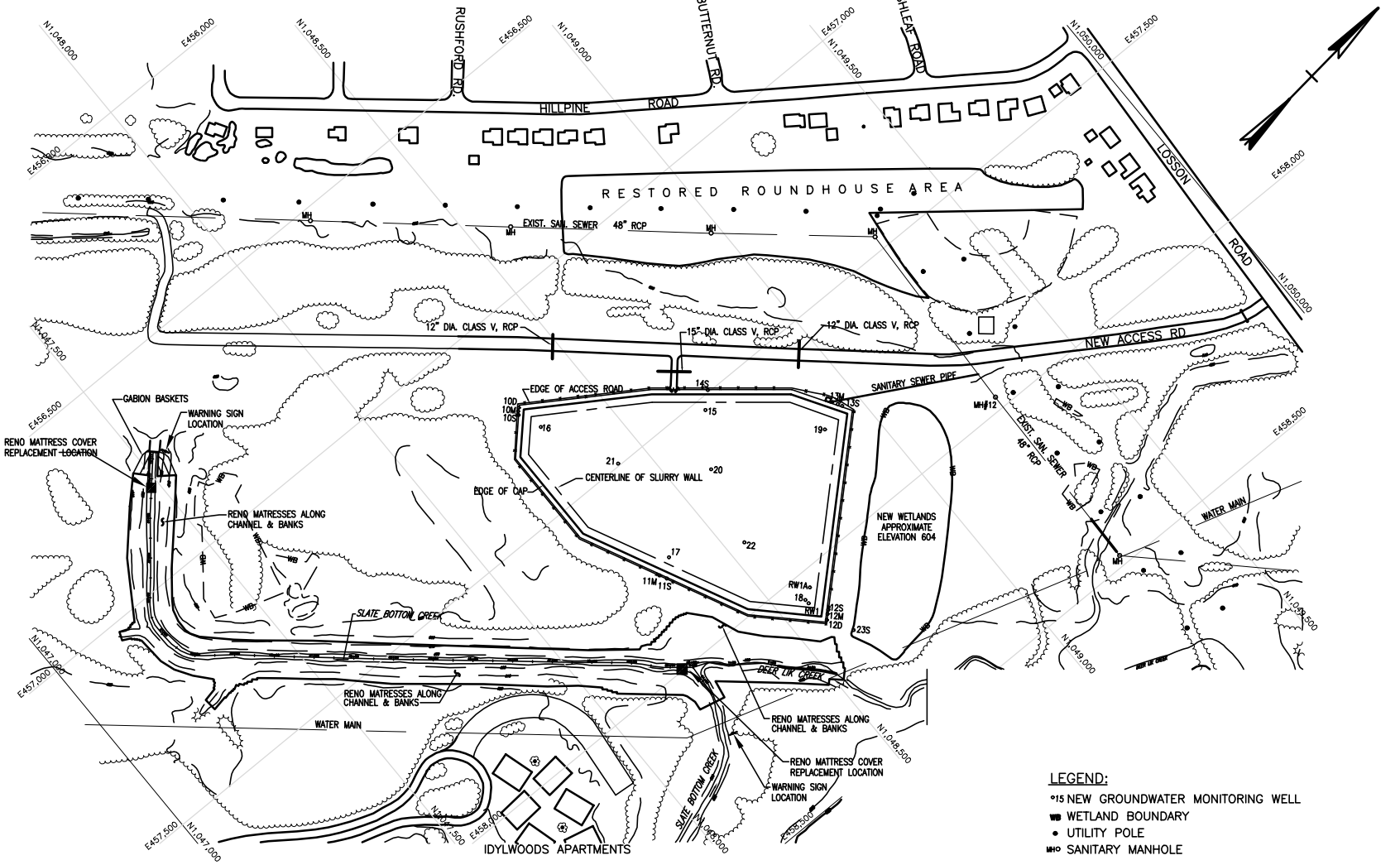
The GMP, Inspection and Operation and Maintenance activities for the Site went into effect following the landfill closure. This report presents and summarizes the groundwater monitoring data for the Annual Monitoring of Closure Year 20 (2016). This is the 24th sampling event since the landfill closure.

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.		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: UNION_RD
					SCALE: 1"~2mi DATE: 1/16/02
		DRAWING	LOCATION MAP		BY: AD CK:
					FIGURE # 1-1



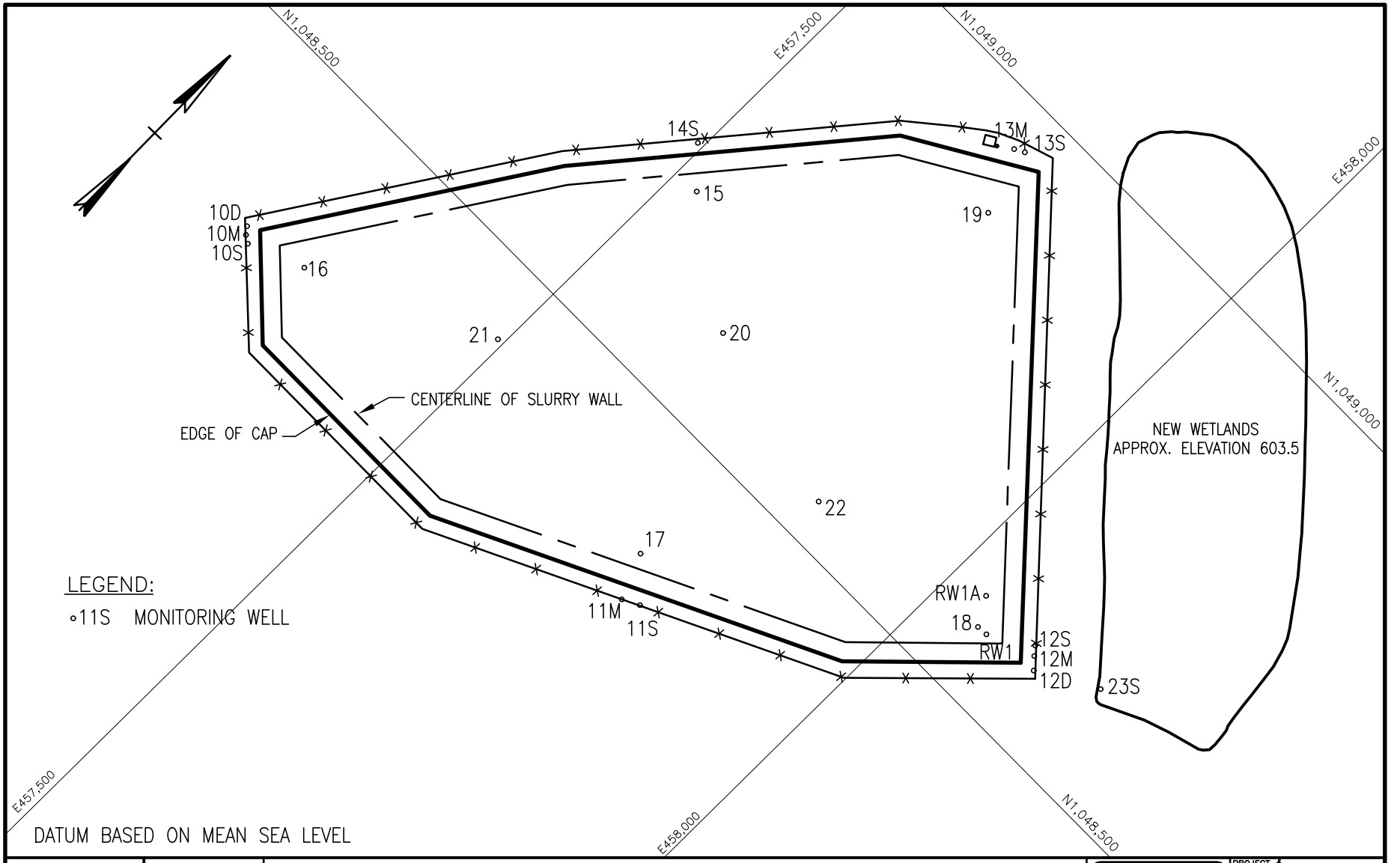
REVISIONS		PROJECT	UNION ROAD SITE TOWN OF CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200
NO.	DATE				FILENAME: 2045100B
		DRAWING	SITE LOCATION		SCALE: 1" =400' DATE: 8/23/06
					BY: AD CK:
					FIGURE # 1-2

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 1664A;
- 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 2016 was conducted on September 21, 2016. 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 ALS Group USA Corp. dba ALS Environmental (Formerly Columbia Analytical Services, Inc.) of Rochester, New York. Tables 3-3 through 3-8 present the analytical results from this sampling event.

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

TABLE 3-1
UNION ROAD GROUNDWATER MONITORING REPORT
CLOSURE YEAR 20 (2016)

Unicorn Management Consultants, LLC

PRE-CONSTRUCTION SAMPLING 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: 12/5/16
Checked by: MA
Date: 12/6/16

TABLE 3-2
UNION ROAD
GROUNDWATER MONITORING REPORT

Unicorn Management Consultants, LLC

September 20, 2016
WELL PURGING SUMMARY

Well Number	Riser Elev. (Feet) [1]	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	13.07	610.02	10.12	1.6	4.90	
10M	622.50	589.6	15.73	606.77	17.17	2.8	8.20	
10D	622.02	574.1	18.52	603.50	29.40	4.7	6.00	
11S	622.74	597.1	17.97	604.77	7.67	1.2	3.70	
11M	622.86	578.4	21.45	601.41	23.01	3.7	9.70	
12S	622.62	595.8	25.16	597.46	1.66	0.3	0.50	
12M	622.97	578.8	22.73	600.24	21.44	3.4	10.50	
12D	621.18	557.8	19.56	601.62	43.82	7.0	20.80	
13S	622.96	599.1	14.24	608.72	9.62	1.5	4.60	
13M	621.66	585.8	14.91	606.75	20.95	3.4	6.00	
14S [2]	621.61	602.1	13.82	607.79	5.69	0.9	2.50	

[1] Elevations were surveyed by Douglas C. Meyers P.L.S., P.C. on March 17, 1997

[2] MW-14S was reinstalled, developed and resurveyed on August 19, 1997.

[3] All Elevations are referenced to Mean Sea Level

[4] All wells are two 2-inches in diameter

[5] Well development was performed on 1/16/1997

Prepared by: MP
Date: 12/5/16
Checked by: MA
Date: 12/6/16

TABLE 3-3
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 21, 2016

Unicorn Management Consultants, LLC

SHALLOW WELL SVOCs

	ANALYTICAL RESULTS (ug/L)					
ANALYTE	**MW-10S**	**MW-11S**	**MW-12S**	**MW-13S**	**MW-14S**	**MRL**
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
4-chloro-3-methlyphenol	ND	ND	ND	ND	ND	9.4

Prepared by: MP
Date: 12/5/16
Checked by: MA
Date: 12/6/16

TABLE 3-3
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 21, 2016

Unicorn Management Consultants, LLC

SHALLOW WELL SVOCs

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: 12/5/16
Checked by: MA
Date: 12/6/16

TABLE 3-4
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 21, 2016

Unicorn Management Consultants, LLC

SHALLOW WELL VOCs, TPH, and METALs

ANALYTE	ANALYTICAL RESULTS (ug/L)					MRL
	MW-10S	MW-11S	MW-12S	MW-13S	MW-14S	
Dilution	1.00	1.00	1.00	1.00	1.00	
acetone	ND	ND	ND	ND	ND	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	ND	ND	ND	
TPH	ND	ND	ND	ND	ND	4.7
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)
0	**10**
0.0	**2,840**
0.0	**24**
0.0	**5,313**

ND - Not Detected, above the laboratory detection limit

Prepared by: MP
Date: 12/5/16
Checked by: MA
Date: 12/6/16

TABLE 3-5
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 21, 2016

Unicorn Management Consultants, LLC

MEDIUM WELL SVOCs

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

Prepared by: MP
Date: 12/5/16
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TABLE 3-5
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 21, 2016

Unicorn Management Consultants, LLC

MEDIUM WELL SVOCs

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

Prepared by: MP
Date: 12/5/16
Checked by: MA
Date: 12/6/16

TABLE 3-6
UNION ROAD
ANNUAL GROUNDWATER MONITORNG
September 21, 2016

Unicorn Management Consultants, LLC

MEDIUM WELL VOCs, TPH, and METALs

ANALYTE	ANALYTICAL RESULTS (ug/L)				MRL
	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	4.7
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: 12/5/16
Checked by: MA
Date: 12/6/16

TABLE 3-7
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 21, 2016

Unicorn Management Consultants, LLC

DEEP WELL SVOCs

ANALYTE	ANALYTICAL RESULTS (ug/L)		MRL
	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
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	9.4
4,6-dinitro-2-methylphenol	ND	ND	47

Prepared by: MP
Date: 12/5/16
Checked by: MA
Date: 12/6/16

TABLE 3-7
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 21, 2016

Unicorn Management Consultants, LLC

DEEP WELL SVOCs

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: 12/5/16
Checked by: MA
Date: 12/6/16

TABLE 3-8
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 21, 2016

Unicorn Management Consultants, LLC

DEEP WELL VOCs, TPH, and METALs

ANALYTE	ANALYTICAL RESULTS (ug/L)		MRL
	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	4.7
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 20, 2016, 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: 12/5/16
Checked by: MA
Date: 12/6/16

TABLE 4-1
UNION ROAD
GROUNDWATER MONITORING REPORT

Unicorn Management Consultants, LLC

GROUNDWATER WELL MEASUREMENTS
September 20, 2016

Well Number	Riser Elev.[1] (Feet)	Depth to Water (Feet)	Water Elev. (Feet)
10S	623.09	13.07	610.02
10M	622.50	15.73	606.77
10D	622.02	18.52	603.50
11S	622.74	17.97	604.77
11M	622.86	21.45	601.41
12S	622.62	25.16	597.46
12M	622.97	22.73	600.24
12D	621.18	19.56	601.62
13S	622.96	14.24	608.72
13M	621.66	14.91	606.75
14S [2]	621.61	13.82	607.79
15	624.67	17.53	607.14
16	624.51	16.12	608.39
17	624.44	21.07	603.37
18 [3]	624.67	Dry	<602.75
19	625.08	21.47	603.61
20 [4]	631.98	28.78	603.20
21	629.25	25.63	603.62
22 [4]	629.24	25.78	603.46
23S	607.45	10.22	597.23
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.

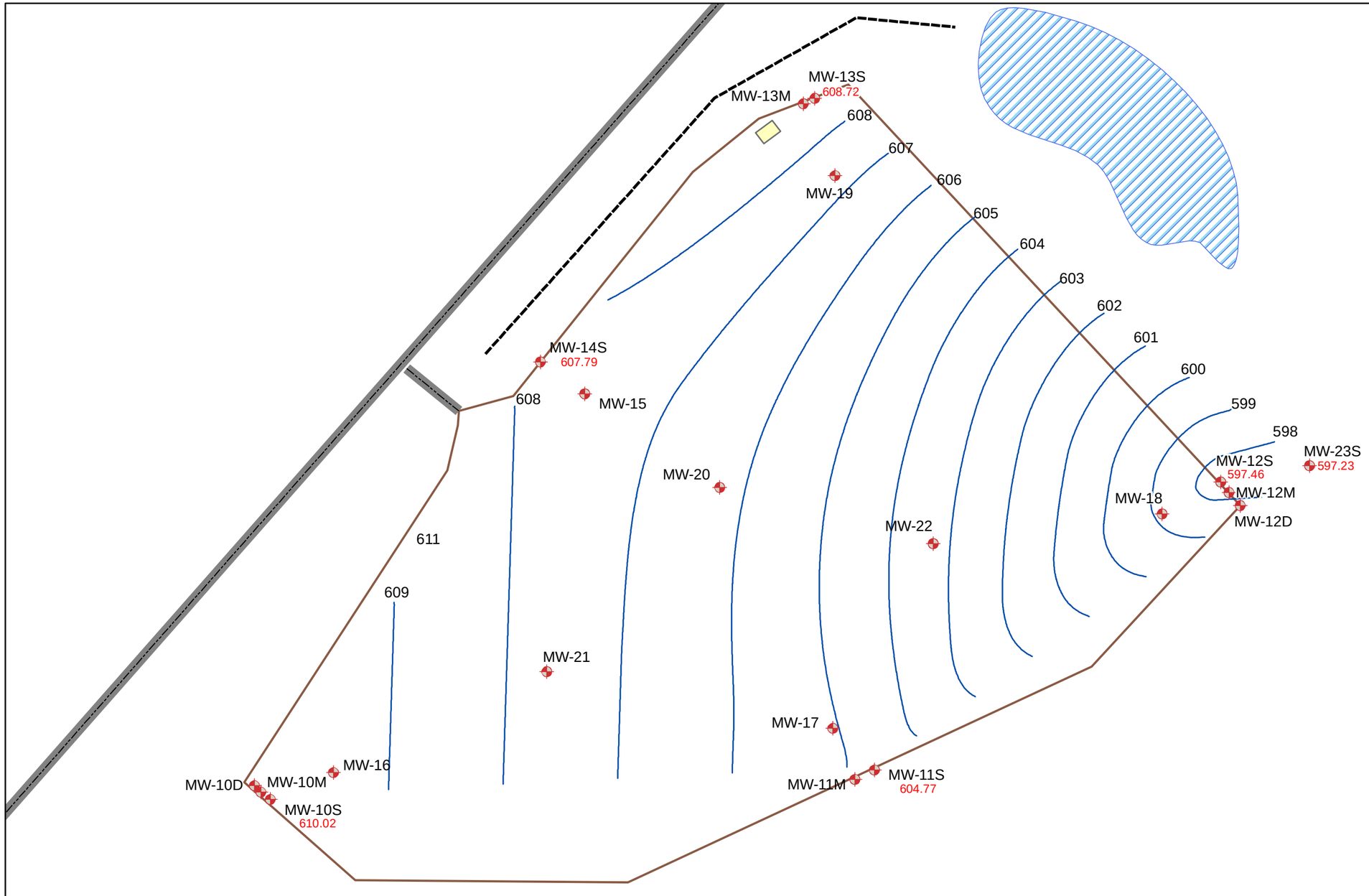
[3] MW-18 is dry; measuring tape stopped without indicating water.

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

[5] Groundwater measurement was not taken in RW1. The assumed elevation is at the pump inlet (598.76).

[6] NM: Not Measured

[7] All Elevations are referenced to Mean Sea Level



0 62.5 125 250 375 500 Feet

Union Road- Shallow Groundwater Elevation Contour Map for 9/20/16

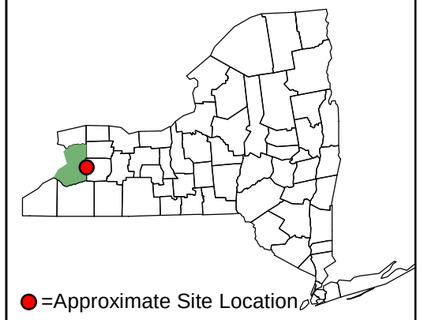
N W E S

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

Project Name: Union Road

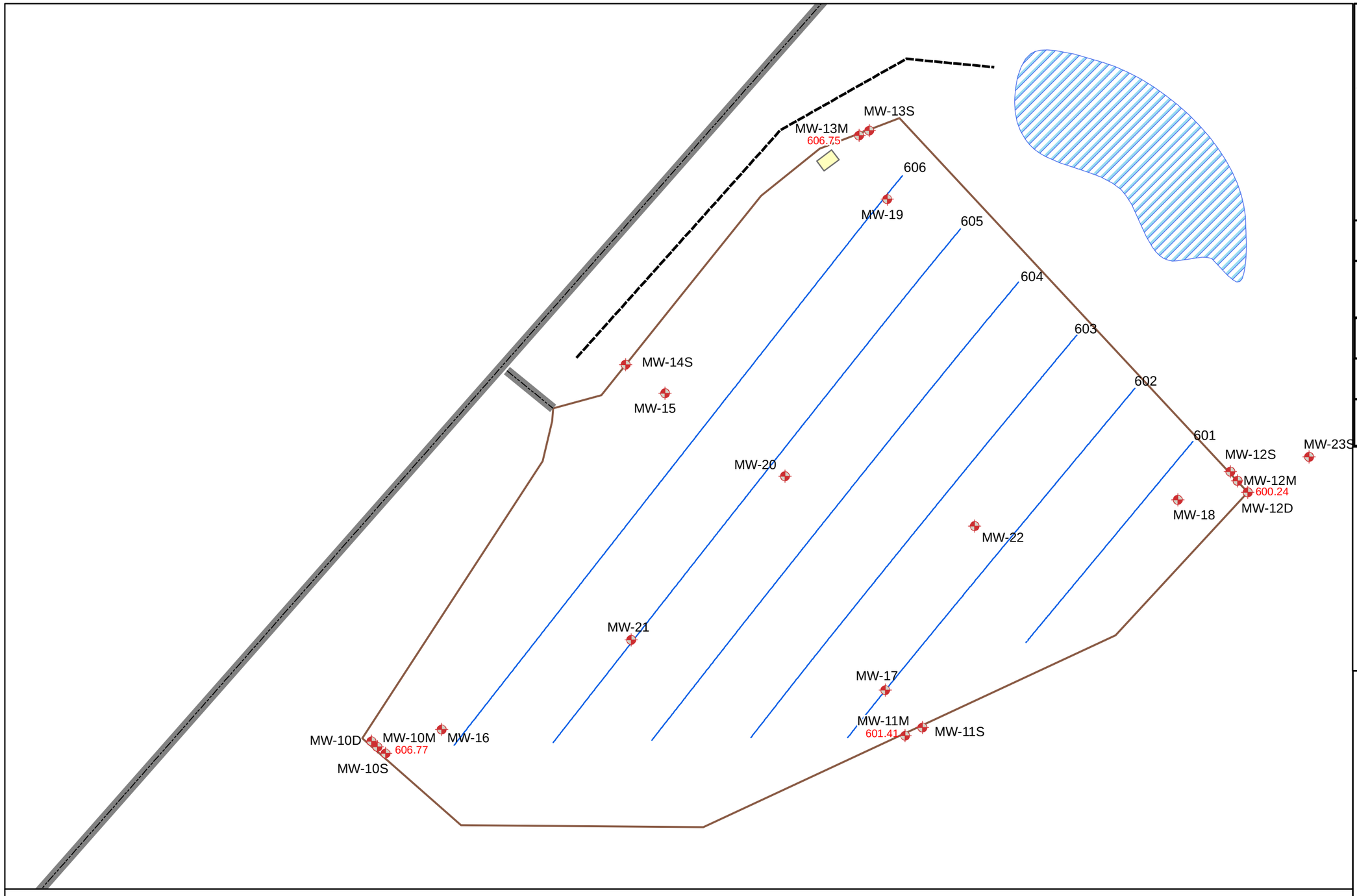
FIGURE 4-1

Author: RTM	**Checked By:** ----
Project #: 2011	**Created:** 10/10/2011
	Revised: 12/8/16
Scale: 1 in:100 ft	**File:** GWContour_S_2016



Legend

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



Union Road- Middle Groundwater Elevation Contour Map for 9/20/16

Unicorn Management Consultants, LLC

52 Federal Road
Suite 2C
Danbury, CT
06810

(203) 205-9000

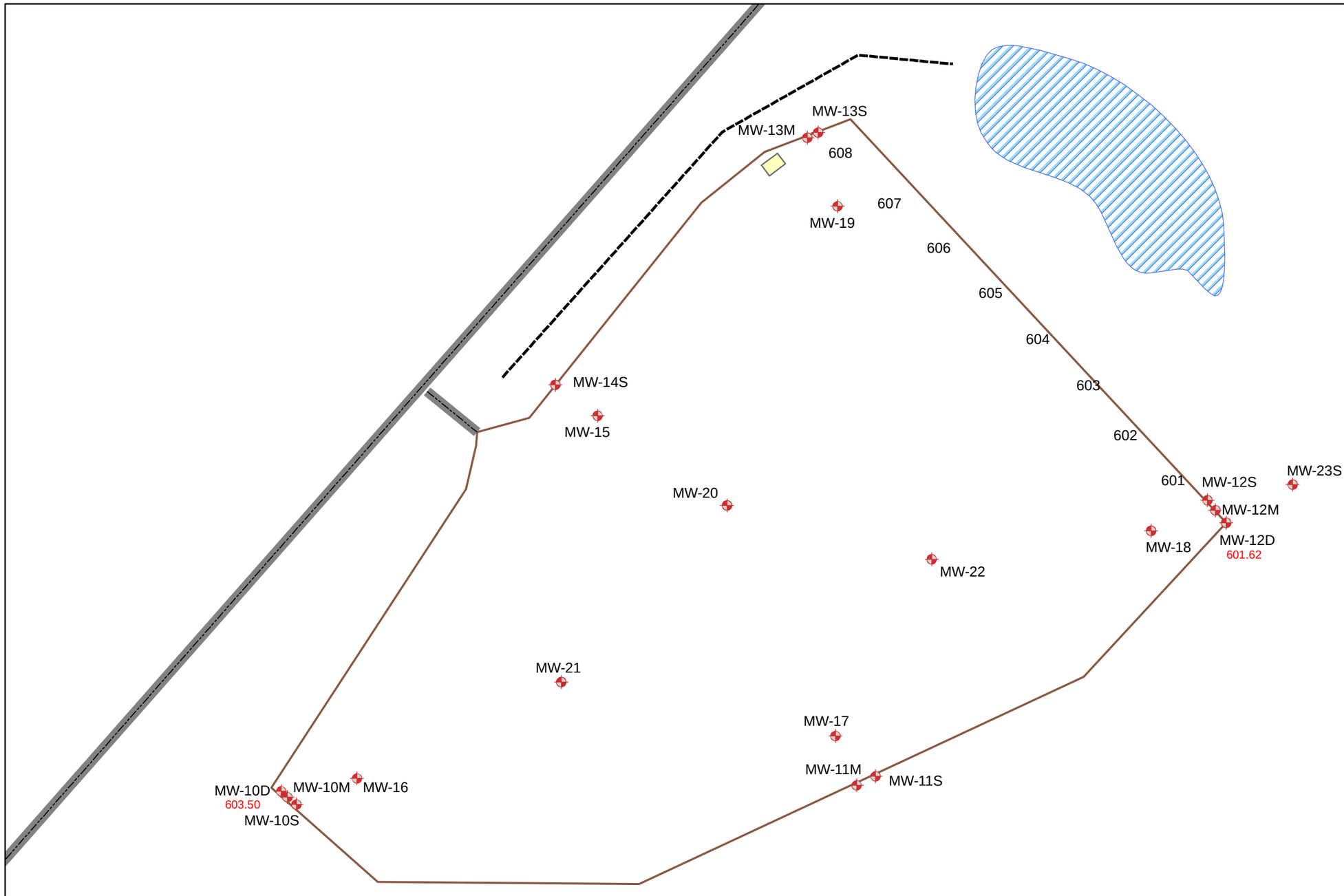
Project Name: Union Road

FIGURE 4-2

Author: RTM	**Checked By:** ----
Project #: 2011	**Created:** 10/10/2011
	Revised: 12/8/16
Scale: 1 in:102 ft	**File:** GWContour_M_2016

Legend

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



Union Road- Deep Groundwater Elevation Contour Map for 9/20/16

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: 12/8/16
Scale: 1 in:100 ft	**File:** GWContour_D_2016

Legend

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

5. SITE INSPECTION AND MAINTENANCE

UMC performed an annual site inspection on March 22, 2016. 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 Buffalo Sewer Authority, no action is needed.

A woodchuck eradication program was implemented during 2009 and continued in 2016. During the 2016 site inspection, Some groundhog tunneling was observed along the north eastern landfill fence. A washed out animal burrow was identified on the slope between the landfill and the wetlands to the north of the Site was observed at the time of inspection. UMC plans on filling this burrow with a combination of gravel and topsoil during the first quarter of 2017.

As requested by the NYSDEC, grass on the landfill area is mowed annually. Annual Mowing was performed on September 20, 2016.

Wetland Restoration: The wetlands north of the landfill closure, which was created during the remediation activities has continued to reestablish itself. The wetlands have completely revegetated itself and wildlife (e.g., ducks, geese and deer) have returned to the area.

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.

At the time of the inspection on March 22, 2016, the gabion basket wing-walls are stable and the reno mattresses installed along the creek are in good condition. 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.

Dewatering System: On December 22, 2015, UMC installed a new intrinsic barrier in the dewatering pump control panel to address operating issues with the Site dewatering system. The new intrinsic barrier, however, did not solve the operating issues with the dewatering pump. Specifically, the pump would continue to operate when the water level in the pumping well reached the "low" (pump off) level sensor, and would only shut off when the water level reached the secondary "low-low" level sensor. Following additional testing and troubleshooting, UMC has believed that the dewatering pump issue was caused by a short circuit in one of the underground wires connecting the sensor probes to the control box. Although the dewatering system was experiencing operating issues, UMC determined that the system is still effectively discharging water from the dewatering trench to the Buffalo sewer system within the permitted requirements. Ultimately the issues increased the number of cycles that the dewatering pump will experience during operation while simultaneously decreasing the run-time of each cycle.

UMC had planned to replace the underground wires early in 2016, and on February 22-23, 2016, UMC met with an electrician on Site to replace the sensor wires. Prior to replacing any wires, additional troubleshooting was conducted to confirm that the sensor wires needed to be replaced. The results from several tests indicated that a timer relay installed in the control panel had been overriding the "pump off" conductivity probe, and each time the "low/low" conductivity probe was re-submerged, the timer relay would simply restart the pump. The timer was disconnected from the control panel and the system was restarted. When the system was restarted, however, the system again began pumping the water past the "pump off" conductivity probe. This again seemed to indicate that there was still an issue with the underground sensor wires.

Additional troubleshooting revealed that the control panel was actually detecting induced current between the sensor wires ("current bleed"). This current bleed was causing the control panel to energize the dewatering pump, even if there was insufficient water in the trench. The installation of resistors onto the inputs of the "pump-on/pump-off" intrinsic barrier reduced the bariers sensitivity to the current bleed and solved the operating issues. Ultimately, the sensor wires did not need to be replaced. The dewatering system was again restarted without the timer relay, and was operated solely on the input of the conductivity probes in the dewatering well.

On March 21, 2016, UMC reinstalled the timer relay so that it activates the system every two weeks, but does not override the "pump off" conductivity probe. With the timer relay reintegrated into the control panel, they system now works as designed; turning on approximately every two weeks or when the water level in the trench makes contact with the "pump-on" conductivity probe, and turning off when the water level in the trench drops below the "pump-off" conductivity probe.

On November 1, 2016, during the 4Q16 discharge sampling event, UMC noticed that the two effluent pumps in the sump pit adjacent to the shed were not draining the pit as water entered from the dewatering trench. An electrician determined that both effluent pumps burned out and needed to be replaced. UMC replaced both effluent pumps on November 29-30, 2016. UMC submitted a trip report containing additional details regarding the effluent pump replacement on December 9, 2016. Photographs of the effluent pump replacement are included in Appendix C. The dewatering system is currently operating without issue.

6. CONCLUSION

The groundwater quality within the exterior wells and the groundwater elevation measurements during the 2016 annual monitoring event demonstrate that remedial activities at the Union Road Site are successful. The groundwater quality outside the landfill closure is better than groundwater quality in the interior of the closure.

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

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

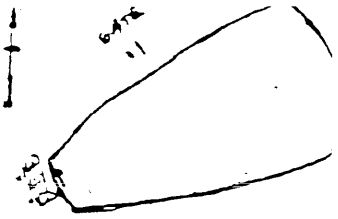
Though samples collected from Monitoring wells MW-11S and MW-14S did not contain detectable concentrations of TPH during this monitoring period, detectable concentrations of TPH have existed in samples from both MW-11S and MW-14S since their construction in 1997. As discussed in previous monitoring reports, 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.

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

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.			
5	4	21"	6	BR TO TAN/GREY CLAY W LITTLE ANGULAR ROCKS TO 1/2"	STIFF, DAMP		
	4		6				
	6		5				
			10				
	6	21"	6	0-3" BRICK TO TAN/GREY CLAY SOME ROCKS TO 3/4"	STIFF DAMP		
			15	3-15" CINDERS W/SOME ROCKS - DAMP			
			20				
	8		8	15-21" BROWN/TAN CLAY SOME SAND, LITTLE SILT TRACE ROCKS	SATURATED LITTLE H2O		
	4	24"	5	TAN/LT BROWN CLAY	STIFF, LITTLE H2O		
			5				
10	10		10				
	10	12"	2	TAN/LT BROWN CLAY	MED STIFF SOME H2O		
			3				
	12		3				
	12		2	TAN/LT BROWN CLAY - TRACE SILTS	MED STIFF SOME H2O		
		16"	3				
	14		4				
15	14	20"	2	GREY TO LT BROWN CLAY ~~SOME~~ LITTLE ROUNDED ROCKS	MED STIFF SOME H2O		
			3				
	16		4				
	16	18"	2	TAN TO LT BROWN CLAY	MED STIFF SOME H2O		
			3				
	18		5				
	18	20"	2	GREYISH BROWN CLAY TRACE ORGANICS.	MED STIFF SOME H2O		
			3				
20			3	END of Boring 21' B.G.S. ~~20'~~ 20'			

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

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

TEST BORING LOG

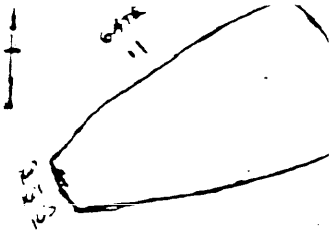
BORING NO. 10-M	
PROJECT NO. NAME Union Road - 2035-200	LOCATION Buffalo NY
DRILLING CONTRACTOR/DRILLER Maxim	
GEOLOGIST. OFFICE John J Zacher JR	
DRILLING EQUIPMENT. METHOD HSA	SIZE TYPE OF BIT 6" HSA / SAMPLING METHOD Split Spoon / START. FINISH D: 1/3/97
WELL INSTALLED? YES ☒ NO ☐	CASING MAT./DIA. 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:	

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING: DESCRIPTION	REMARKS	WELL CONSTR.	GRAPHIC LITHOLOGY
				SAMPLING STARTS 4' BG.			
5	4	22"	6	BLK TO TAN/GREY CLAY W/ LITTLE ROCKS TO 4"	STIFF, DAMP		
	6		6	0-7" BLACK TO TAN/GREY CLAY SOME ROCKS	STIFF DAMP		
	6		5	7-14" CINDERS	DRY		
	5	22"	8	14-22" BROWN TAN CLAY LITTLE ROCKS	MED STIFF, LITTLE H2O		
	3		12	TAN/LT BROWN CLAY	STIFF, LITTLE H2O		
10	10	24"	7				
	20		8	TAN/LT BROWN CLAY	MED STIFF SOME H2O		
	12	15"	13				
	12		4	TAN/LT BROWN CLAY	MED STIFF SOME H2O		
	M	15"	5				
15	14		3	TAN/LT BROWN CLAY, LITTLE GREY LITTLE ROUND ROCKS	MED STIFF SOME H2O		
	16	20"	4				
	16		3	TAN TO LT BROWN CLAY	MED STIFF SOME H2O		
	18	19"	3				
	15		3	GREYISH BROWN CLAY, SOME ORGANICS	MED STIFF SOME H2O		
	20	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. 10M

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

DRILLING CONTRACTOR/DRILLER MAHM

GEOLOGIST, OFFICE JOHN J ZACHER JR

DRILLING EQUIPMENT, METHOD HSA | SIZE, TYPE OF BIT 6" HSA | SAMPLING METHOD SPLIT SPOON | START, FINISH DATE 1/13/97

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
20			1	DARK GREY w/ LITTLE ORGANICS	MED STIFF		
21		21	3		SOME H2O		
22			2				
22			4	GREY & SOME BROWN CLAYS	MED STIFF		
23		21	5		LITTLE H2O		
24			4				
24			2	GREY CLAY	SOFT,		
25		20	3		WET		
26			3				
26			1	TOP 14" GREY CLAY	SOFT WET		
27		21	2				
28			2	BOT 7" GREY/LT BROWN CLAY, SOME ROCK FRAGS, LITTLE SAND	WET, NON COHESIVE		
28			10				
29			12	LT BROWN SILTS W/SOME SAND 0-6"	WET, LOOSE		
30		17"	4	LT BROWN TAN CLAY, SOME ROCKS 6-17" 1/2-1"	SOFT-WET		
30			4				
30			2				

BOB @ 31' Bgl

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

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

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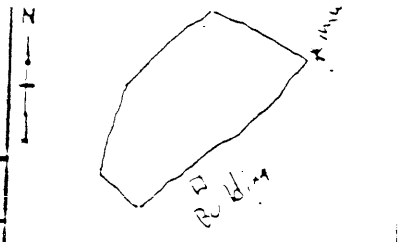
TEST BORING LOG



BORING NO. MW-10D

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

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

GEOLOGIST. OFFICE: James Dann

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"	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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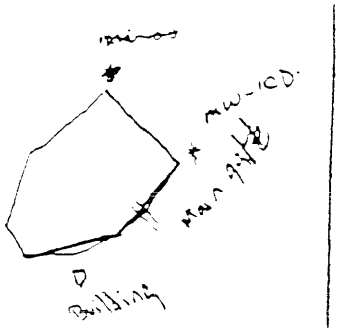
TEST BORING LOG



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/ Taces 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 Bottem 2" Grey/Lt Brown/ Clays w/ some Fray. Rks, Sands	soft wet soft wet Not cohesive wet		
28-30'		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 Bottem 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.			
				@ 35' 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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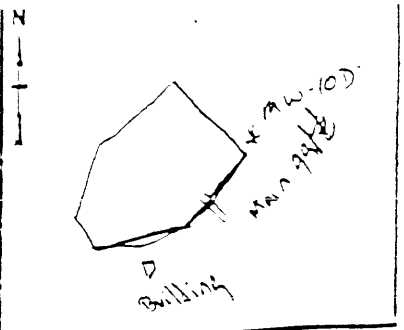
TEST BORING LOG



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.)

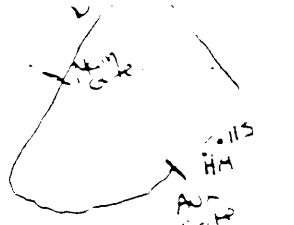
REMARKS:

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

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

ST = Shelby Tube, CSC = Continuous Soil Core

TEST BORING LOG



BORING NO. MW-115	
PROJECT NO. NAME Niagara 2035-200	LOCATION Buffalo NY
DRILLING CONTRACTOR/DRILLER MAXIM	
GEOLOGIST. OFFICE JOHN J ZAHER JR	
DRILLING EQUIPMENT. METHOD HSA	SIZE TYPE OF BIT 6" HSA / SAMPLING METHOD Split Spoon / START. FINISH DAT 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:	

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

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

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

TEST BORING LOG

BORING NO. MW-11S

PROJECT NO. NAME: Union Road - 2035-200

LOCATION: BUFFALO NY

DRILLING CONTRACTOR/DRILLER: MARIM

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: 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	20	24"	3 5 6	BROWN / DRK BROWN CLAYS, NO ODS	STIFF LITTLE - NO H_2O		
22	22		5				
	22		2	BROWN W/SOME GREY CLAYS	STIFF TRACE H_2O		
		23"	4 5	BoBe 24' Byl			
	24	-	4				
5							
10							
15							

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

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

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TEST BORING LOG

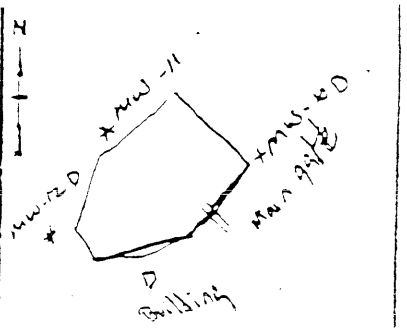
BORING NO. MW-11M

PROJECT NO.. NAME Union Road 2035-200

LOCATION Buffalo NY

DRILLING CONTRACTOR/ DRILLER Maxim

GEOLOGIST, OFFICE James Dean



DRILLING EQUIPMENT. METHOD	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/DRK Brown 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 5 7	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.	Stiff little to No H_2O		
14'		19"	7 11 11	Reddish Brown clays w/ No Rxs or organics			
15 16'			20		Stiff little to No H_2O		
16'		24"	19 25 18	Reddish Brown clays w/ Grey layers The grey layers may be evidence of varbed clays.	m. Stiffness		
18'			20				
18'			6 3 4 5	Reddish Brown clays w/ Grey layers The Grey layers may be evidence of Varbed clays	Damn		
20							

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

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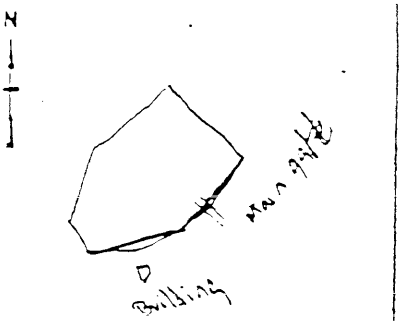
TEST BORING LOG



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:

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
20'			6	- Reddish brown varbed clays w/ Red, Grey,	Soft
		24"	3	and dark Brown layers.	Wet
22'			3		
22'			3	Reddish/ Brown clays	Soft
		12"	2		Wet
24'			4		
24			1	Reddish Brown (Fleshy Color) clays ¼" - ½" Rx frags.	Soft
		18"	1	w/ Rounded edges.	Wet
5			3		
26'			3	Reddish Brown (Fleshy Color) clays ¼" - 2" Rx frags	Soft
26'		18	4	w/ rounded edges.	Wet
			5		
28'			2	Reddish Brown (Fleshy Color) clays + 40%-50%	Soft
28'		13"	2	Rock fragments w/ some rounded edges	Wet
			2		
30			5		Soft
10			9	- Mostly Rocks ~~20%~~ w/ some Reddish Brown	
30'		4"	10	(Fleshy color) clays	Wet
32'			7		Soft
32'			8	- Reddish Brown (Flesh color) clays + silts	Wet
		14"	13	- Some Sands 20-30% rock mostly smoothed pebbles ¼" - 1"	
34'			13		
34'			1	Reddish Brown/ Grey silts + clays	The sample Ranged from Soft → hard
15		13"	8	10% Rocks + Sands	Wet
26'			15		Soft → Hard
			22		
36			24	Reddish Brown/ Grey silts, clays, Sands +	
		5'	54/2"	Rocks.	Wet
35		-	- -		
				Bed Rock @ 39' BG	

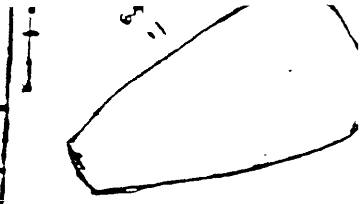
WELL CONST.

GRAPHIC LITHOLOGY

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

SS = Split Spoon Type, CSC = Continuous Soil Core

TEST BORING LOG



BORING NO. 17-S

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" 8" HSA | SAMPLING METHOD: SPLIT SPOON | START, FINISH DA[TE]: 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: GROUND SURFACE TOP OF WELL CASING TOP & BOTTOM SCREEN GW SURFACE DATE
(FT. ABOVE M.S.L.)

REMARKS:

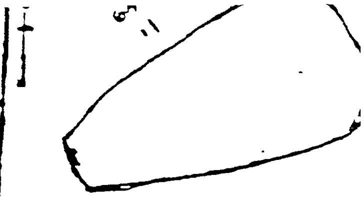
LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/6 IN	DESCRIPTION	REMARKS
				SAMPLING START AT 15' BG	
15	15'–17	21"	6 8 9 9	BROWN CLAYS - FILL	STIFF · LITTLE TO NO H2O
	17–19	24"	7 6 6 5	BROWN CLAYS FILL	STIFF · TRACE H2O
20	19–21	23	6 6 7 8	BROWN TO DARK BROWN CLAYS	STIFF LITTLE H2O
	21–23	24"	4 5 5 5	BROWN TO TAN CLAY W/ LITTLE GREY	STIFF SOME TO LITTLE H2O
	23–25	24"	5 6 5 4	BROWN & GREY CLAY 0-12 12-24	STIFF / MOIST
25				BOB 25'	

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

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

TEST BORING LOG



BORING NO.	12-M
PROJECT NO., NAME	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 DATE	12/31/96

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: (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, [illegible], [illegible]	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	
24-26		24"	2, 1, 1, 1	Grey to Red Brown Clay, Trace Rocks	Soft, Moist	26	
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	
30-32		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		
34-36		24"	1, 2, 2, 1	Grey Clay and Sand	No Strength, wet	Sand	
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

Weathered Bedrock

BOB - 42.5

44 SHELTER ROCK ROAD
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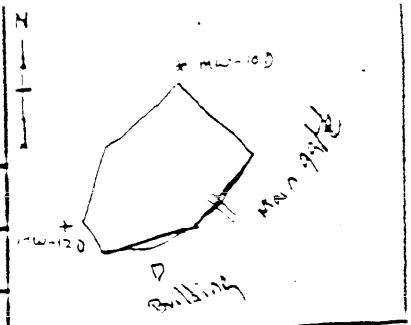
TEST BORING LOG



BORING NO. MW-120

PROJECT NO.. NAME Union Road 2035-200

LOCATION Buffalo NY

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 until then.			
				Grout Seal			
5							
10							
15							

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

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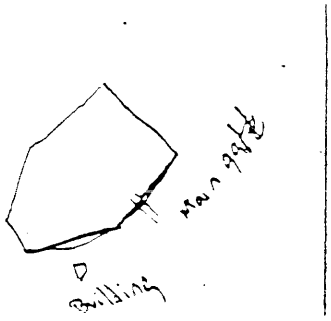
TEST BORING LOG



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 LOG
20'		24"	3 5 6 8	Brown to Drk Brown Clays, No Rxs	Stiff little to No H_2O		
22'							
22'		24"	3 5 4 4	Brown/Tan/w/ some Greys	Stiff w/ trace H_2O		
24'					Soft Damp		
24'		24"	1 1 1	Greyish/ Red Brown Clays, Trace Rx Fragments Y8" - Y4"			
26'					Stiff		
26'		17"	4 6 14 20	Top 6" Red Brown Clay, No Rxs Bottom 11" lt Brown/Tan (Fleshy color) Clays, Trace silts & some Rx Fragments	Soft w/ Some H_2O		
28'					Soft Some H_2O		
28'		15"	1 4 2 3	lt Brown/Tan (Fleshy color) clays, Trace silts + Some rock fragments. Y8" - Y4"	Soft Some H_2O		
30'				lt Brown/Tan (Fleshy Color) clays, Trace silts + some Rock fragments			
D'		14"	1 1 3 4	Top 12" lt Brown/Tan, w/ some Grey clays some Rx fragments.	Soft, Damp		
32'					No Cohesive Strength Wet to Damp		
32'		24"	1 8 16 50	lst 11" Brown/Tan (Fleshy Color) clays + silts Bottom 5" Grey 50% Sands No Rxs			
34'				Sample skipped the augers into hard unconsolidated Rocks.			
37'		5/6"	5"	lt Brown/Tan/Grey Clays w/ silts + Angular Rock fragments 40-50% Y8" - 1"	Soft Wet		
39'							

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-12D

PROJECT NO.. NAME Union Road 2035-200

LOCATION Buffalo NY

DRILLING CONTRACTOR/ DRILLER Maxim

GEOLOGIST, OFFICE James Doan

DRILLING EQUIPMENT. METHOD HSA

SIZE, TYPE OF BIT

SAMPLING METHOD Split Spoon

START. FINISH DATE

WELL INSTALLED? YES ☒ NO ☐

CASING MAT./ DIA. Stainless Steel/ 2"

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

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

REMARKS:

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	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 Seal		
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%

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 ~~RISER~~ RISER AT 20.5' B.G.	

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING — DESCRIPTION	REMARKS
				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		5' → 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
10		5			
	11'	4		BOTTOM 3" - WOOD SOME CREOSOTE ODOR	
12		10			
		7			
12		8		BLACK SAND / CINDERS	WET
	10"	3			
14		6			
		7			
14		7		BLACK SAND / CINDERS	WET
15	12"	6		SOME BRICK AND WOOD	
16		5			
16		5		BLACK SAND CINDERS W/SOME RED CLAY	DAMP
	7"	4			
18		4			
		3			WET
18		3		TOP 6" BLACK CINDERS	
	21"	5			MED STIFF
20		5		6"-15" RED CLAY, NO ROCKS	SOME H2O
					B.B. 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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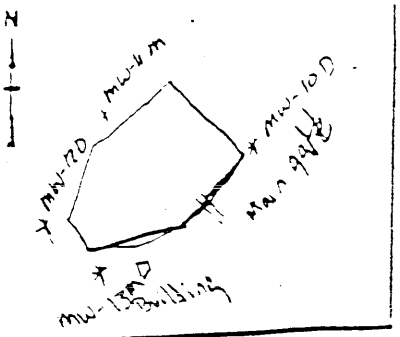
TEST BORING LOG



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"	.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
5	5'	12"	18 12 8 17	-Drk Brown clays w/o RKS	Stiff little to No H2O		
10	10'	8"	15 14 11 5	Blk sands + cashes or cinders - Not a native material	No Cohesive strength DRY		
	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 Damp		
15	14'	5"	50/5"	Top 2" Blk ash w/ some ~~as~~ organics Next 1" Brick (Red Bottom 2" Wood			
	16'	3"	50/3"	Wood Next Sample will be 19'-21'			
	18'						
	19'	3"	50/3"	Wood			

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

CSC = Continuous Soil Core

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2 of 2

TEST BORING LOG

BORING NO. MW-13M

PROJECT NO.. NAME Union Road 2035-200

LOCATION Buffalo NY

DRILLING CONTRACTOR/ DRILLER Maxim

GEOLOGIST, OFFICE James Doan

DRILLING EQUIPMENT. METHOD HSA

SIZE. TYPE OF BIT

SAMPLING METHOD Split SPOON

START. FINISH DATE

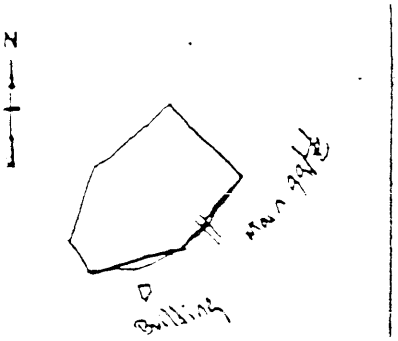
WELL INSTALLED? YES ☑ NO ☐

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		
	34'	0"	6	Bed Rock	Bottom of Borring
15	36'		50/0"		

WELL CONST. | GRAPHIC LITHOLOG

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

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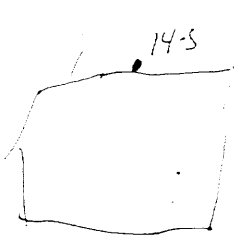
TEST BORING LOG



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.

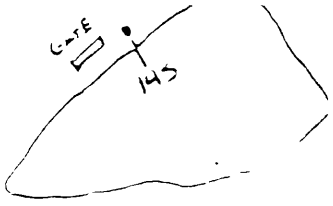
DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOG
				Topsoil		grout	
				Fill - Reddish brown Sandy Clay		3.8 Bentonite	
5						5.3	
				Reddish Brown Clay	SAND	6.8	
10							
15						16.8	
				End of Boring		17.3	

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.			
				A Bandes 8/19/97			
4'			7	TOP 1" - WOOD			
			14	1-11" - BROWN CLAY W/LITTLE GRAVEL	STIFF, DRY		
5		20"	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		
			7	7-22" REDIBROWN CLAY	STIFF, LITTLE TO H_2O		
		22"	9				
10'			10				
10			16	REDIBROWN CLAY, TRACE ORGANICS (ROOTS)	STIFF - LITTLE TO H_2O		
			12				
		22"	13				
12'			14				
12			5	REDIBROWN CLAY - SOME GREY VARBING	STIFF LITTLE TO H_2O		
			7				
		24"	8		NO 4" - SOME H_2O		
14			10	REDIBROWN CLAY SOME GREY VARBING	STIFF / LITTLE H_2O		15
			3				
15		24"	5				-Bed
16'			4				
16			12	REDIBROWN CLAY W/SOME GREY	STIFF - LITTLE H_2O		17.
		24"	13				
			15				
18			13				
18			0	0-4" MIX BROWN/GREY CLAY	MED STIFF SOME TO H_2O		4
		24"	3				
20			5	4-24" GREY SANDY CLAY (40-50%)	SOFT, 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

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: 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
20'			6 9	GREY CLAY	SOFT, WET		
22'		18"	3 7				
24			weight of	GREY CLAY	VERY SOFT, WET		
24		15"	ROD		SOFT, WET		
25			0 0	GREY CLAY			
26		18"	3 2		SOFT		
26			2	GREY CLAY	SATURATED		
28		24"	3 3		SATURATED, SOFT		
25			6 0	G-S GREY CLAY			
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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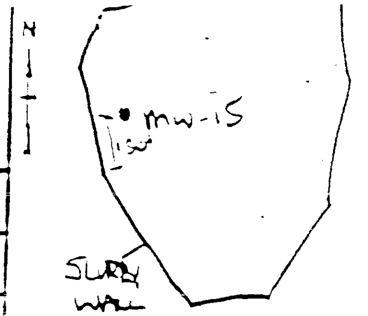
TEST BORING LOG



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: 858 ATV HSA

SIZE, TYPE OF BIT: 6.25" H.S.A

SAMPLING METHOD: SS

START, FINISH DATE: 2/20/06

WELL INSTALLED? YES ☒ NO ☐

CASING MAT., DIA.: SS 2"

SCREEN: TYPE — MAT. SS LENGTH 10' DIA. 2" SLOT SIZE 0.010

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
0-2		2'	26/18	Brown graded clay silt & gravel. Fill. organic. TAN/BROWN Hard/firm. Moist (frozen) + little 1/4" gravel.	
2-4		1'	13/18	TAN/BROWN CLAY. FIRM. NO COARSE MATERIAL Remaining.	
4-6		1.5'	27/18	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'	11/18	GREY/green CLAY. NO COARSE MATERIAL. SOFT. TRACE SILT	Fine sand →
8-10		1.8	8/18	SAME BUT BLACK. SILTY CLAY. TRACE ORANGE. SAME BUT GREEN/GREY. SILTY CLAY.	Coarse sand →
10-12		2'	5/18	Green/grey silt. some clay. soft.	
12-14		1.5'	6/18	SAME	
14-16		1.5'	4/18	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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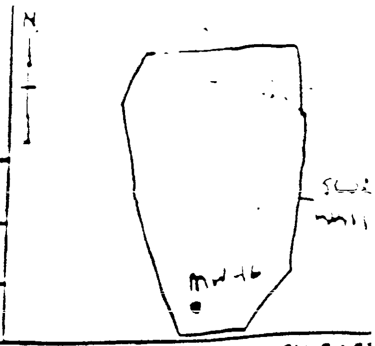

TEST BORING LOG

BORING NO.	MW-16
PROJECT NO., NAME	UNITED ROAD
LOCATION	CAP INTERIOR
DRILLING CONTRACTOR/DRILLER	MAXIM/EMPIRE BRUCE
GEOLOGIST/OFFICE	HANLON/SZMANIA 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	0.020
MAT.	SS
LENGTH	10
DIA.	2"
SLOT SIZE	0.020
ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE	~~618.8~~ 618.9
TOP OF WELL CASING	620.0
TOP & BOTTOM SCREEN	~~[illegible]~~ 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.
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 grey/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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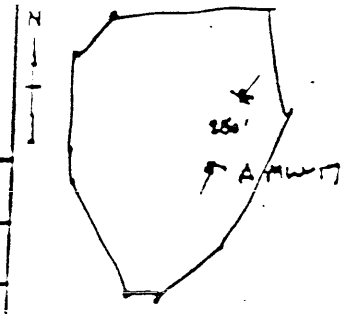
TEST BORING LOG



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 LITHOLOG
		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 GRAVEL. 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 (WOOD) 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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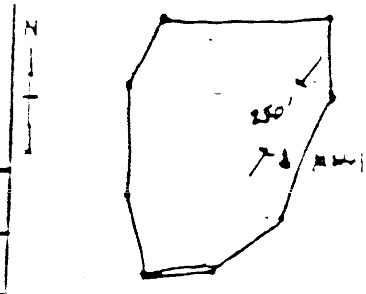
TEST BORING LOG



BORING NO. MW-17	
PROJECT NO., NAME: Union Road	LOCATION: Landfill cap
DRILLING CONTRACTOR/DRILLER: Maxim-Empire D. Bence	
GEOLOGIST, OFFICE: M. [illegible] Danbury	

DRILLING EQUIPMENT, METHOD	SIZE, TYPE OF BIT	SAMPLING METHOD	START, FINISH DATE
B53 HSA	6.25" HSA	2" SS	2/22/96

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

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

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

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHO LOG
20–22'		2'	14/ft.	(SAME) Grey/black silt w/ brown staining. Trace organic, no clean mat'l. [illegible] staining	WRT ↓		
22'–24'		1.5'	15/ft	23.0' Black silt & sand. Trace organic mat'l.			
24'–25				E.O.B. 24.0'			
10							
15							

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

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

A DIVISION OF NES
44 SHELTER ROCK ROAD
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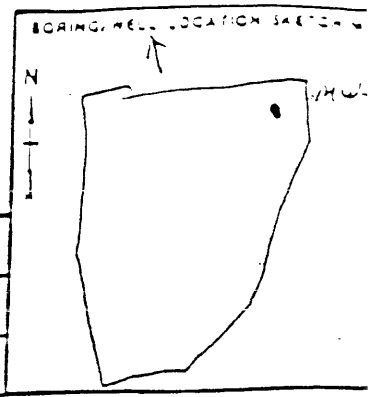
TEST BORING LOG

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 750	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 LITHO LOG
		2'	32/FT	Tan clay, Hard, No coarse, Dry	(Topsoil)		
		1'	10/FT	Tan clay, ~~SFT~~ Firm, No coarse, Dry			
5		1'	12/FT	Tan/Brn Clay, Firm, No Coarse, Dry	grout		
		2'	15/FT	Brown clay, ~~SFT~~ 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 SFT + 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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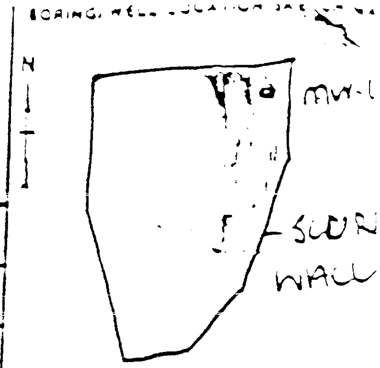
BORING, WELL LOCATION SKETCH



TEST BORING LOG

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

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

REMARKS: ELEVATIONS AND DEPTHS RELATIVE TO PRE-CAP SURFACE

LOG OF TEST BORING

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

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

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

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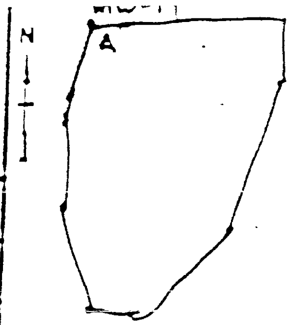
TEST BORING LOG



BORING NO.	MW-19
PROJECT NO., NAME	Union Road
LOCATION	Landfill Cap
DRILLING CONTRACTOR/DRILLER	Mann-Lamar, P. Bence
GEOLOGIST, OFFICE	Szwaka Danbury
DRILLING EQUIPMENT, METHOD	B53 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	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	DATE
	618.5'	617.5'	605' - 595'	unk.	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
0–2		1.25	13/ft	Well-graded sand, silt & gravel. Tan/brown. Frozen/Hard	Frozen
2'–4'		1.0'	12/ft	2' Firm brown/tan clay. Fe stain, black staining. No coarse mat'l.	0.7.
4'–6'		1.5	15/ft	Same	
6'–8'		1.5'	26/ft	7.0' Same with trace 1/4" gravel (rounded), v. hard	0.0.
8'–10		0.5'	62/ft	8.0 Tan, dry, hard, clay & silt. Fe stain. Trace gravel ... Single black ... mat'l & staining	Fine Sand
10–12'		1.75'	24/ft	11 Black, firm, dry clay. Trace organics. ... 12' ... gravel & frags.	
12'–14		1.0'	14/ft	Black, wet, silty sand. Some gravel ... petroleum odor. Trace organics	WET; Coarse Sand
14–16		1.0'	10/ft	Same. Slight sheen present. Brick backfill frags. present.	
16–18'		1.0'	6/ft	16' Soft, wet, gray/tan clay, black mottling from organics. Trace organic mat'l. Fe staining. No coarse mat'l.	
18'–20		1.25'	11/ft	18.5 Same but tan/brown clay, gray streaks, no coarse mat'l. Fe staining. Firm.	E.O.B @ 20'

WELL CONST. | GRAPHIC LITHO LOG

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

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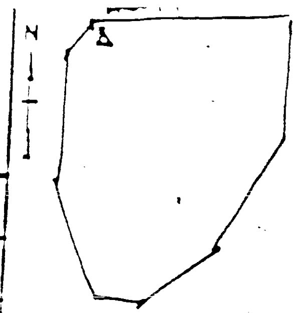
TEST BORING LOG



BORING NO. MW-19				
PROJECT NO., NAME Union Road		LOCATION Landfill Cap		
DRILLING CONTRACTOR/DRILLER Maxim-Empire, P. Bence				
GEOLOGIST, OFFICE Sewaya, 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 618.5'	TOP OF WELL CASING 617.5	TOP & BOTTOM SCREEN 605' - 595'	GW SURFACE NA DATE 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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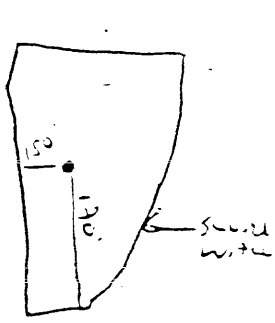
TEST BORING LOG



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	6¼"	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% "FOAM 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 Sandy 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		
15		2	8	Fine Sand/Silt red w/Black Stringy 10% organics 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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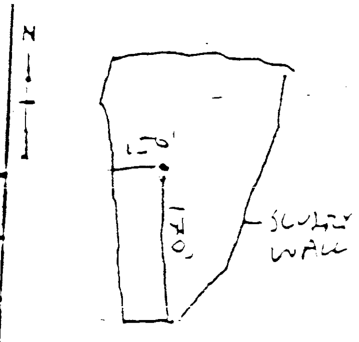
TEST BORING LOG



BORING NO.	MW-20
PROJECT NO., NAME	UNION ROAD
LOCATION	INTERIOR OF CAP
DRILLING CONTRACTOR/DRILLER	MAXIM / EMPIRE BENCE
GEOLOGIST, OFFICE	HANLON/SWAIM DANBURY
DRILLING EQUIPMENT, METHOD	CME 850 HSA
SIZE, TYPE OF BIT	6¼"
SAMPLING METHOD	SS
START, FINISH DATE	2/21/96
WELL INSTALLED?	YES ☒ NO ☐
CASING MAT./DIA.	SS 2"
SCREEN: TYPE / MAT.	SS
LENGTH	10'
DIA.	2"
SLOT SIZE	0.10
ELEVATION OF (FT. ABOVE M.S.L.): GROUND SURFACE	~~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 LITHO LOG
20		0	3	~~[illegible]~~ ? NO RECOVERY			
		2.0	8	Same w/rks upto 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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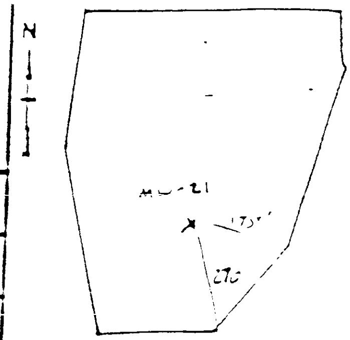
TEST BORING LOG



BORING NO. MW-21

PROJECT NO., NAME: Union Road

LOCATION: Landfill cap

DRILLING CONTRACTOR/DRILLER: Maxim-Empire

GEOLOGIST, OFFICE: Szwaka / Hawley Danbury

DRILLING EQUIPMENT, METHOD: 853 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: 623.9

TOP OF WELL CASING: 625'

TOP & BOTTOM SCREEN: 595'-605'

GW SURFACE: [illegible]

DATE: 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/6"	DESCRIPTION	REMARKS
		2'	41/6"	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 blown. Use manual 140# hammer.
4'					
5		1.25'	9/6"	Same w/ grey/black clay. Fe+ staining. 10-15% organics. Black coal cinders present.	024
6					
		1'	50/6"	→ Light tan, dry, sand & gravel. No fines, angular & sub- → Black & dark red cinder fill material. Dry. Trace fines, rock frags 1", angular. → Brown silt & sand. Poorly graded. Dry.	
8'					
		1'	7/6"	Same w/ [illegible] gravel (1/4") rock & [illegible] frags, rounded. Black silt & fine sand. Trace organics. Dry.	
10					
		1.25'	9/6"	Poorly graded red sand no coarse material. Dry. Fe+ stained	
12					
		0'	15/6"		
14'					
15		1'	5/6"	Same	
16'					
		0.5'	9/6"	Red silty sand. With gravel & rock mat'l.	Moist
18'					
			4/6"	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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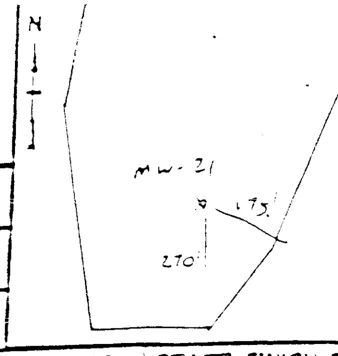
TEST BORING LOG



BORING NO. MW-21	
PROJECT NO., NAME: Union Road	LOCATION: Landfill Cap
DRILLING CONTRACTOR/DRILLER: Maxim Empire ; D. Rence	
GEOLOGIST, OFFICE: M. Szuara ; Danbury	

DRILLING EQUIPMENT, METHOD	SIZE, TYPE OF BIT	SAMPLING METHOD	START, FINISH DA
55 HSA	6.25" H.S.A.	2" SS	2/22/9

WELL INSTALLED?	CASING MAT./DIA.	SCREEN: TYPE	MAT.	LENGTH	DIA.	SLOT SIZE
YES ☒ NO ☐	2" SS		S.S.	10'	2"	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	2/22/9

REMARKS: All Elevations & Depths relative to Ira-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/ft	Some 2" Rock Boulders SS refusing			
22		1.6	19/ft	Black silt & sand, Angular rock frags. Slight petrol. odor			
24		1.5	11/ft	Grey clay w/ white material			
25							
				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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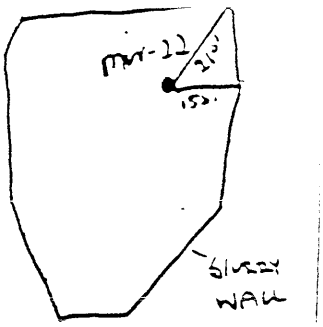
TEST BORING LOG



BORING NO. MW-22	
PROJECT NO., NAME: UNION ROAD	LOCATION: ENRICO LANDFILL CAP
DRILLING CONTRACTOR/DRILLER: MAXIM EMPIRE — D. BENÉ	
GEOLOGIST, OFFICE: HANLON/SZUWALA, DANBURY	
DRILLING EQUIPMENT, METHOD: CME 55B, HSA	SIZE, TYPE OF BIT: 6.25" HSA
SAMPLING METHOD: SS	START, FINISH DATE: 2/20/96
WELL INSTALLED? YES ☒ NO ☐	CASING MAT./DIA.: 2" SS
SCREEN: TYPE 10 SLOT MAT. SS LENGTH 10' DIA. 2" SLOT SIZE 10	
ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE: 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 GRADE ABOVE CURRENT SURFACE — PRE-CAP SURFACE	

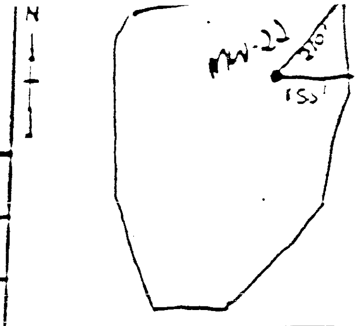
DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING — DESCRIPTION	REMARKS
2	2'	13/16		TAN CLAY, WET. FIRM. BOTTOM 6" POSS. WASTE, BLACK STAIN, 20% ORGANIC & COARSE MAT'L	
	1'	5/16		SAME. NOT AS COARSE	
4'					
5	1.5'	12/18		SAME RED FINE/MED. SAND. NO FINES MOSTLY GRAVEL	
6'					
	1	10/16		SAME CINDER FILL MATERIAL, SOME BLACK MATERIAL, ROCK FRAGS TO 1/2",	
8'	1'	5/16		SAME W/ 1/2" ROCK WALL-LIKE MAT'L	
10	1'	4/12		SAME	
12	1'	5/16		SAME W/ WOOD WASTE & FE STAINING	
14					
15	1'	2/16		SAME	FINE SAND
16	1'	2/16		SAME	COARSE SAND
18	1'	6/16		SAME W/ BRICK FRAGS.	

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

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

[redacted] (203) 796-5279

TEST BORING LOG



BORING NO.	MW-22
PROJECT NO., NAME	Union Road
LOCATION	Inside Cap
DRILLING CONTRACTOR/DRILLER	Martin-Ewing P. Dence
GEOLOGIST, OFFICE	Hanlon / Szwaja Danbury
DRILLING EQUIPMENT, METHOD	CME 855
SIZE, TYPE OF BIT	6.25" HSA
SAMPLING METHOD	SS
START, FINISH DATE	2/20/96
WELL INSTALLED?	YES ☒ NO ☐
CASING MAT./DIA.	2" SS
SCREEN: TYPE	MAT. SS LENGTH 10' DIA. 2" SLOT SIZE 10

ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE	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

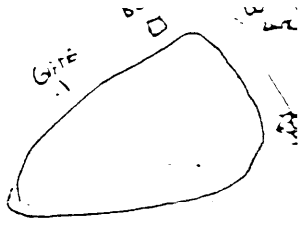
DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
20–22		6"	15/ft	Angular gravelly mat'l. Asphalt, wood & sheet. Trace well 2" angular rock.	
22–24		6"	15/ft	Same	
24–26		1'	11/ft	Grey clay, firm, trace cobbles in coarse mat'l.	Coarse sand →
26–28		2'	9/ft	Same	
				EOB 28.0'	

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

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

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

TEST BORING LOG



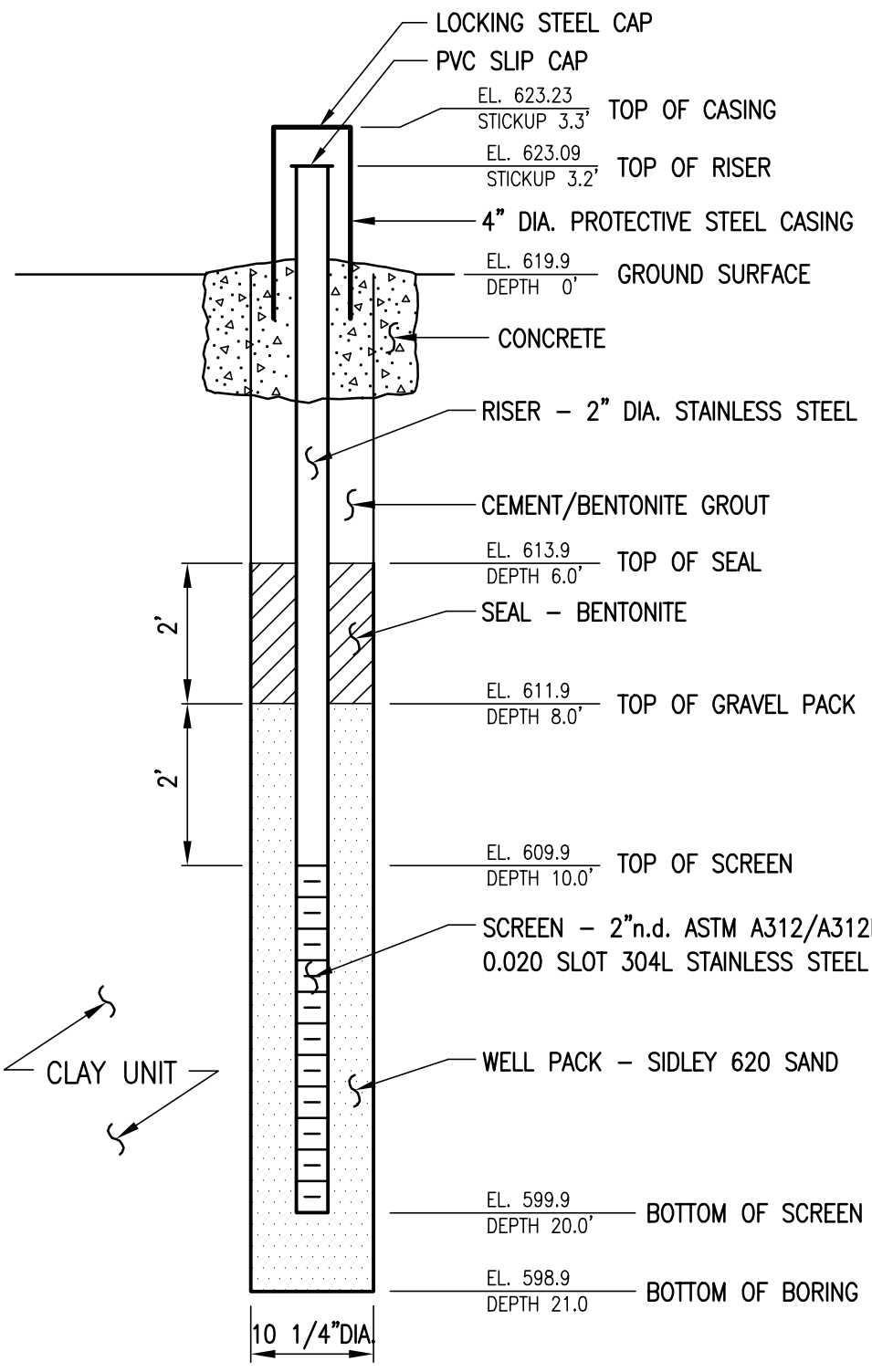
BORING NO. 23S	
PROJECT NO., NAME: UNION ROAD 2035-200	LOCATION: BUFFALO NY
DRILLING CONTRACTOR/DRILLER: MAXIM	
GEOLOGIST, OFFICE: JOHN J ZACHER JR	
DRILLING EQUIPMENT, METHOD: HSA	SIZE, TYPE OF BIT: 10" HSA; SAMPLING METHOD: SPLIT SPOON; START, FINISH DA: 1-6-97
WELL INSTALLED? YES ☒ NO ☐	CASING MAT./DIA.: STAINLESS STEEL 2"
SCREEN: TYPE SLOT MAT. STAINLESS LENGTH 10' DIA. 2" SLOT SIZE 0.02	
ELEVATION OF: 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 (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 REDBROWN CLAY	STIFF - DRY		
4			7	15-18 REDBROWN CLAY, SOME ROCK	STIFF TRACE H2O		
			9		STIFF, TRACE H2O		
4			4	0-15 REDBROWN CLAY			
5		21"	6	15-21 SOME MOISTURE			
6			6				
6			8	0-10 REDBROWN CLAY	MEDSTIFF DAMP		
		24"	6	10-14 REDBROWN-GREY CLAY	MEDSTIFF DAMP		
8			4	14-24 GREY CLAY	MEDSTIFF, DAMP		
8			2	GREY CLAY, LITTLE SAND, LITTLE RKS	SOFT, WET		
		12"	2				
10			2				
10			6	GREY CLAY, LITTLE SAND, LITTLE RKS	SOFT WET		
		17"	5				
12			4				
12			2	GREY CLAY, LITTLE SAND, LITTLE RKS	SOFT WET		
		8"	3				
14			4				
14			4	GREY CLAY, LITTLE SAND LITTLE RKS	SOFT, WET		
15		10"	3				
16			3	BOB 16			

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

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

MW–10S

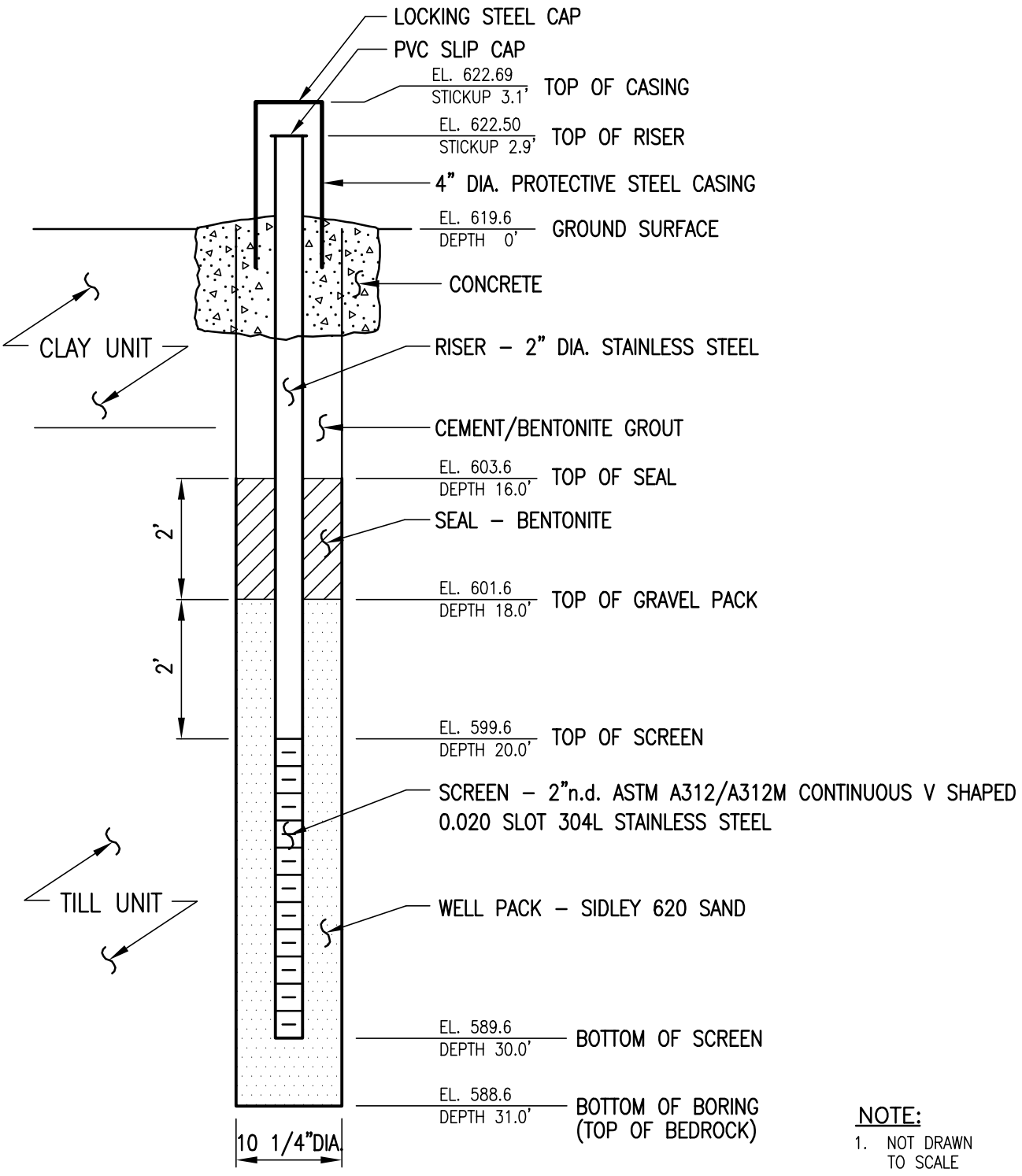


NOTE:

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

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

MW–10M



NOTE:

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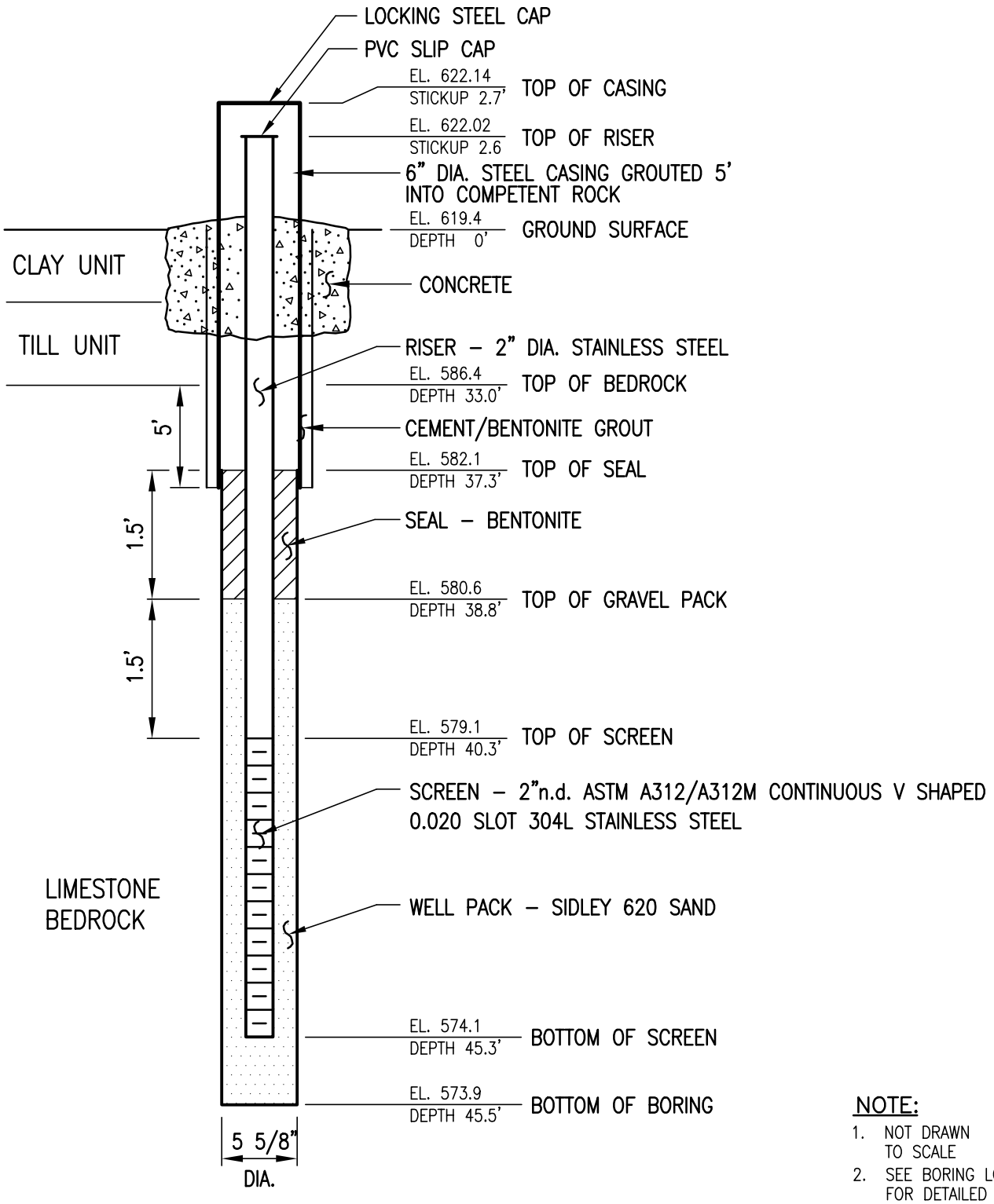
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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	MEDIUM GROUNDWATER MONITORING WELL DETAIL		FIGURE # MW–10M

MW–10D

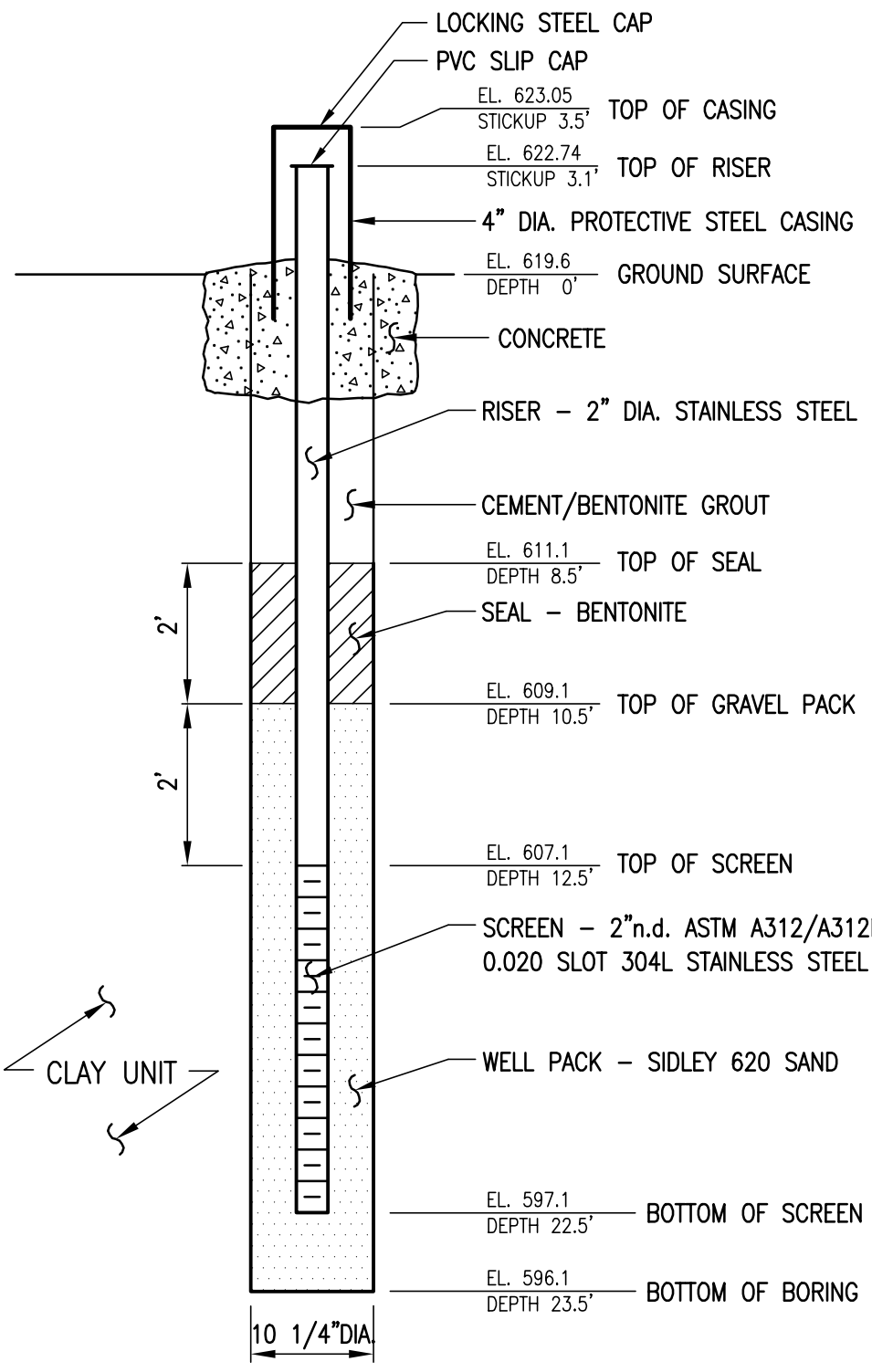


NOTE:

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

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

MW–11S

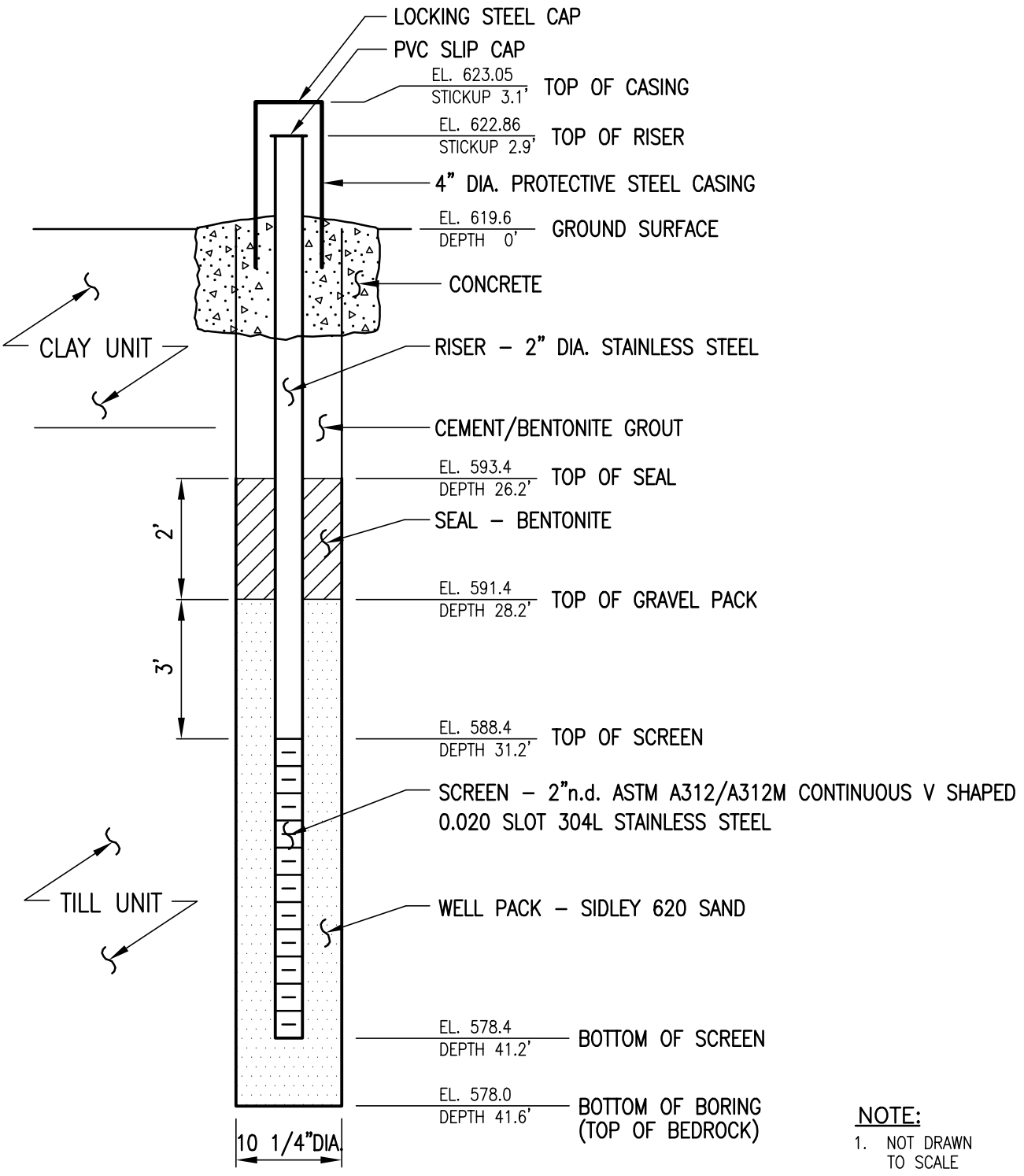


NOTE:

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

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

MW–11M



NOTE:

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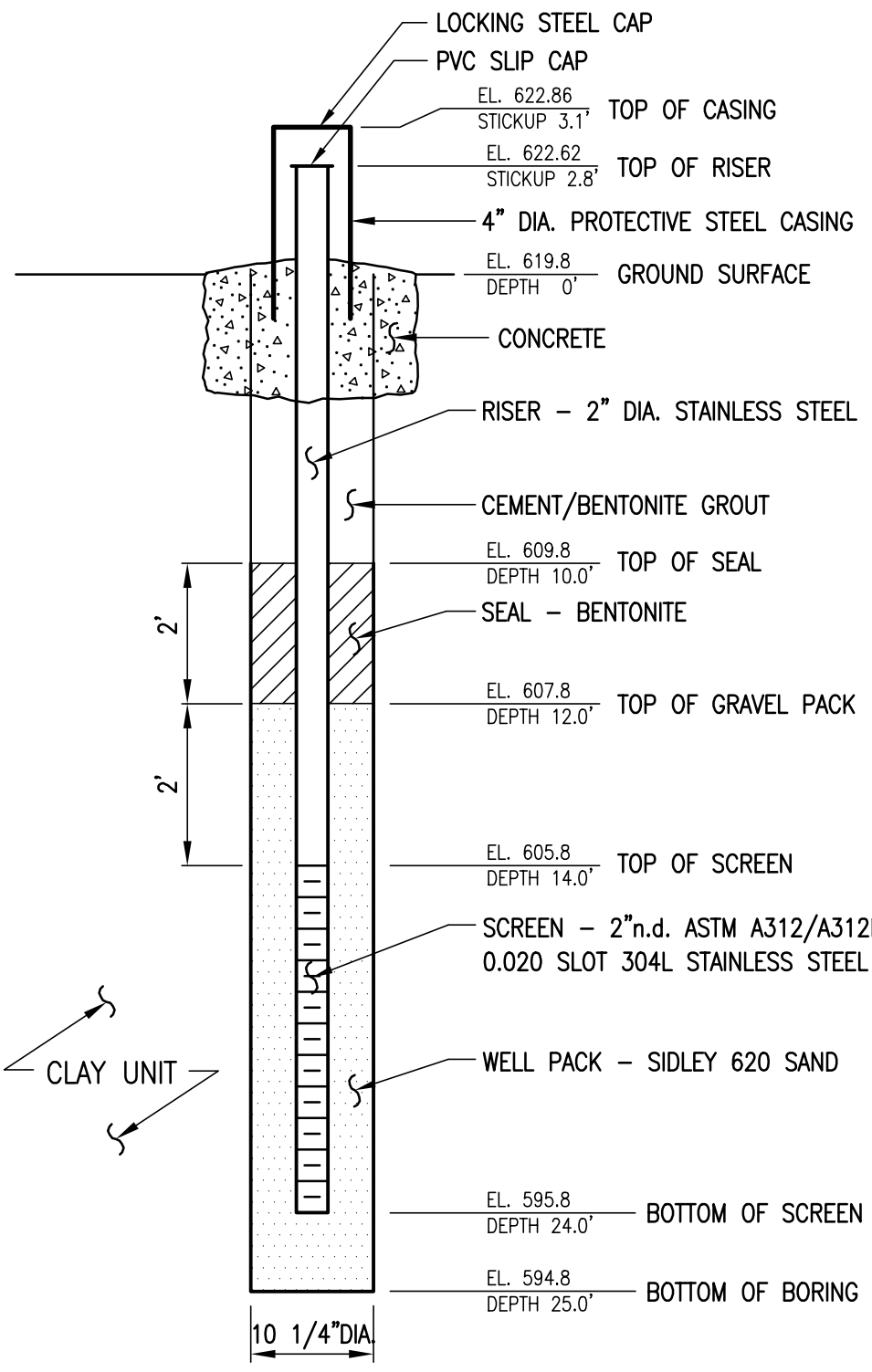
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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
					SCALE: NTS / DATE: 1/15/02
		DRAWING	MEDIUM GROUNDWATER MONITORING WELL DETAIL		BY: AD / CK:
					FIGURE # MW–11M

MW–12S

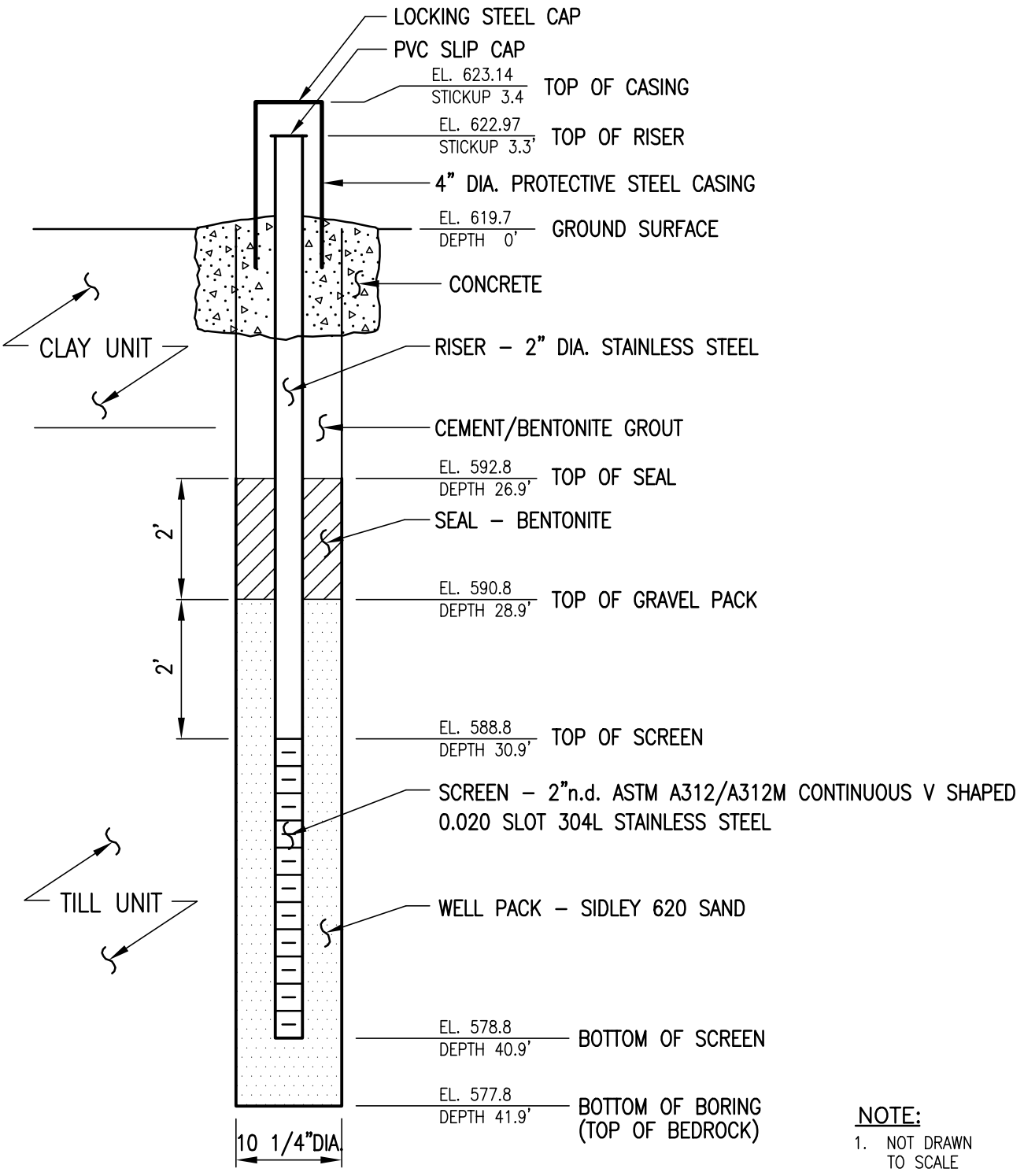


NOTE:

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
					SCALE: NTS / DATE: 1/15/02
		DRAWING	SHALLOW GROUNDWATER MONITORING WELL DETAIL		BY: AD / CK:
					FIGURE # MW–12S

MW–12M



NOTE:

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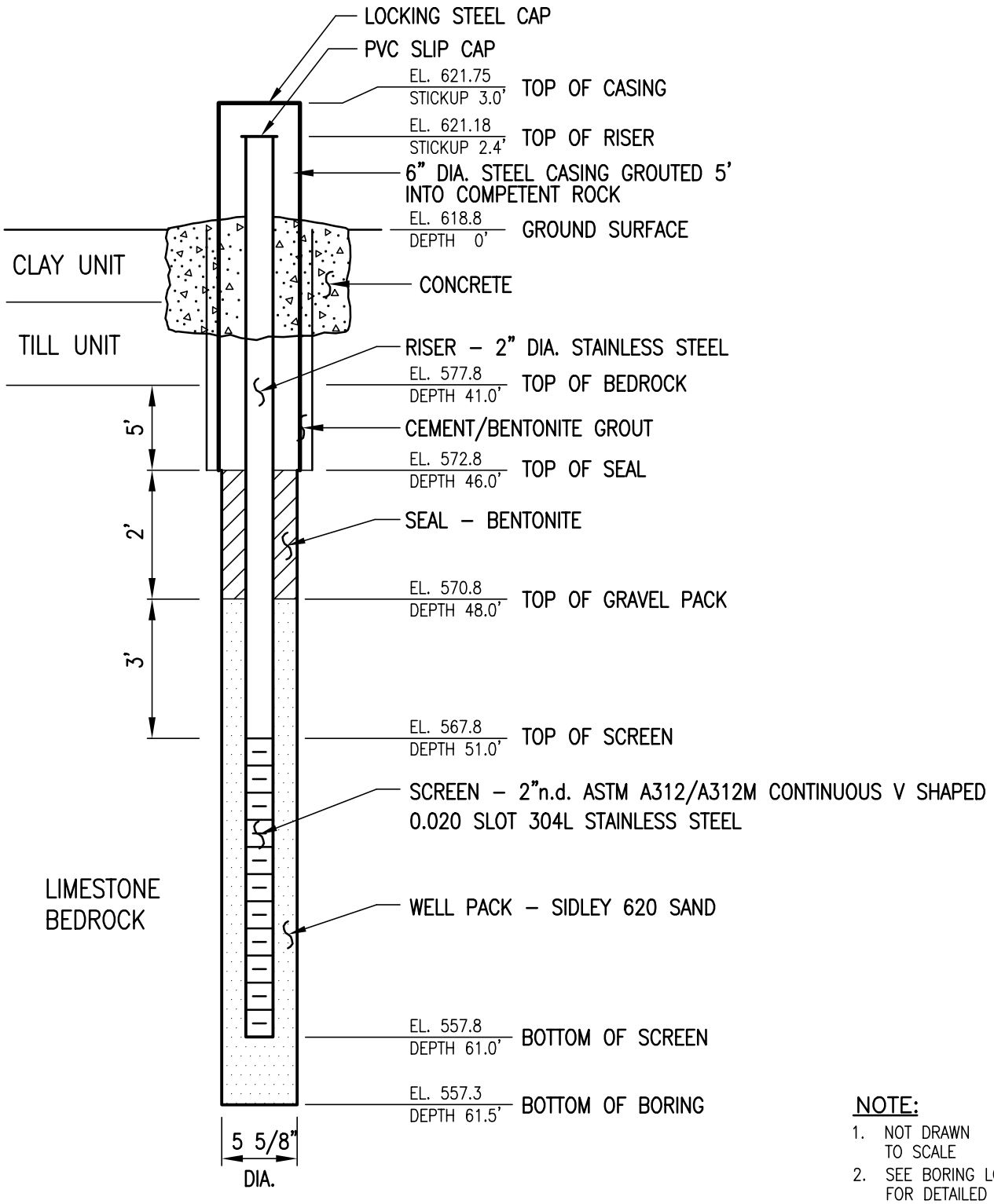
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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	MEDIUM GROUNDWATER MONITORING WELL DETAIL		FIGURE # MW–12M

MW–12D

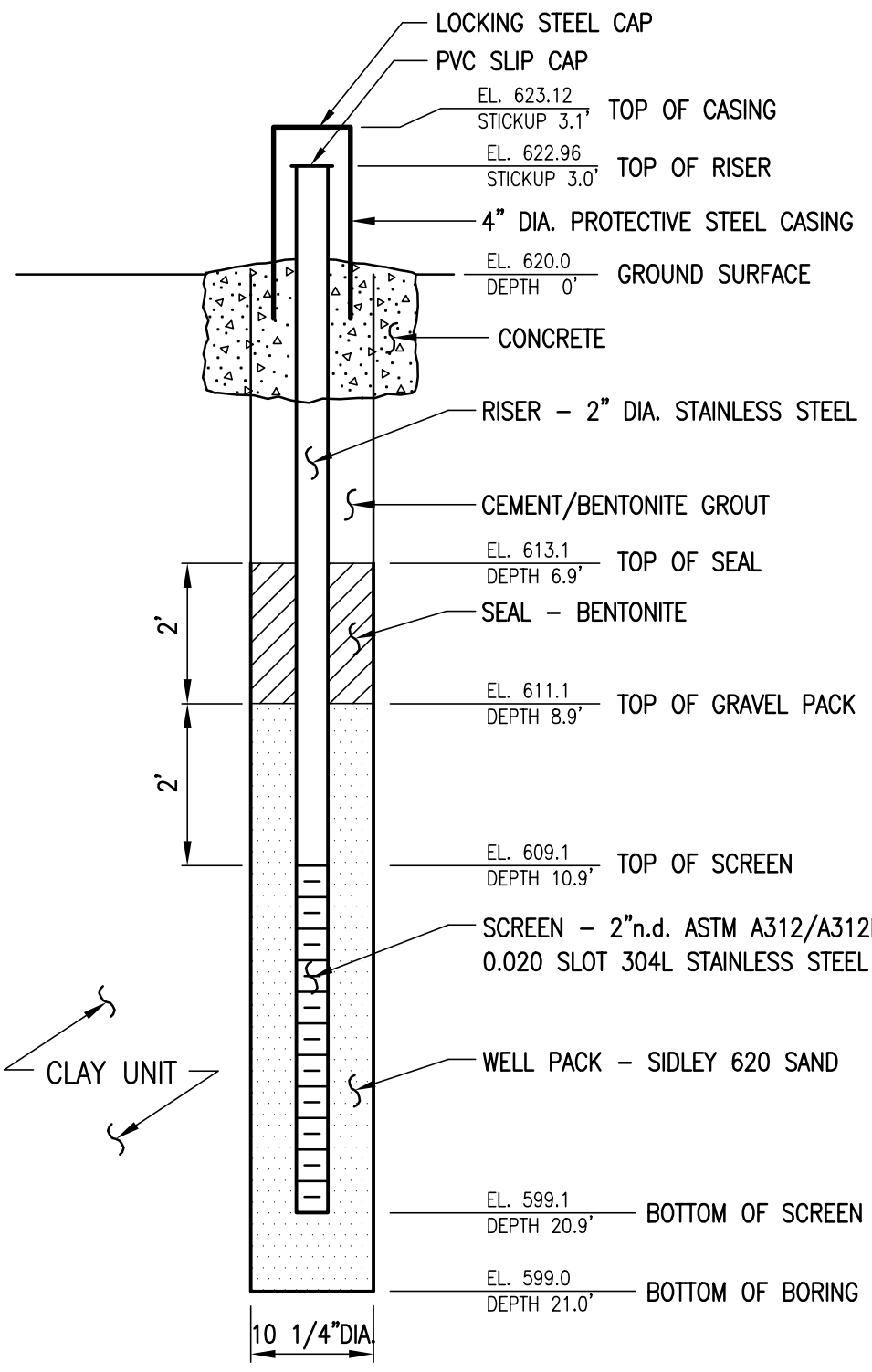


NOTE:

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

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

MW–13S

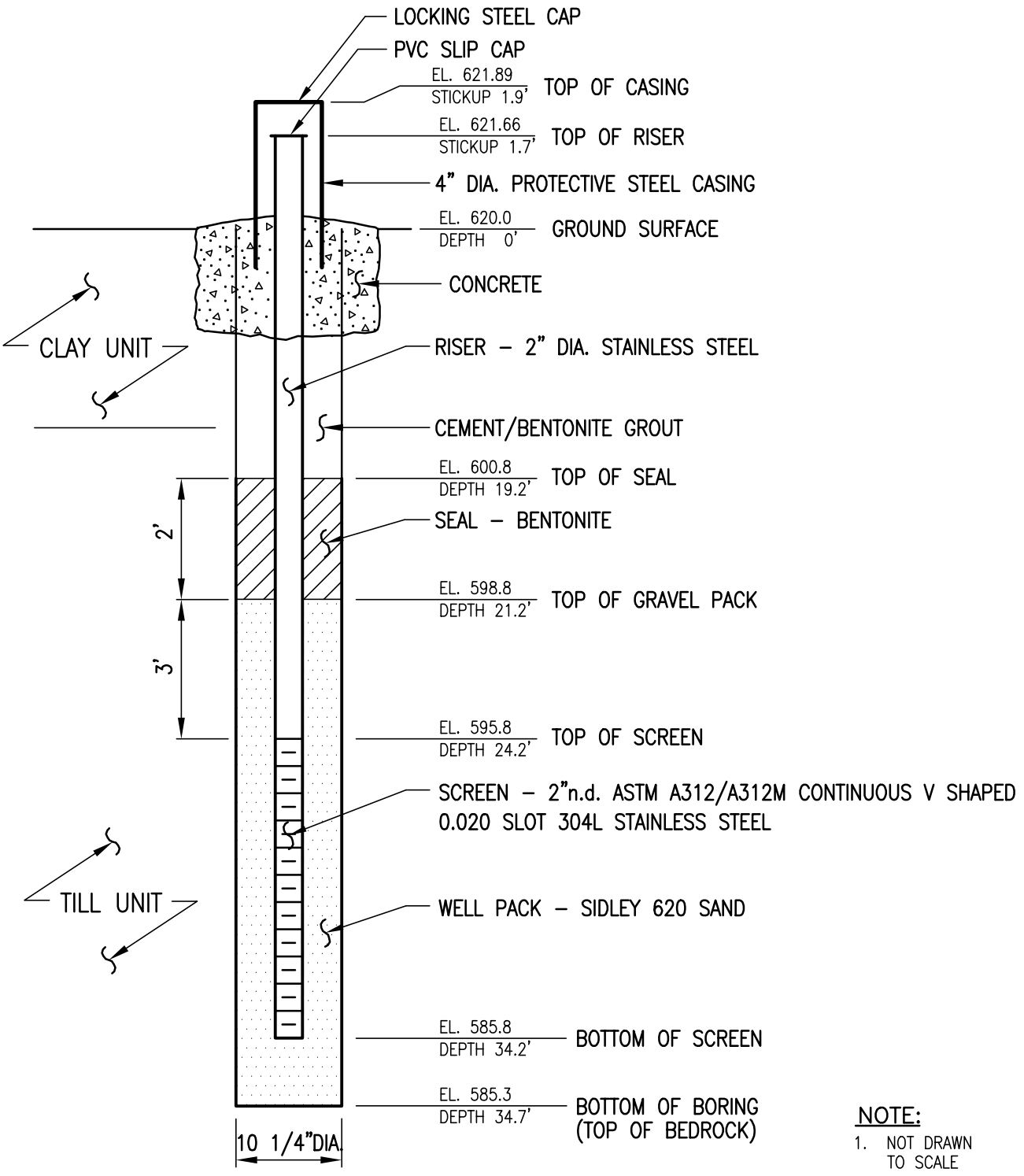


NOTE:

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 FILENAME: 2035200A SCALE: NTS DATE: 1/15/02 BY: AD CK:
NO.	DATE	DRAWING	SHALLOW GROUNDWATER MONITORING WELL DETAIL		FIGURE # MW–13S

MW–13M



NOTE:

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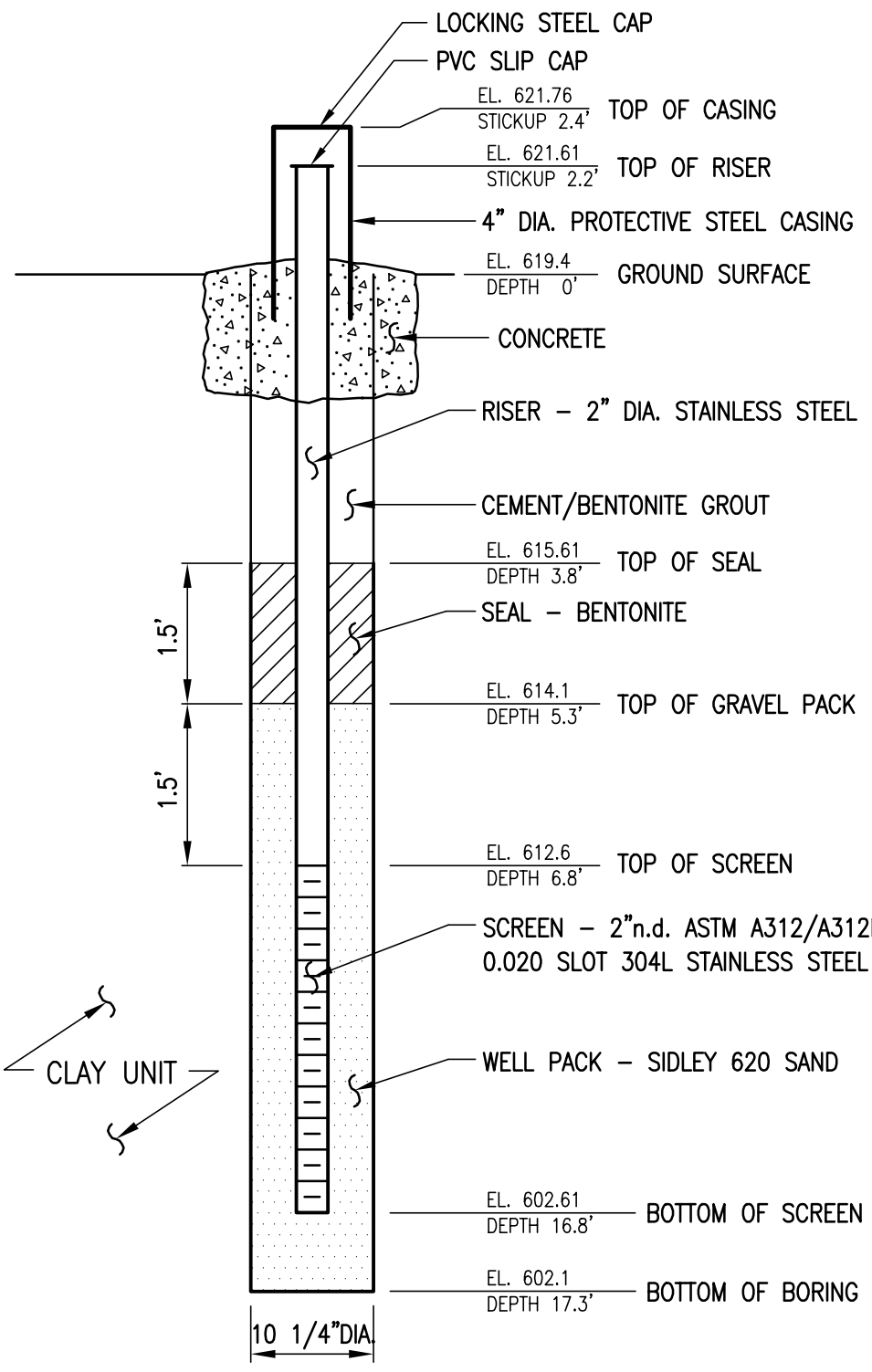
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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

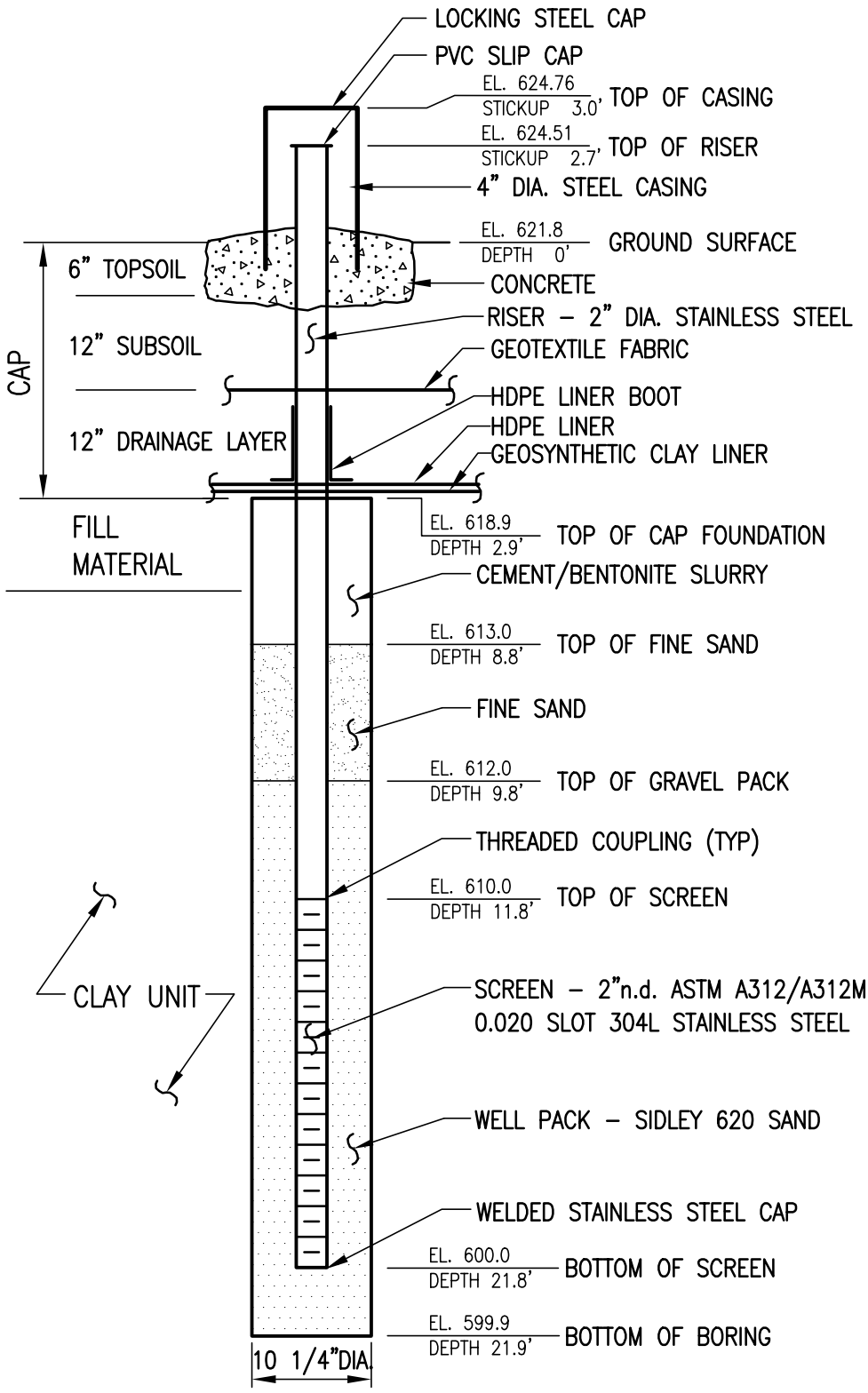


NOTE:

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
NO.	DATE				FILENAME: 2035200A
					SCALE: NTS / DATE: 1/15/02
		DRAWING	SHALLOW GROUNDWATER MONITORING WELL DETAIL		BY: AD / CK:
					FIGURE # MW–14S

MW–16



NOTE:

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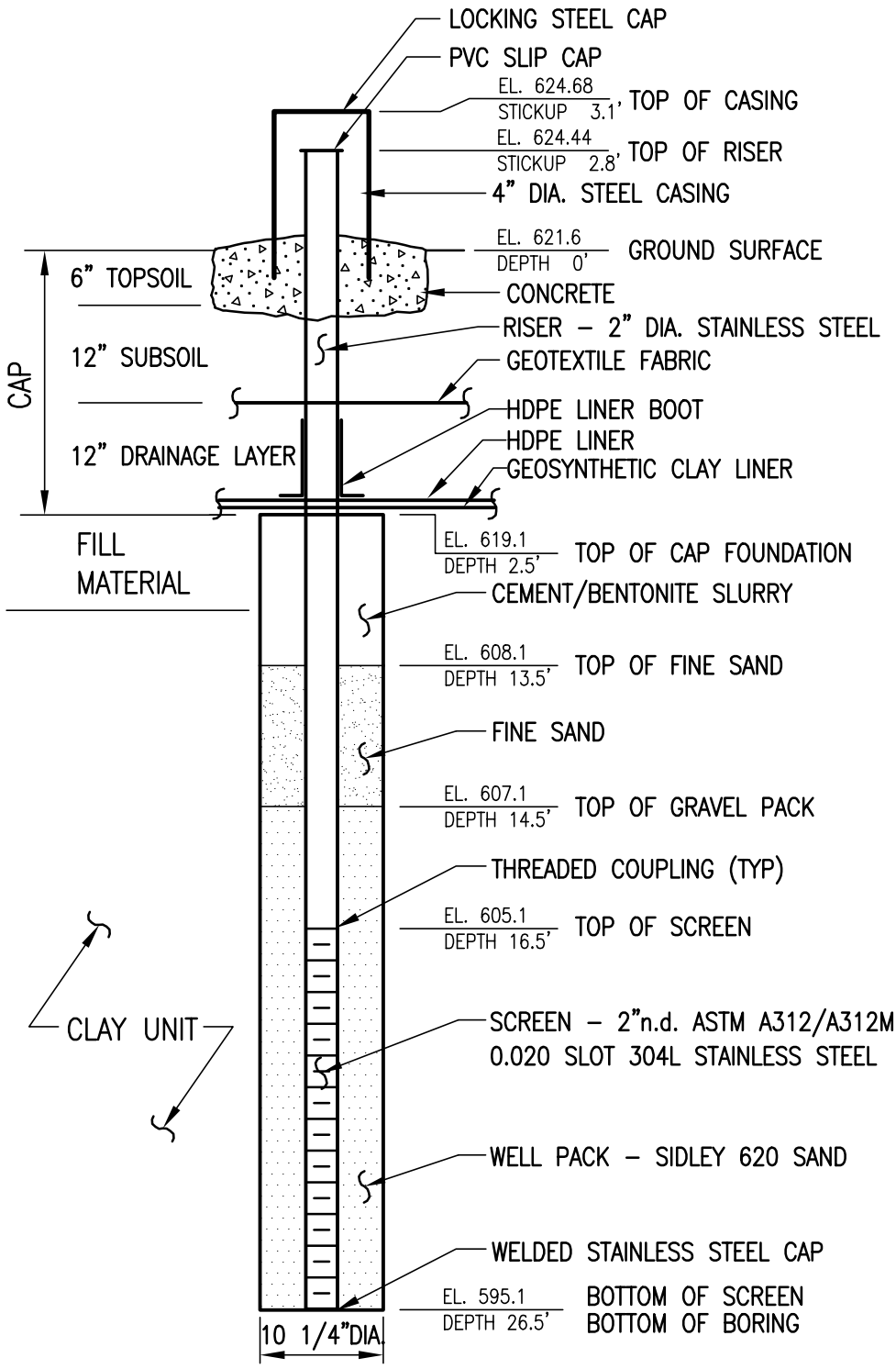
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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–16

MW–17



NOTE:

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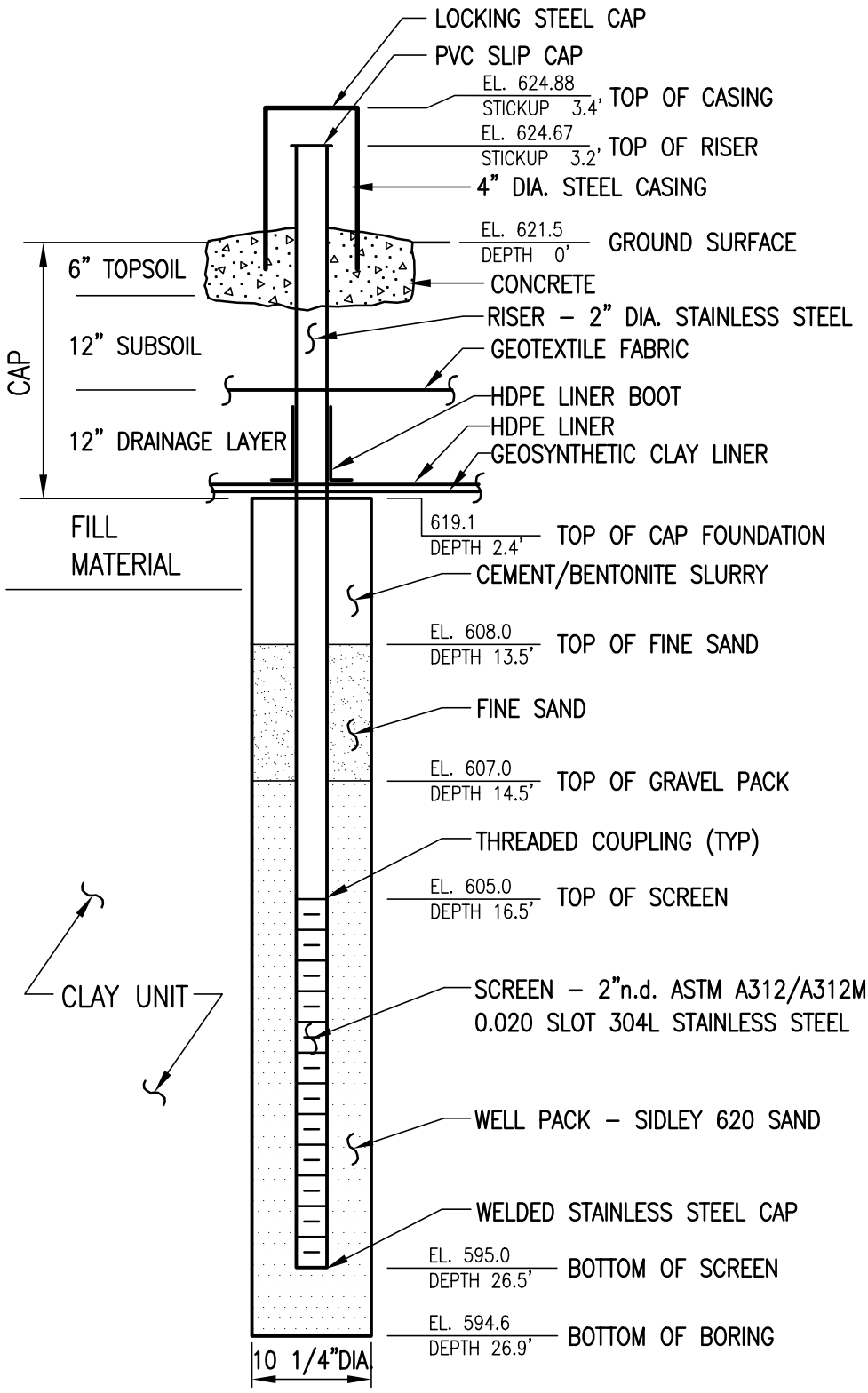
REVISION NO.		PROJECT	UNION ROAD CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011–200
NO.	DATE				FILENAME: 2035200A
					SCALE: NTS / DATE: 1/15/02
		DRAWING	GROUNDWATER OBSERVATION WELL DETAIL		BY: AD / CK:
					FIGURE # MW–17

MW–18

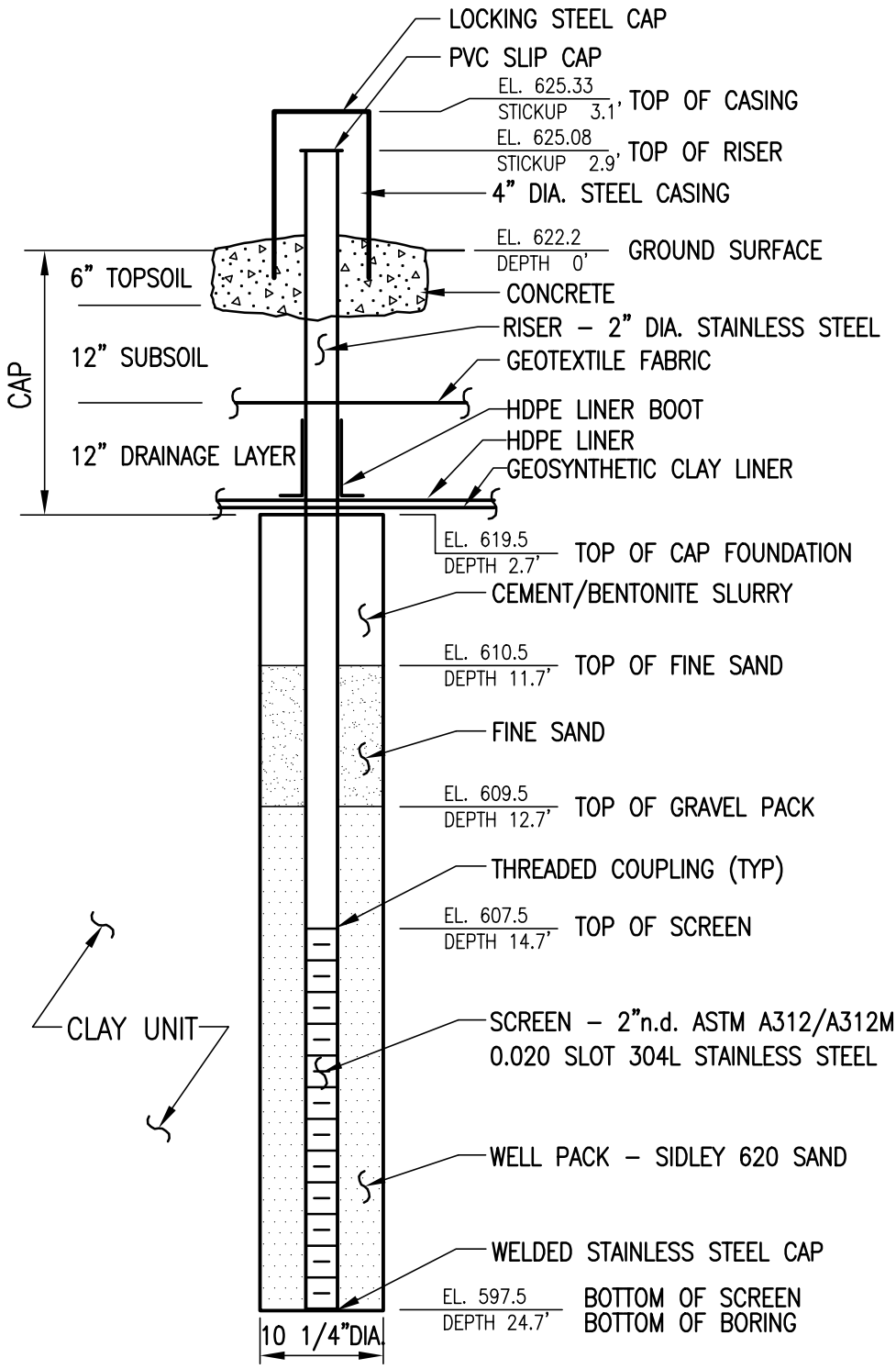


NOTE:

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

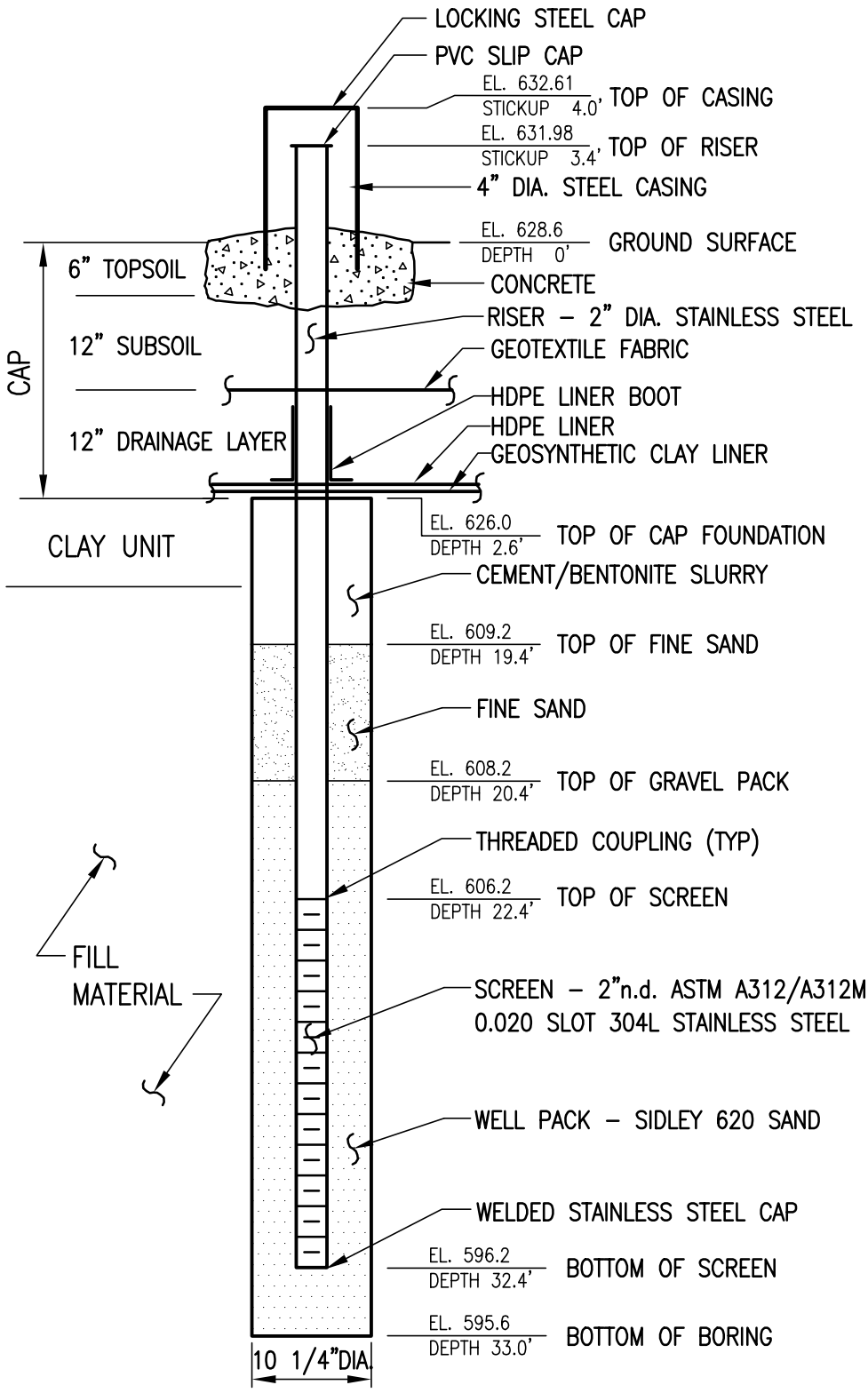


NOTE:

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

MW–20

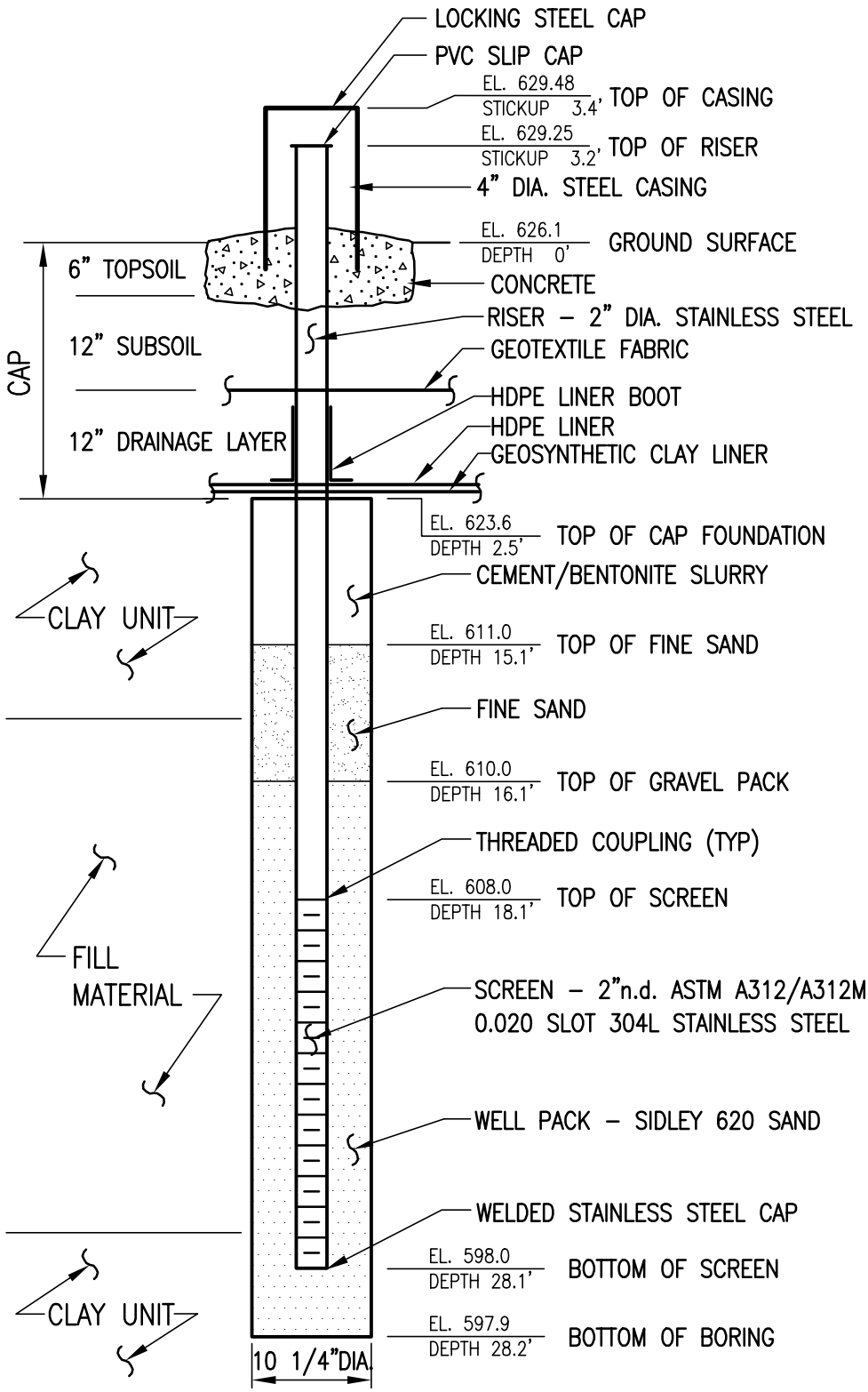


NOTE:

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–20

MW–21

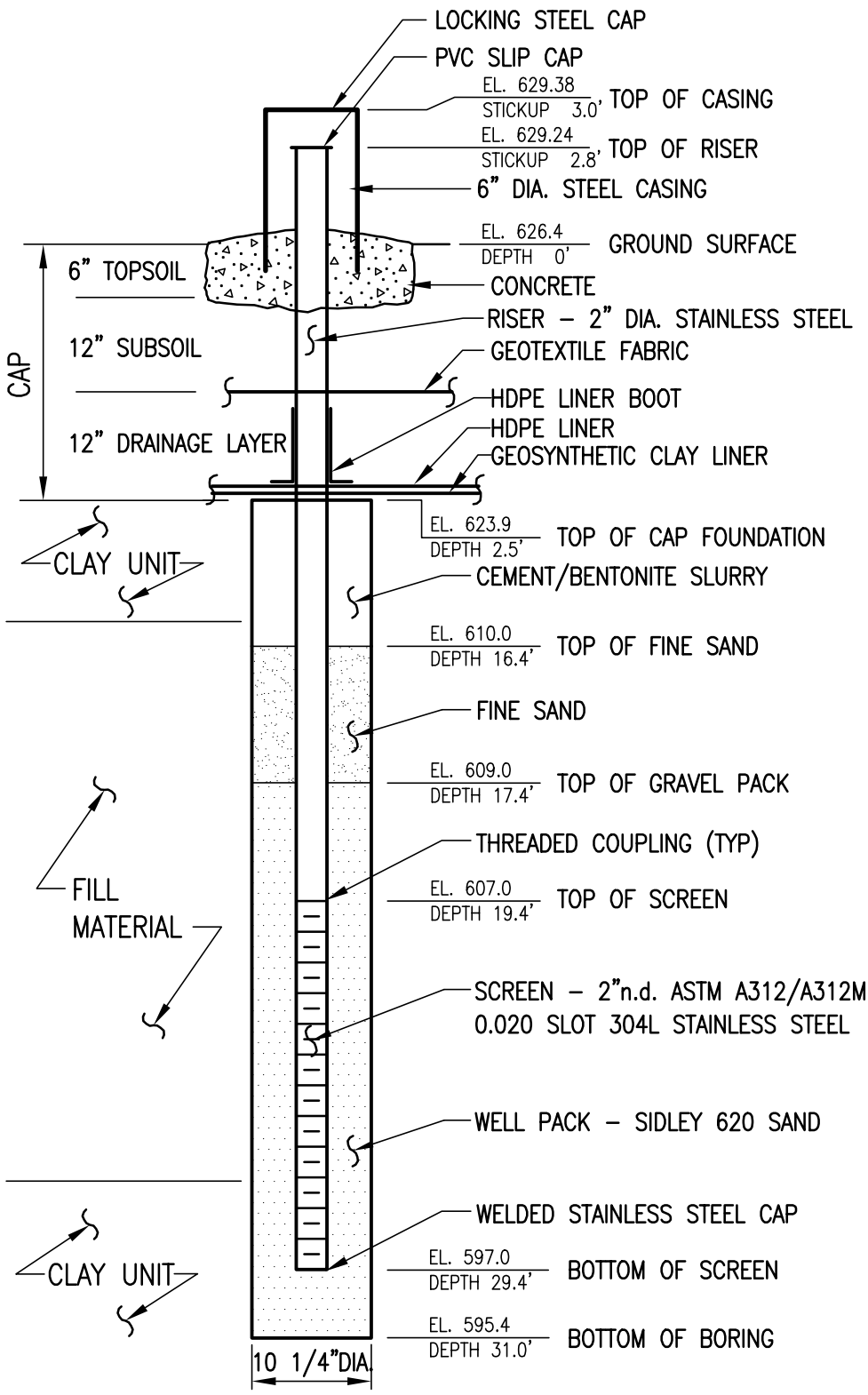


NOTE:

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

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

MW–22



NOTE:

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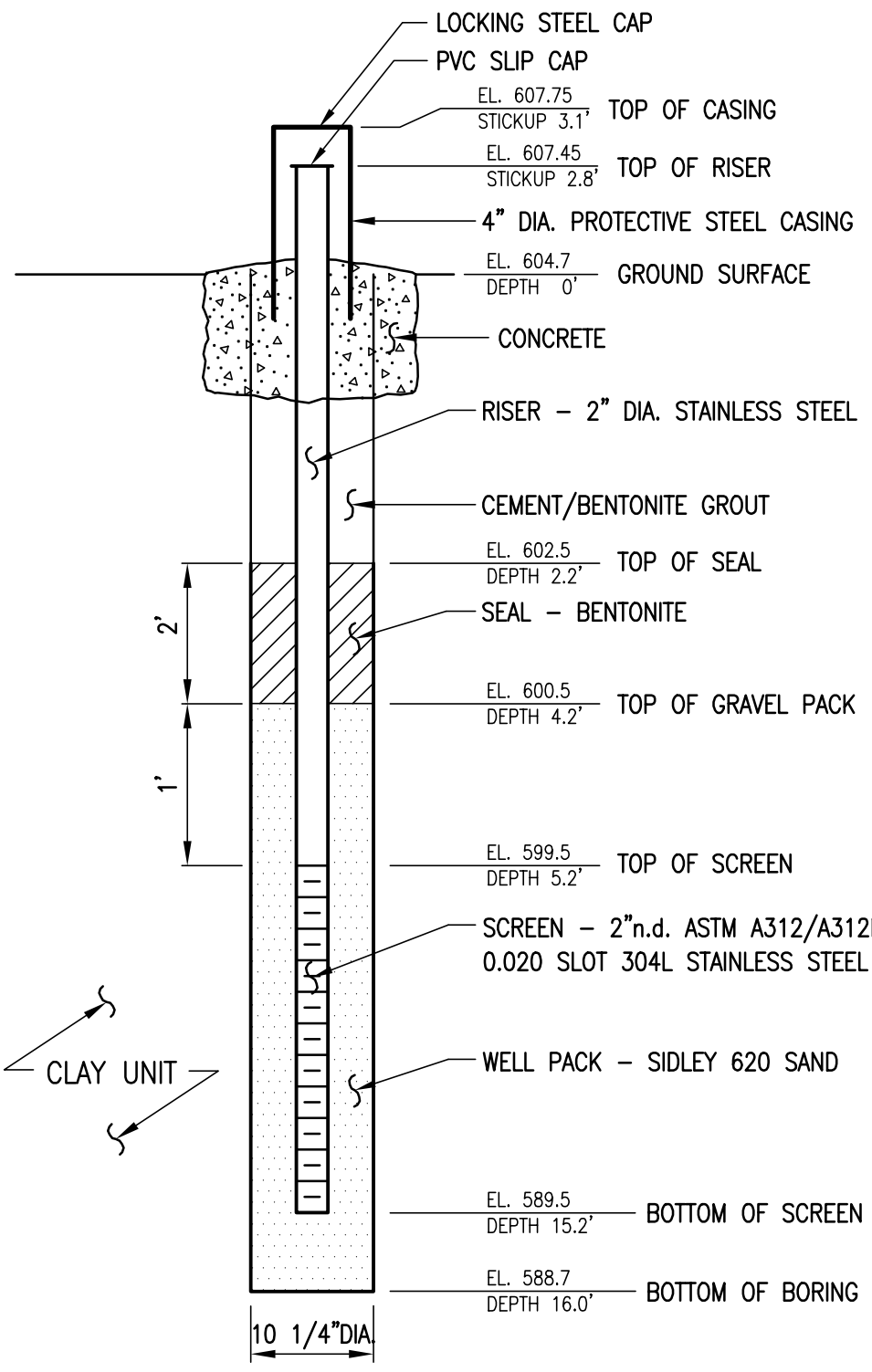
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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–22

MW–23S



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–23S

APPENDIX B

LABORATORY REPORT

October 27, 2016 Service Request No:R1609943

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

Laboratory Results for: Union Rd

Dear Mr.Persico,

Enclosed are the results of the sample(s) submitted to our laboratory September 21, 2016
For your reference, these analyses have been assigned our service request number **R1609943.**

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 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 7475. You may also contact me via email at Lisa.Reyes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Lisa Reyes
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

1565 Jefferson Rd, Building 300, Rochester, NY 14623 | 585-288-5380 | www.alsglobal.com

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

Service Request:R1609943
Date Received:9/21/16

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt

Twenty five water samples were received for analysis at ALS Environmental on 09/21/2016. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Volatile Organic Analyses:

Method 8260C, 09/23/16: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8260C, 09/23/16: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Semi-Volatile Organic Analyses:

Method 8270D, 09/26/16: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 09/26/16: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Metals Analyses:

No significant anomalies were noted with this analysis.

General Chemistry Analyses:

No significant anomalies were noted with this analysis.

Approved by  Date 10/27/2016

Sample Receipt Information

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Client: Unicorn Management Consultants **Service Request:**R1609943
Project: Union Rd/2011-100

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1609943-001	MW-10S	9/21/2016	0800
R1609943-002	MW-10S Dissolved	9/21/2016	0800
R1609943-003	MW-10M	9/21/2016	0815
R1609943-004	MW-10M Dissolved	9/21/2016	0815
R1609943-005	MW-10D	9/21/2016	0830
R1609943-006	MW-10D Dissoved	9/21/2016	0830
R1609943-007	MW-11S	9/21/2016	0900
R1609943-008	MW-11S Dissolved	9/21/2016	0900
R1609943-009	MW-11M	9/21/2016	0915
R1609943-010	MW-11M Dissolved	9/21/2016	0915
R1609943-011	MW-12S	9/21/2016	0945
R1609943-012	MW-12S Dissolved	9/21/2016	0945
R1609943-013	MW-12M	9/21/2016	1000
R1609943-014	MW-12M Dissolved	9/21/2016	1000
R1609943-015	MW-12D	9/21/2016	1015
R1609943-016	MW-12D Dissolved	9/21/2016	1015
R1609943-017	MW-13S	9/21/2016	1045
R1609943-018	MW-13S Dissoved	9/21/2016	1045
R1609943-019	MW-13M	9/21/2016	1100
R1609943-020	MW-13M Dissolved	9/21/2016	1100
R1609943-021	MW-14S	9/21/2016	1130
R1609943-022	MW-14S Dissolved	9/21/2016	1130
R1609943-023	TB-A	9/21/2016	
R1609943-024	TB-B	9/21/2016	
R1609943-025	TB-C	9/21/2016	

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

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

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

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

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	PRESERVATIVE	1	0						0	3						REMARKS/ ALTERNATE DESCRIPTION
							SCAMS VOAs ○ 8260 ○ 624 ○ CLP	SCAMS 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)	6010/As D-6010C/Pb D	1664 A/OG SGT						
MW-10S		9/21/16	0800	GW	7		X	X						X	X						
MW-10M		9/21/16	0815	GW	7		X	X						X	X						
MW-10D		9/21/16	0830	GW	7		X	X						X	X						
MW-11S		9/21/16	0900	GW	7		X	X						X	X						
MW-11M		9/21/16	0915	GW	7		X	X						X	X						
MW-12S		9/21/16	0945	GW	5		X	X						X	X						
MW-12M		9/21/16	1000	GW	7		X	X						X	X						
MW-12D		9/21/16	1015	GW	7		X	X						X	X						
MW-13S		9/21/16	1045	GW	7		X	X						X	X						
MW-13M		9/21/16	1100	GW	7		X	X						X	X						
MW-14S		9/21/16	1130	GW	7		X	X						X	X						

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

SPECIAL INSTRUCTIONS/COMMENTS
Metals As and Pb Dissolved – To Be Filtered in lab

NYDEC Format

Only one amber for 8270 for MW-12S, Insufficient GW.

See QAPP ☐

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 ____ No

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

STATE WHERE SAMPLES WERE COLLECTED New York

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature Gary Bohan	Signature Dave Ward	Signature	Signature	Signature	
Printed Name Gary Bohan	Printed Name ALS	Printed Name	Printed Name	P	
Firm UMC	Firm 9/21/16/1320	Firm	Firm	Fi	
Date/Time 9/21/16 1320	Date/Time	Date/Time	Date/Time	Da	Date/Time

R1609943
Unicorn Management Consultants
Union Rd #2011-100

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

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

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Project Name	Project Number
Union Road	2011-100
Project Manager	**Report CC**
Mike Persico	ttrejo@unicornmgt.com
Company/Address	
Unicorn Management Consultants, LLC 52 Federal Road, Suite 2C Danbury, CT 06810	
Phone #	**Email**
(203)205-9000	mpersico@unicornmgt.com
Sampler's Signature	**Sampler's Printed Name**
Gary Bohan	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
TB-A		LAB	LAB	AQ	2	X							
TB-B		LAB	LAB	AQ	2	X							
TB-C		LAB	LAB	AQ	2	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

Cooler #1 - MW-10S, MW-10M, MW-10D, MW-11S
Cooler #2 - MW-11M, MW-12S, MW-12M, MW-12D
Cooler #3 - MW-13S, MW-13M, MW-14S

NY DEC Format

See QAPP ☐

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 ____ No

INVOICE INFORMATION

PO # Isabel Miller
BILL TO: imiller@unicornmgt.com

STATE WHERE SAMPLES WERE COLLECTED: New York

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Gary Bohan	Signature: Daniel Wac	Signature	Signature	Signature	
Printed Name: Gary Bohan	Printed Name: ALS	Printed Name	Printed Name	Printed Name	
Firm: UMC	Firm: 9/21/16 / 1320	Firm	Firm	Firm	
Date/Time: 9/21/16 1320	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

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Unicorn Management Consultants
Union Rd #2011-100

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

R1609943 5
Unicorn Management Consultants
Union Rd #2011-100

Cooler Receipt and Preservation Check Form

Project/Client ~~Unicorn~~ Unicorn Folder Number________.

Cooler received on 9/21/16 by: [illegible]   COURIER: ALS UPS FEDEX VELOCITY (CLIENT)

1	Were **Custody seals** on outside of cooler?	(Y) N	5a	**Perchlorate** samples have required headspace?	Y N (NA)
2	**Custody papers** properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk, or Sulfide have sig* **bubbles**?	Y (N) NA
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N	6	Where did the bottles originate?	(ALS/ROC) CLIENT
4	Circle: **Wet (Ice) Dry Ice Gel packs** present?	(Y) N	7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 9/21/16 Time: 1336 ID: (IR#5) IR#6 From: (Temp Blank) Sample Bottle

Observed Temp (°C)	3.2°	6.8°	2.6°				
Correction Factor (°C)	-0.2°	-0.2°	-0.2°				
Corrected Temp (°C)	3.0°	6.6°	2.4°				
Within 0-6°C?	(Y) N	Y (N)	(Y) N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: ________ Ice melted Poorly Packed (Same Day Rule)

&Client Approval to Run Samples: ________ Standing Approval Client aware at drop-off Client notified by: ________

All samples held in storage location: R-002 by [illegible] on 9/21/16 at 1336
5035 samples placed in storage location: ________ by ________ on ________ at ________

Cooler Breakdown: Date: 9-21-16 Time: 1634 by: T.S

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. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
5. 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 CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

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

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: ________

Bottle lot numbers: 062016-1BLT, 061316-2AAC

Other Comments:

CLRES	BULK
DO	FLDT
HPROD	HGFB
HTR	LL3541
PH	SUB
SO3	MARRS
ALS	REV

PC Secondary Review: [illegible]

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

P:\INTRANET\QAQC\Forms Controlled\Cooler Receipt r12.doc 8/11/16

Miscellaneous Forms

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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 ñNotesò 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 ñimmediateò 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 (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: 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.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Accredited	Nebraska Accredited	
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	North Carolina #676	Virginia #460167

[1] Analyses were performed according to our laboratoryôs 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 case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100		

Sample Name:	MW-10S	**Date Collected:**	09/21/16
Lab Code:	R1609943-001	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-10S Dissolved	**Date Collected:**	09/21/16
Lab Code:	R1609943-002	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CBURLESON	CGILDAY

Sample Name:	MW-10M	**Date Collected:**	09/21/16
Lab Code:	R1609943-003	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-10M Dissolved	**Date Collected:**	09/21/16
Lab Code:	R1609943-004	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CBURLESON	CGILDAY

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100		

Sample Name:	MW-10D	**Date Collected:**	09/21/16
Lab Code:	R1609943-005	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-10D Dissoved	**Date Collected:**	09/21/16
Lab Code:	R1609943-006	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CBURLESON	CGILDAY

Sample Name:	MW-11S	**Date Collected:**	09/21/16
Lab Code:	R1609943-007	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-11S Dissolved	**Date Collected:**	09/21/16
Lab Code:	R1609943-008	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CBURLESON	CGILDAY

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100		

Sample Name:	MW-11M	**Date Collected:**	09/21/16
Lab Code:	R1609943-009	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-11M Dissolved	**Date Collected:**	09/21/16
Lab Code:	R1609943-010	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CBURLESON	CGILDAY

Sample Name:	MW-12S	**Date Collected:**	09/21/16
Lab Code:	R1609943-011	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-12S Dissolved	**Date Collected:**	09/21/16
Lab Code:	R1609943-012	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CBURLESON	CGILDAY

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100		

Sample Name:	MW-12M	**Date Collected:**	09/21/16
Lab Code:	R1609943-013	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-12M Dissolved	**Date Collected:**	09/21/16
Lab Code:	R1609943-014	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CBURLESON	CGILDAY

Sample Name:	MW-12D	**Date Collected:**	09/21/16
Lab Code:	R1609943-015	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
8260C		MCYMBAL
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-12D Dissolved	**Date Collected:**	09/21/16
Lab Code:	R1609943-016	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CBURLESON	CGILDAY

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100		

Sample Name:	MW-13S	**Date Collected:**	09/21/16
Lab Code:	R1609943-017	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
8260C		MCYMBAL
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-13S Dissoved	**Date Collected:**	09/21/16
Lab Code:	R1609943-018	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CBURLESON	CGILDAY

Sample Name:	MW-13M	**Date Collected:**	09/21/16
Lab Code:	R1609943-019	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
8260C		MCYMBAL
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-13M Dissolved	**Date Collected:**	09/21/16
Lab Code:	R1609943-020	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CBURLESON	CGILDAY

Client: Unicorn Management Consultants **Service Request:** R1609943
Project: Union Rd/2011-100

Sample Name: MW-14S **Date Collected:** 09/21/16
Lab Code: R1609943-021 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
8260C		MCYMBAL
8270D	DMURPHY	JMISIUREWICZ

Sample Name: MW-14S Dissolved **Date Collected:** 09/21/16
Lab Code: R1609943-022 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
6010C	CBURLESON	CGILDAY

Sample Name: TB-A **Date Collected:** 09/21/16
Lab Code: R1609943-023 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: TB-B **Date Collected:** 09/21/16
Lab Code: R1609943-024 **Date Received:** 09/21/16
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		MCYMBAL

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100		

Sample Name:	TB-C	**Date Collected:**	09/21/16
Lab Code:	R1609943-025	**Date Received:**	09/21/16
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		MCYMBAL

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	200.2
200.8	200.2
6010C	3005A/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	3005A/3010A
6010 SPLP (1312) extract	3005A/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.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10S	**Units:**	ug/L
Lab Code:	R1609943-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/22/16 19:50	
Benzene	5.0	U	5.0	1	09/22/16 19:50	
Bromodichloromethane	5.0	U	5.0	1	09/22/16 19:50	
Bromoform	5.0	U	5.0	1	09/22/16 19:50	
Bromomethane	5.0	U	5.0	1	09/22/16 19:50	
2-Butanone (MEK)	10	U	10	1	09/22/16 19:50	
Carbon Disulfide	10	U	10	1	09/22/16 19:50	
Carbon Tetrachloride	5.0	U	5.0	1	09/22/16 19:50	
Chlorobenzene	5.0	U	5.0	1	09/22/16 19:50	
Chloroethane	5.0	U	5.0	1	09/22/16 19:50	
Chloroform	5.0	U	5.0	1	09/22/16 19:50	
Chloromethane	5.0	U	5.0	1	09/22/16 19:50	
Dibromochloromethane	5.0	U	5.0	1	09/22/16 19:50	
1,1-Dichloroethane	5.0	U	5.0	1	09/22/16 19:50	
1,2-Dichloroethane	5.0	U	5.0	1	09/22/16 19:50	
1,1-Dichloroethene	5.0	U	5.0	1	09/22/16 19:50	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 19:50	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 19:50	
1,2-Dichloropropane	5.0	U	5.0	1	09/22/16 19:50	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 19:50	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 19:50	
Ethylbenzene	5.0	U	5.0	1	09/22/16 19:50	
2-Hexanone	10	U	10	1	09/22/16 19:50	
Methylene Chloride	5.0	U	5.0	1	09/22/16 19:50	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/22/16 19:50	
Styrene	5.0	U	5.0	1	09/22/16 19:50	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/22/16 19:50	
Tetrachloroethene	5.0	U	5.0	1	09/22/16 19:50	
Toluene	5.0	U	5.0	1	09/22/16 19:50	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/22/16 19:50	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/22/16 19:50	
Trichloroethene	5.0	U	5.0	1	09/22/16 19:50	
Vinyl Chloride	5.0	U	5.0	1	09/22/16 19:50	
o-Xylene	5.0	U	5.0	1	09/22/16 19:50	
m,p-Xylenes	5.0	U	5.0	1	09/22/16 19:50	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10S	**Units:**	ug/L
Lab Code:	R1609943-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	104	85 - 122	09/22/16 19:50	
Toluene-d8	111	87 - 121	09/22/16 19:50	
Dibromofluoromethane	112	89 - 119	09/22/16 19:50	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10M	**Units:**	ug/L
Lab Code:	R1609943-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/22/16 20:21	
Benzene	5.0	U	5.0	1	09/22/16 20:21	
Bromodichloromethane	5.0	U	5.0	1	09/22/16 20:21	
Bromoform	5.0	U	5.0	1	09/22/16 20:21	
Bromomethane	5.0	U	5.0	1	09/22/16 20:21	
2-Butanone (MEK)	10	U	10	1	09/22/16 20:21	
Carbon Disulfide	10	U	10	1	09/22/16 20:21	
Carbon Tetrachloride	5.0	U	5.0	1	09/22/16 20:21	
Chlorobenzene	5.0	U	5.0	1	09/22/16 20:21	
Chloroethane	5.0	U	5.0	1	09/22/16 20:21	
Chloroform	5.0	U	5.0	1	09/22/16 20:21	
Chloromethane	5.0	U	5.0	1	09/22/16 20:21	
Dibromochloromethane	5.0	U	5.0	1	09/22/16 20:21	
1,1-Dichloroethane	5.0	U	5.0	1	09/22/16 20:21	
1,2-Dichloroethane	5.0	U	5.0	1	09/22/16 20:21	
1,1-Dichloroethene	5.0	U	5.0	1	09/22/16 20:21	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 20:21	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 20:21	
1,2-Dichloropropane	5.0	U	5.0	1	09/22/16 20:21	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 20:21	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 20:21	
Ethylbenzene	5.0	U	5.0	1	09/22/16 20:21	
2-Hexanone	10	U	10	1	09/22/16 20:21	
Methylene Chloride	5.0	U	5.0	1	09/22/16 20:21	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/22/16 20:21	
Styrene	5.0	U	5.0	1	09/22/16 20:21	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/22/16 20:21	
Tetrachloroethene	5.0	U	5.0	1	09/22/16 20:21	
Toluene	5.0	U	5.0	1	09/22/16 20:21	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/22/16 20:21	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/22/16 20:21	
Trichloroethene	5.0	U	5.0	1	09/22/16 20:21	
Vinyl Chloride	5.0	U	5.0	1	09/22/16 20:21	
o-Xylene	5.0	U	5.0	1	09/22/16 20:21	
m,p-Xylenes	5.0	U	5.0	1	09/22/16 20:21	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10M	**Units:**	ug/L
Lab Code:	R1609943-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	09/22/16 20:21	
Toluene-d8	111	87 - 121	09/22/16 20:21	
Dibromofluoromethane	112	89 - 119	09/22/16 20:21	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:30
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10D	**Units:**	ug/L
Lab Code:	R1609943-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/22/16 20:52	
Benzene	5.0	U	5.0	1	09/22/16 20:52	
Bromodichloromethane	5.0	U	5.0	1	09/22/16 20:52	
Bromoform	5.0	U	5.0	1	09/22/16 20:52	
Bromomethane	5.0	U	5.0	1	09/22/16 20:52	
2-Butanone (MEK)	10	U	10	1	09/22/16 20:52	
Carbon Disulfide	10	U	10	1	09/22/16 20:52	
Carbon Tetrachloride	5.0	U	5.0	1	09/22/16 20:52	
Chlorobenzene	5.0	U	5.0	1	09/22/16 20:52	
Chloroethane	5.0	U	5.0	1	09/22/16 20:52	
Chloroform	5.0	U	5.0	1	09/22/16 20:52	
Chloromethane	5.0	U	5.0	1	09/22/16 20:52	
Dibromochloromethane	5.0	U	5.0	1	09/22/16 20:52	
1,1-Dichloroethane	5.0	U	5.0	1	09/22/16 20:52	
1,2-Dichloroethane	5.0	U	5.0	1	09/22/16 20:52	
1,1-Dichloroethene	5.0	U	5.0	1	09/22/16 20:52	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 20:52	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 20:52	
1,2-Dichloropropane	5.0	U	5.0	1	09/22/16 20:52	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 20:52	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 20:52	
Ethylbenzene	5.0	U	5.0	1	09/22/16 20:52	
2-Hexanone	10	U	10	1	09/22/16 20:52	
Methylene Chloride	5.0	U	5.0	1	09/22/16 20:52	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/22/16 20:52	
Styrene	5.0	U	5.0	1	09/22/16 20:52	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/22/16 20:52	
Tetrachloroethene	5.0	U	5.0	1	09/22/16 20:52	
Toluene	5.0	U	5.0	1	09/22/16 20:52	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/22/16 20:52	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/22/16 20:52	
Trichloroethene	5.0	U	5.0	1	09/22/16 20:52	
Vinyl Chloride	5.0	U	5.0	1	09/22/16 20:52	
o-Xylene	5.0	U	5.0	1	09/22/16 20:52	
m,p-Xylenes	5.0	U	5.0	1	09/22/16 20:52	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:30
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10D	**Units:**	ug/L
Lab Code:	R1609943-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	105	85 - 122	09/22/16 20:52	
Toluene-d8	111	87 - 121	09/22/16 20:52	
Dibromofluoromethane	112	89 - 119	09/22/16 20:52	

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-11S	**Units:**	ug/L
Lab Code:	R1609943-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	10 U	10	1	09/22/16 21:22	
Benzene	5.0 U	5.0	1	09/22/16 21:22	
Bromodichloromethane	5.0 U	5.0	1	09/22/16 21:22	
Bromoform	5.0 U	5.0	1	09/22/16 21:22	
Bromomethane	5.0 U	5.0	1	09/22/16 21:22	
2-Butanone (MEK)	10 U	10	1	09/22/16 21:22	
Carbon Disulfide	10 U	10	1	09/22/16 21:22	
Carbon Tetrachloride	5.0 U	5.0	1	09/22/16 21:22	
Chlorobenzene	5.0 U	5.0	1	09/22/16 21:22	
Chloroethane	5.0 U	5.0	1	09/22/16 21:22	
Chloroform	5.0 U	5.0	1	09/22/16 21:22	
Chloromethane	5.0 U	5.0	1	09/22/16 21:22	
Dibromochloromethane	5.0 U	5.0	1	09/22/16 21:22	
1,1-Dichloroethane	5.0 U	5.0	1	09/22/16 21:22	
1,2-Dichloroethane	5.0 U	5.0	1	09/22/16 21:22	
1,1-Dichloroethene	5.0 U	5.0	1	09/22/16 21:22	
cis-1,2-Dichloroethene	5.0 U	5.0	1	09/22/16 21:22	
trans-1,2-Dichloroethene	5.0 U	5.0	1	09/22/16 21:22	
1,2-Dichloropropane	5.0 U	5.0	1	09/22/16 21:22	
cis-1,3-Dichloropropene	5.0 U	5.0	1	09/22/16 21:22	
trans-1,3-Dichloropropene	5.0 U	5.0	1	09/22/16 21:22	
Ethylbenzene	5.0 U	5.0	1	09/22/16 21:22	
2-Hexanone	10 U	10	1	09/22/16 21:22	
Methylene Chloride	5.0 U	5.0	1	09/22/16 21:22	
4-Methyl-2-pentanone (MIBK)	10 U	10	1	09/22/16 21:22	
Styrene	5.0 U	5.0	1	09/22/16 21:22	
1,1,2,2-Tetrachloroethane	5.0 U	5.0	1	09/22/16 21:22	
Tetrachloroethene	5.0 U	5.0	1	09/22/16 21:22	
Toluene	5.0 U	5.0	1	09/22/16 21:22	
1,1,1-Trichloroethane	5.0 U	5.0	1	09/22/16 21:22	
1,1,2-Trichloroethane	5.0 U	5.0	1	09/22/16 21:22	
Trichloroethene	5.0 U	5.0	1	09/22/16 21:22	
Vinyl Chloride	5.0 U	5.0	1	09/22/16 21:22	
o-Xylene	5.0 U	5.0	1	09/22/16 21:22	
m,p-Xylenes	5.0 U	5.0	1	09/22/16 21:22	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-11S	**Units:**	ug/L
Lab Code:	R1609943-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	85 - 122	09/22/16 21:22	
Toluene-d8	112	87 - 121	09/22/16 21:22	
Dibromofluoromethane	113	89 - 119	09/22/16 21:22	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-11M	**Units:**	ug/L
Lab Code:	R1609943-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/22/16 21:53	
Benzene	5.0	U	5.0	1	09/22/16 21:53	
Bromodichloromethane	5.0	U	5.0	1	09/22/16 21:53	
Bromoform	5.0	U	5.0	1	09/22/16 21:53	
Bromomethane	5.0	U	5.0	1	09/22/16 21:53	
2-Butanone (MEK)	10	U	10	1	09/22/16 21:53	
Carbon Disulfide	10	U	10	1	09/22/16 21:53	
Carbon Tetrachloride	5.0	U	5.0	1	09/22/16 21:53	
Chlorobenzene	5.0	U	5.0	1	09/22/16 21:53	
Chloroethane	5.0	U	5.0	1	09/22/16 21:53	
Chloroform	5.0	U	5.0	1	09/22/16 21:53	
Chloromethane	5.0	U	5.0	1	09/22/16 21:53	
Dibromochloromethane	5.0	U	5.0	1	09/22/16 21:53	
1,1-Dichloroethane	5.0	U	5.0	1	09/22/16 21:53	
1,2-Dichloroethane	5.0	U	5.0	1	09/22/16 21:53	
1,1-Dichloroethene	5.0	U	5.0	1	09/22/16 21:53	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 21:53	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 21:53	
1,2-Dichloropropane	5.0	U	5.0	1	09/22/16 21:53	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 21:53	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 21:53	
Ethylbenzene	5.0	U	5.0	1	09/22/16 21:53	
2-Hexanone	10	U	10	1	09/22/16 21:53	
Methylene Chloride	5.0	U	5.0	1	09/22/16 21:53	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/22/16 21:53	
Styrene	5.0	U	5.0	1	09/22/16 21:53	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/22/16 21:53	
Tetrachloroethene	5.0	U	5.0	1	09/22/16 21:53	
Toluene	5.0	U	5.0	1	09/22/16 21:53	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/22/16 21:53	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/22/16 21:53	
Trichloroethene	5.0	U	5.0	1	09/22/16 21:53	
Vinyl Chloride	5.0	U	5.0	1	09/22/16 21:53	
o-Xylene	5.0	U	5.0	1	09/22/16 21:53	
m,p-Xylenes	5.0	U	5.0	1	09/22/16 21:53	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-11M	**Units:**	ug/L
Lab Code:	R1609943-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	85 - 122	09/22/16 21:53	
Toluene-d8	113	87 - 121	09/22/16 21:53	
Dibromofluoromethane	111	89 - 119	09/22/16 21:53	

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:45
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12S	**Units:**	ug/L
Lab Code:	R1609943-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/22/16 22:24	
Benzene	5.0	U	5.0	1	09/22/16 22:24	
Bromodichloromethane	5.0	U	5.0	1	09/22/16 22:24	
Bromoform	5.0	U	5.0	1	09/22/16 22:24	
Bromomethane	5.0	U	5.0	1	09/22/16 22:24	
2-Butanone (MEK)	10	U	10	1	09/22/16 22:24	
Carbon Disulfide	10	U	10	1	09/22/16 22:24	
Carbon Tetrachloride	5.0	U	5.0	1	09/22/16 22:24	
Chlorobenzene	5.0	U	5.0	1	09/22/16 22:24	
Chloroethane	5.0	U	5.0	1	09/22/16 22:24	
Chloroform	5.0	U	5.0	1	09/22/16 22:24	
Chloromethane	5.0	U	5.0	1	09/22/16 22:24	
Dibromochloromethane	5.0	U	5.0	1	09/22/16 22:24	
1,1-Dichloroethane	5.0	U	5.0	1	09/22/16 22:24	
1,2-Dichloroethane	5.0	U	5.0	1	09/22/16 22:24	
1,1-Dichloroethene	5.0	U	5.0	1	09/22/16 22:24	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 22:24	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 22:24	
1,2-Dichloropropane	5.0	U	5.0	1	09/22/16 22:24	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 22:24	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 22:24	
Ethylbenzene	5.0	U	5.0	1	09/22/16 22:24	
2-Hexanone	10	U	10	1	09/22/16 22:24	
Methylene Chloride	5.0	U	5.0	1	09/22/16 22:24	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/22/16 22:24	
Styrene	5.0	U	5.0	1	09/22/16 22:24	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/22/16 22:24	
Tetrachloroethene	5.0	U	5.0	1	09/22/16 22:24	
Toluene	5.0	U	5.0	1	09/22/16 22:24	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/22/16 22:24	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/22/16 22:24	
Trichloroethene	5.0	U	5.0	1	09/22/16 22:24	
Vinyl Chloride	5.0	U	5.0	1	09/22/16 22:24	
o-Xylene	5.0	U	5.0	1	09/22/16 22:24	
m,p-Xylenes	5.0	U	5.0	1	09/22/16 22:24	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:45
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12S	**Units:**	ug/L
Lab Code:	R1609943-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	105	85 - 122	09/22/16 22:24	
Toluene-d8	113	87 - 121	09/22/16 22:24	
Dibromofluoromethane	113	89 - 119	09/22/16 22:24	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12M	**Units:**	ug/L
Lab Code:	R1609943-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/22/16 22:54	
Benzene	5.0	U	5.0	1	09/22/16 22:54	
Bromodichloromethane	5.0	U	5.0	1	09/22/16 22:54	
Bromoform	5.0	U	5.0	1	09/22/16 22:54	
Bromomethane	5.0	U	5.0	1	09/22/16 22:54	
2-Butanone (MEK)	10	U	10	1	09/22/16 22:54	
Carbon Disulfide	10	U	10	1	09/22/16 22:54	
Carbon Tetrachloride	5.0	U	5.0	1	09/22/16 22:54	
Chlorobenzene	5.0	U	5.0	1	09/22/16 22:54	
Chloroethane	5.0	U	5.0	1	09/22/16 22:54	
Chloroform	5.0	U	5.0	1	09/22/16 22:54	
Chloromethane	5.0	U	5.0	1	09/22/16 22:54	
Dibromochloromethane	5.0	U	5.0	1	09/22/16 22:54	
1,1-Dichloroethane	5.0	U	5.0	1	09/22/16 22:54	
1,2-Dichloroethane	5.0	U	5.0	1	09/22/16 22:54	
1,1-Dichloroethene	5.0	U	5.0	1	09/22/16 22:54	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 22:54	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 22:54	
1,2-Dichloropropane	5.0	U	5.0	1	09/22/16 22:54	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 22:54	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 22:54	
Ethylbenzene	5.0	U	5.0	1	09/22/16 22:54	
2-Hexanone	10	U	10	1	09/22/16 22:54	
Methylene Chloride	5.0	U	5.0	1	09/22/16 22:54	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/22/16 22:54	
Styrene	5.0	U	5.0	1	09/22/16 22:54	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/22/16 22:54	
Tetrachloroethene	5.0	U	5.0	1	09/22/16 22:54	
Toluene	5.0	U	5.0	1	09/22/16 22:54	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/22/16 22:54	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/22/16 22:54	
Trichloroethene	5.0	U	5.0	1	09/22/16 22:54	
Vinyl Chloride	5.0	U	5.0	1	09/22/16 22:54	
o-Xylene	5.0	U	5.0	1	09/22/16 22:54	
m,p-Xylenes	5.0	U	5.0	1	09/22/16 22:54	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12M	**Units:**	ug/L
Lab Code:	R1609943-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	105	85 - 122	09/22/16 22:54	
Toluene-d8	112	87 - 121	09/22/16 22:54	
Dibromofluoromethane	111	89 - 119	09/22/16 22:54	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12D	**Units:**	ug/L
Lab Code:	R1609943-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/23/16 12:19	
Benzene	5.0	U	5.0	1	09/23/16 12:19	
Bromodichloromethane	5.0	U	5.0	1	09/23/16 12:19	
Bromoform	5.0	U	5.0	1	09/23/16 12:19	
Bromomethane	5.0	U	5.0	1	09/23/16 12:19	
2-Butanone (MEK)	10	U	10	1	09/23/16 12:19	
Carbon Disulfide	10	U	10	1	09/23/16 12:19	
Carbon Tetrachloride	5.0	U	5.0	1	09/23/16 12:19	
Chlorobenzene	5.0	U	5.0	1	09/23/16 12:19	
Chloroethane	5.0	U	5.0	1	09/23/16 12:19	
Chloroform	5.0	U	5.0	1	09/23/16 12:19	
Chloromethane	5.0	U	5.0	1	09/23/16 12:19	
Dibromochloromethane	5.0	U	5.0	1	09/23/16 12:19	
1,1-Dichloroethane	5.0	U	5.0	1	09/23/16 12:19	
1,2-Dichloroethane	5.0	U	5.0	1	09/23/16 12:19	
1,1-Dichloroethene	5.0	U	5.0	1	09/23/16 12:19	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 12:19	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 12:19	
1,2-Dichloropropane	5.0	U	5.0	1	09/23/16 12:19	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 12:19	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 12:19	
Ethylbenzene	5.0	U	5.0	1	09/23/16 12:19	
2-Hexanone	10	U	10	1	09/23/16 12:19	
Methylene Chloride	5.0	U	5.0	1	09/23/16 12:19	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/23/16 12:19	
Styrene	5.0	U	5.0	1	09/23/16 12:19	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/23/16 12:19	
Tetrachloroethene	5.0	U	5.0	1	09/23/16 12:19	
Toluene	5.0	U	5.0	1	09/23/16 12:19	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/23/16 12:19	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/23/16 12:19	
Trichloroethene	5.0	U	5.0	1	09/23/16 12:19	
Vinyl Chloride	5.0	U	5.0	1	09/23/16 12:19	
o-Xylene	5.0	U	5.0	1	09/23/16 12:19	
m,p-Xylenes	5.0	U	5.0	1	09/23/16 12:19	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12D	**Units:**	ug/L
Lab Code:	R1609943-015	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	111	85 - 122	09/23/16 12:19	
Toluene-d8	113	87 - 121	09/23/16 12:19	
Dibromofluoromethane	114	89 - 119	09/23/16 12:19	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:45
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-13S	**Units:**	ug/L
Lab Code:	R1609943-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/23/16 12:46	
Benzene	5.0	U	5.0	1	09/23/16 12:46	
Bromodichloromethane	5.0	U	5.0	1	09/23/16 12:46	
Bromoform	5.0	U	5.0	1	09/23/16 12:46	
Bromomethane	5.0	U	5.0	1	09/23/16 12:46	
2-Butanone (MEK)	10	U	10	1	09/23/16 12:46	
Carbon Disulfide	10	U	10	1	09/23/16 12:46	
Carbon Tetrachloride	5.0	U	5.0	1	09/23/16 12:46	
Chlorobenzene	5.0	U	5.0	1	09/23/16 12:46	
Chloroethane	5.0	U	5.0	1	09/23/16 12:46	
Chloroform	5.0	U	5.0	1	09/23/16 12:46	
Chloromethane	5.0	U	5.0	1	09/23/16 12:46	
Dibromochloromethane	5.0	U	5.0	1	09/23/16 12:46	
1,1-Dichloroethane	5.0	U	5.0	1	09/23/16 12:46	
1,2-Dichloroethane	5.0	U	5.0	1	09/23/16 12:46	
1,1-Dichloroethene	5.0	U	5.0	1	09/23/16 12:46	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 12:46	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 12:46	
1,2-Dichloropropane	5.0	U	5.0	1	09/23/16 12:46	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 12:46	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 12:46	
Ethylbenzene	5.0	U	5.0	1	09/23/16 12:46	
2-Hexanone	10	U	10	1	09/23/16 12:46	
Methylene Chloride	5.0	U	5.0	1	09/23/16 12:46	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/23/16 12:46	
Styrene	5.0	U	5.0	1	09/23/16 12:46	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/23/16 12:46	
Tetrachloroethene	5.0	U	5.0	1	09/23/16 12:46	
Toluene	5.0	U	5.0	1	09/23/16 12:46	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/23/16 12:46	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/23/16 12:46	
Trichloroethene	5.0	U	5.0	1	09/23/16 12:46	
Vinyl Chloride	5.0	U	5.0	1	09/23/16 12:46	
o-Xylene	5.0	U	5.0	1	09/23/16 12:46	
m,p-Xylenes	5.0	U	5.0	1	09/23/16 12:46	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:45
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-13S	**Units:**	ug/L
Lab Code:	R1609943-017	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	110	85 - 122	09/23/16 12:46	
Toluene-d8	111	87 - 121	09/23/16 12:46	
Dibromofluoromethane	113	89 - 119	09/23/16 12:46	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 11:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-13M	**Units:**	ug/L
Lab Code:	R1609943-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/23/16 13:12	
Benzene	5.0	U	5.0	1	09/23/16 13:12	
Bromodichloromethane	5.0	U	5.0	1	09/23/16 13:12	
Bromoform	5.0	U	5.0	1	09/23/16 13:12	
Bromomethane	5.0	U	5.0	1	09/23/16 13:12	
2-Butanone (MEK)	10	U	10	1	09/23/16 13:12	
Carbon Disulfide	10	U	10	1	09/23/16 13:12	
Carbon Tetrachloride	5.0	U	5.0	1	09/23/16 13:12	
Chlorobenzene	5.0	U	5.0	1	09/23/16 13:12	
Chloroethane	5.0	U	5.0	1	09/23/16 13:12	
Chloroform	5.0	U	5.0	1	09/23/16 13:12	
Chloromethane	5.0	U	5.0	1	09/23/16 13:12	
Dibromochloromethane	5.0	U	5.0	1	09/23/16 13:12	
1,1-Dichloroethane	5.0	U	5.0	1	09/23/16 13:12	
1,2-Dichloroethane	5.0	U	5.0	1	09/23/16 13:12	
1,1-Dichloroethene	5.0	U	5.0	1	09/23/16 13:12	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 13:12	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 13:12	
1,2-Dichloropropane	5.0	U	5.0	1	09/23/16 13:12	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 13:12	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 13:12	
Ethylbenzene	5.0	U	5.0	1	09/23/16 13:12	
2-Hexanone	10	U	10	1	09/23/16 13:12	
Methylene Chloride	5.0	U	5.0	1	09/23/16 13:12	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/23/16 13:12	
Styrene	5.0	U	5.0	1	09/23/16 13:12	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/23/16 13:12	
Tetrachloroethene	5.0	U	5.0	1	09/23/16 13:12	
Toluene	5.0	U	5.0	1	09/23/16 13:12	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/23/16 13:12	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/23/16 13:12	
Trichloroethene	5.0	U	5.0	1	09/23/16 13:12	
Vinyl Chloride	5.0	U	5.0	1	09/23/16 13:12	
o-Xylene	5.0	U	5.0	1	09/23/16 13:12	
m,p-Xylenes	5.0	U	5.0	1	09/23/16 13:12	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 11:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-13M	**Units:**	ug/L
Lab Code:	R1609943-019	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	111	85 - 122	09/23/16 13:12	
Toluene-d8	113	87 - 121	09/23/16 13:12	
Dibromofluoromethane	114	89 - 119	09/23/16 13:12	

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 11:30
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-14S	**Units:**	ug/L
Lab Code:	R1609943-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/23/16 13:38	
Benzene	5.0	U	5.0	1	09/23/16 13:38	
Bromodichloromethane	5.0	U	5.0	1	09/23/16 13:38	
Bromoform	5.0	U	5.0	1	09/23/16 13:38	
Bromomethane	5.0	U	5.0	1	09/23/16 13:38	
2-Butanone (MEK)	10	U	10	1	09/23/16 13:38	
Carbon Disulfide	10	U	10	1	09/23/16 13:38	
Carbon Tetrachloride	5.0	U	5.0	1	09/23/16 13:38	
Chlorobenzene	5.0	U	5.0	1	09/23/16 13:38	
Chloroethane	5.0	U	5.0	1	09/23/16 13:38	
Chloroform	5.0	U	5.0	1	09/23/16 13:38	
Chloromethane	5.0	U	5.0	1	09/23/16 13:38	
Dibromochloromethane	5.0	U	5.0	1	09/23/16 13:38	
1,1-Dichloroethane	5.0	U	5.0	1	09/23/16 13:38	
1,2-Dichloroethane	5.0	U	5.0	1	09/23/16 13:38	
1,1-Dichloroethene	5.0	U	5.0	1	09/23/16 13:38	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 13:38	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 13:38	
1,2-Dichloropropane	5.0	U	5.0	1	09/23/16 13:38	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 13:38	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 13:38	
Ethylbenzene	5.0	U	5.0	1	09/23/16 13:38	
2-Hexanone	10	U	10	1	09/23/16 13:38	
Methylene Chloride	5.0	U	5.0	1	09/23/16 13:38	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/23/16 13:38	
Styrene	5.0	U	5.0	1	09/23/16 13:38	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/23/16 13:38	
Tetrachloroethene	5.0	U	5.0	1	09/23/16 13:38	
Toluene	5.0	U	5.0	1	09/23/16 13:38	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/23/16 13:38	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/23/16 13:38	
Trichloroethene	5.0	U	5.0	1	09/23/16 13:38	
Vinyl Chloride	5.0	U	5.0	1	09/23/16 13:38	
o-Xylene	5.0	U	5.0	1	09/23/16 13:38	
m,p-Xylenes	5.0	U	5.0	1	09/23/16 13:38	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 11:30
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-14S	**Units:**	ug/L
Lab Code:	R1609943-021	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	111	85 - 122	09/23/16 13:38	
Toluene-d8	113	87 - 121	09/23/16 13:38	
Dibromofluoromethane	113	89 - 119	09/23/16 13:38	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	TB-A	**Units:**	ug/L
Lab Code:	R1609943-023	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/22/16 19:20	
Benzene	5.0	U	5.0	1	09/22/16 19:20	
Bromodichloromethane	5.0	U	5.0	1	09/22/16 19:20	
Bromoform	5.0	U	5.0	1	09/22/16 19:20	
Bromomethane	5.0	U	5.0	1	09/22/16 19:20	
2-Butanone (MEK)	10	U	10	1	09/22/16 19:20	
Carbon Disulfide	10	U	10	1	09/22/16 19:20	
Carbon Tetrachloride	5.0	U	5.0	1	09/22/16 19:20	
Chlorobenzene	5.0	U	5.0	1	09/22/16 19:20	
Chloroethane	5.0	U	5.0	1	09/22/16 19:20	
Chloroform	5.0	U	5.0	1	09/22/16 19:20	
Chloromethane	5.0	U	5.0	1	09/22/16 19:20	
Dibromochloromethane	5.0	U	5.0	1	09/22/16 19:20	
1,1-Dichloroethane	5.0	U	5.0	1	09/22/16 19:20	
1,2-Dichloroethane	5.0	U	5.0	1	09/22/16 19:20	
1,1-Dichloroethene	5.0	U	5.0	1	09/22/16 19:20	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 19:20	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 19:20	
1,2-Dichloropropane	5.0	U	5.0	1	09/22/16 19:20	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 19:20	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 19:20	
Ethylbenzene	5.0	U	5.0	1	09/22/16 19:20	
2-Hexanone	10	U	10	1	09/22/16 19:20	
Methylene Chloride	5.0	U	5.0	1	09/22/16 19:20	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/22/16 19:20	
Styrene	5.0	U	5.0	1	09/22/16 19:20	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/22/16 19:20	
Tetrachloroethene	5.0	U	5.0	1	09/22/16 19:20	
Toluene	5.0	U	5.0	1	09/22/16 19:20	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/22/16 19:20	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/22/16 19:20	
Trichloroethene	5.0	U	5.0	1	09/22/16 19:20	
Vinyl Chloride	5.0	U	5.0	1	09/22/16 19:20	
o-Xylene	5.0	U	5.0	1	09/22/16 19:20	
m,p-Xylenes	5.0	U	5.0	1	09/22/16 19:20	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	TB-A	**Units:**	ug/L
Lab Code:	R1609943-023	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	103	85 - 122	09/22/16 19:20	
Toluene-d8	109	87 - 121	09/22/16 19:20	
Dibromofluoromethane	110	89 - 119	09/22/16 19:20	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	TB-B	**Units:**	ug/L
Lab Code:	R1609943-024	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/23/16 11:27	
Benzene	5.0	U	5.0	1	09/23/16 11:27	
Bromodichloromethane	5.0	U	5.0	1	09/23/16 11:27	
Bromoform	5.0	U	5.0	1	09/23/16 11:27	
Bromomethane	5.0	U	5.0	1	09/23/16 11:27	
2-Butanone (MEK)	10	U	10	1	09/23/16 11:27	
Carbon Disulfide	10	U	10	1	09/23/16 11:27	
Carbon Tetrachloride	5.0	U	5.0	1	09/23/16 11:27	
Chlorobenzene	5.0	U	5.0	1	09/23/16 11:27	
Chloroethane	5.0	U	5.0	1	09/23/16 11:27	
Chloroform	5.0	U	5.0	1	09/23/16 11:27	
Chloromethane	5.0	U	5.0	1	09/23/16 11:27	
Dibromochloromethane	5.0	U	5.0	1	09/23/16 11:27	
1,1-Dichloroethane	5.0	U	5.0	1	09/23/16 11:27	
1,2-Dichloroethane	5.0	U	5.0	1	09/23/16 11:27	
1,1-Dichloroethene	5.0	U	5.0	1	09/23/16 11:27	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 11:27	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 11:27	
1,2-Dichloropropane	5.0	U	5.0	1	09/23/16 11:27	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 11:27	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 11:27	
Ethylbenzene	5.0	U	5.0	1	09/23/16 11:27	
2-Hexanone	10	U	10	1	09/23/16 11:27	
Methylene Chloride	5.0	U	5.0	1	09/23/16 11:27	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/23/16 11:27	
Styrene	5.0	U	5.0	1	09/23/16 11:27	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/23/16 11:27	
Tetrachloroethene	5.0	U	5.0	1	09/23/16 11:27	
Toluene	5.0	U	5.0	1	09/23/16 11:27	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/23/16 11:27	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/23/16 11:27	
Trichloroethene	5.0	U	5.0	1	09/23/16 11:27	
Vinyl Chloride	5.0	U	5.0	1	09/23/16 11:27	
o-Xylene	5.0	U	5.0	1	09/23/16 11:27	
m,p-Xylenes	5.0	U	5.0	1	09/23/16 11:27	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	TB-B	**Units:**	ug/L
Lab Code:	R1609943-024	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	112	85 - 122	09/23/16 11:27	
Toluene-d8	110	87 - 121	09/23/16 11:27	
Dibromofluoromethane	114	89 - 119	09/23/16 11:27	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	TB-C	**Units:**	ug/L
Lab Code:	R1609943-025	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/23/16 11:53	
Benzene	5.0	U	5.0	1	09/23/16 11:53	
Bromodichloromethane	5.0	U	5.0	1	09/23/16 11:53	
Bromoform	5.0	U	5.0	1	09/23/16 11:53	
Bromomethane	5.0	U	5.0	1	09/23/16 11:53	
2-Butanone (MEK)	10	U	10	1	09/23/16 11:53	
Carbon Disulfide	10	U	10	1	09/23/16 11:53	
Carbon Tetrachloride	5.0	U	5.0	1	09/23/16 11:53	
Chlorobenzene	5.0	U	5.0	1	09/23/16 11:53	
Chloroethane	5.0	U	5.0	1	09/23/16 11:53	
Chloroform	5.0	U	5.0	1	09/23/16 11:53	
Chloromethane	5.0	U	5.0	1	09/23/16 11:53	
Dibromochloromethane	5.0	U	5.0	1	09/23/16 11:53	
1,1-Dichloroethane	5.0	U	5.0	1	09/23/16 11:53	
1,2-Dichloroethane	5.0	U	5.0	1	09/23/16 11:53	
1,1-Dichloroethene	5.0	U	5.0	1	09/23/16 11:53	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 11:53	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 11:53	
1,2-Dichloropropane	5.0	U	5.0	1	09/23/16 11:53	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 11:53	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 11:53	
Ethylbenzene	5.0	U	5.0	1	09/23/16 11:53	
2-Hexanone	10	U	10	1	09/23/16 11:53	
Methylene Chloride	5.0	U	5.0	1	09/23/16 11:53	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/23/16 11:53	
Styrene	5.0	U	5.0	1	09/23/16 11:53	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/23/16 11:53	
Tetrachloroethene	5.0	U	5.0	1	09/23/16 11:53	
Toluene	5.0	U	5.0	1	09/23/16 11:53	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/23/16 11:53	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/23/16 11:53	
Trichloroethene	5.0	U	5.0	1	09/23/16 11:53	
Vinyl Chloride	5.0	U	5.0	1	09/23/16 11:53	
o-Xylene	5.0	U	5.0	1	09/23/16 11:53	
m,p-Xylenes	5.0	U	5.0	1	09/23/16 11:53	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	TB-C	**Units:**	ug/L
Lab Code:	R1609943-025	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	110	85 - 122	09/23/16 11:53	
Toluene-d8	107	87 - 121	09/23/16 11:53	
Dibromofluoromethane	113	89 - 119	09/23/16 11:53	

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10S	**Units:**	ug/L
Lab Code:	R1609943-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
1,2-Dichlorobenzene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
1,3-Dichlorobenzene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
1,4-Dichlorobenzene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
2,4,5-Trichlorophenol	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
2,4,6-Trichlorophenol	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
2,4-Dichlorophenol	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
2,4-Dimethylphenol	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
2,4-Dinitrophenol	47 U	47	1	09/26/16 12:05	9/22/16	
2,4-Dinitrotoluene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
2,6-Dinitrotoluene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
2-Chloronaphthalene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
2-Chlorophenol	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
2-Methylnaphthalene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
2-Methylphenol	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
2-Nitroaniline	47 U	47	1	09/26/16 12:05	9/22/16	
2-Nitrophenol	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
3,3'-Dichlorobenzidine	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
3- and 4-Methylphenol Coelution	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
3-Nitroaniline	47 U	47	1	09/26/16 12:05	9/22/16	
4,6-Dinitro-2-methylphenol	47 U	47	1	09/26/16 12:05	9/22/16	
4-Bromophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
4-Chloro-3-methylphenol	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
4-Chloroaniline	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
4-Chlorophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
4-Nitroaniline	47 U	47	1	09/26/16 12:05	9/22/16	
4-Nitrophenol	47 U	47	1	09/26/16 12:05	9/22/16	
Acenaphthene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Acenaphthylene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Anthracene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Benz(a)anthracene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Benzo(a)pyrene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Benzo(b)fluoranthene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Benzo(g,h,i)perylene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Benzo(k)fluoranthene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Benzyl Alcohol	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Bis(2-chloroethoxy)methane	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Bis(2-chloroethyl) Ether	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Bis(2-ethylhexyl) Phthalate	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Butyl Benzyl Phthalate	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Carbazole	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Chrysene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10S	**Units:**	ug/L
Lab Code:	R1609943-001	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Di-n-octyl Phthalate	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Dibenz(a,h)anthracene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Dibenzofuran	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Diethyl Phthalate	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Dimethyl Phthalate	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Fluoranthene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Fluorene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Hexachlorobenzene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Hexachlorobutadiene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Hexachlorocyclopentadiene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Hexachloroethane	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Indeno(1,2,3-cd)pyrene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Isophorone	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
N-Nitrosodi-n-propylamine	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
N-Nitrosodimethylamine	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
N-Nitrosodiphenylamine	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Naphthalene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Nitrobenzene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Pentachlorophenol (PCP)	47 U	47	1	09/26/16 12:05	9/22/16	
Phenanthrene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Phenol	9.4 U	9.4	1	09/26/16 12:05	9/22/16	
Pyrene	9.4 U	9.4	1	09/26/16 12:05	9/22/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	99	35 - 141	09/26/16 12:05	
2-Fluorobiphenyl	71	31 - 118	09/26/16 12:05	
2-Fluorophenol	36	10 - 105	09/26/16 12:05	
Nitrobenzene-d5	71	31 - 110	09/26/16 12:05	
Phenol-d6	25	10 - 107	09/26/16 12:05	
p-Terphenyl-d14	85	30 - 133	09/26/16 12:05	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10M	**Units:**	ug/L
Lab Code:	R1609943-003	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
1,2-Dichlorobenzene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
1,3-Dichlorobenzene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
1,4-Dichlorobenzene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
2,4,5-Trichlorophenol	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
2,4,6-Trichlorophenol	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
2,4-Dichlorophenol	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
2,4-Dimethylphenol	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
2,4-Dinitrophenol	47 U	47	1	09/26/16 12:32	9/22/16	
2,4-Dinitrotoluene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
2,6-Dinitrotoluene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
2-Chloronaphthalene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
2-Chlorophenol	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
2-Methylnaphthalene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
2-Methylphenol	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
2-Nitroaniline	47 U	47	1	09/26/16 12:32	9/22/16	
2-Nitrophenol	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
3,3'-Dichlorobenzidine	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
3- and 4-Methylphenol Coelution	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
3-Nitroaniline	47 U	47	1	09/26/16 12:32	9/22/16	
4,6-Dinitro-2-methylphenol	47 U	47	1	09/26/16 12:32	9/22/16	
4-Bromophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
4-Chloro-3-methylphenol	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
4-Chloroaniline	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
4-Chlorophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
4-Nitroaniline	47 U	47	1	09/26/16 12:32	9/22/16	
4-Nitrophenol	47 U	47	1	09/26/16 12:32	9/22/16	
Acenaphthene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Acenaphthylene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Anthracene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Benz(a)anthracene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Benzo(a)pyrene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Benzo(b)fluoranthene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Benzo(g,h,i)perylene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Benzo(k)fluoranthene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Benzyl Alcohol	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Bis(2-chloroethoxy)methane	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Bis(2-chloroethyl) Ether	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Bis(2-ethylhexyl) Phthalate	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Butyl Benzyl Phthalate	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Carbazole	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Chrysene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10M	**Units:**	ug/L
Lab Code:	R1609943-003	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Di-n-octyl Phthalate	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Dibenz(a,h)anthracene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Dibenzofuran	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Diethyl Phthalate	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Dimethyl Phthalate	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Fluoranthene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Fluorene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Hexachlorobenzene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Hexachlorobutadiene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Hexachlorocyclopentadiene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Hexachloroethane	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Indeno(1,2,3-cd)pyrene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Isophorone	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
N-Nitrosodi-n-propylamine	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
N-Nitrosodimethylamine	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
N-Nitrosodiphenylamine	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Naphthalene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Nitrobenzene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Pentachlorophenol (PCP)	47 U	47	1	09/26/16 12:32	9/22/16	
Phenanthrene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Phenol	9.4 U	9.4	1	09/26/16 12:32	9/22/16	
Pyrene	9.4 U	9.4	1	09/26/16 12:32	9/22/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	95	35 - 141	09/26/16 12:32	
2-Fluorobiphenyl	72	31 - 118	09/26/16 12:32	
2-Fluorophenol	37	10 - 105	09/26/16 12:32	
Nitrobenzene-d5	74	31 - 110	09/26/16 12:32	
Phenol-d6	26	10 - 107	09/26/16 12:32	
p-Terphenyl-d14	85	30 - 133	09/26/16 12:32	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:30
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10D	**Units:**	ug/L
Lab Code:	R1609943-005	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
1,2-Dichlorobenzene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
1,3-Dichlorobenzene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
1,4-Dichlorobenzene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
2,4,5-Trichlorophenol	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
2,4,6-Trichlorophenol	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
2,4-Dichlorophenol	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
2,4-Dimethylphenol	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
2,4-Dinitrophenol	47 U	47	1	09/26/16 12:59	9/22/16	
2,4-Dinitrotoluene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
2,6-Dinitrotoluene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
2-Chloronaphthalene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
2-Chlorophenol	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
2-Methylnaphthalene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
2-Methylphenol	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
2-Nitroaniline	47 U	47	1	09/26/16 12:59	9/22/16	
2-Nitrophenol	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
3,3'-Dichlorobenzidine	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
3- and 4-Methylphenol Coelution	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
3-Nitroaniline	47 U	47	1	09/26/16 12:59	9/22/16	
4,6-Dinitro-2-methylphenol	47 U	47	1	09/26/16 12:59	9/22/16	
4-Bromophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
4-Chloro-3-methylphenol	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
4-Chloroaniline	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
4-Chlorophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
4-Nitroaniline	47 U	47	1	09/26/16 12:59	9/22/16	
4-Nitrophenol	47 U	47	1	09/26/16 12:59	9/22/16	
Acenaphthene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Acenaphthylene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Anthracene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Benz(a)anthracene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Benzo(a)pyrene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Benzo(b)fluoranthene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Benzo(g,h,i)perylene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Benzo(k)fluoranthene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Benzyl Alcohol	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Bis(2-chloroethoxy)methane	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Bis(2-chloroethyl) Ether	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Bis(2-ethylhexyl) Phthalate	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Butyl Benzyl Phthalate	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Carbazole	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Chrysene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:30
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10D	**Units:**	ug/L
Lab Code:	R1609943-005	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Di-n-octyl Phthalate	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Dibenz(a,h)anthracene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Dibenzofuran	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Diethyl Phthalate	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Dimethyl Phthalate	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Fluoranthene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Fluorene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Hexachlorobenzene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Hexachlorobutadiene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Hexachlorocyclopentadiene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Hexachloroethane	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Indeno(1,2,3-cd)pyrene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Isophorone	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
N-Nitrosodi-n-propylamine	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
N-Nitrosodimethylamine	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
N-Nitrosodiphenylamine	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Naphthalene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Nitrobenzene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Pentachlorophenol (PCP)	47 U	47	1	09/26/16 12:59	9/22/16	
Phenanthrene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Phenol	9.4 U	9.4	1	09/26/16 12:59	9/22/16	
Pyrene	9.4 U	9.4	1	09/26/16 12:59	9/22/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	98	35 - 141	09/26/16 12:59	
2-Fluorobiphenyl	76	31 - 118	09/26/16 12:59	
2-Fluorophenol	36	10 - 105	09/26/16 12:59	
Nitrobenzene-d5	76	31 - 110	09/26/16 12:59	
Phenol-d6	27	10 - 107	09/26/16 12:59	
p-Terphenyl-d14	96	30 - 133	09/26/16 12:59	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-11S	**Units:**	ug/L
Lab Code:	R1609943-007	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
1,2-Dichlorobenzene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
1,3-Dichlorobenzene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
1,4-Dichlorobenzene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
2,4,5-Trichlorophenol	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
2,4,6-Trichlorophenol	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
2,4-Dichlorophenol	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
2,4-Dimethylphenol	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
2,4-Dinitrophenol	47 U	47	1	09/26/16 13:27	9/22/16	
2,4-Dinitrotoluene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
2,6-Dinitrotoluene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
2-Chloronaphthalene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
2-Chlorophenol	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
2-Methylnaphthalene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
2-Methylphenol	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
2-Nitroaniline	47 U	47	1	09/26/16 13:27	9/22/16	
2-Nitrophenol	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
3,3'-Dichlorobenzidine	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
3- and 4-Methylphenol Coelution	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
3-Nitroaniline	47 U	47	1	09/26/16 13:27	9/22/16	
4,6-Dinitro-2-methylphenol	47 U	47	1	09/26/16 13:27	9/22/16	
4-Bromophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
4-Chloro-3-methylphenol	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
4-Chloroaniline	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
4-Chlorophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
4-Nitroaniline	47 U	47	1	09/26/16 13:27	9/22/16	
4-Nitrophenol	47 U	47	1	09/26/16 13:27	9/22/16	
Acenaphthene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Acenaphthylene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Anthracene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Benz(a)anthracene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Benzo(a)pyrene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Benzo(b)fluoranthene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Benzo(g,h,i)perylene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Benzo(k)fluoranthene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Benzyl Alcohol	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Bis(2-chloroethoxy)methane	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Bis(2-chloroethyl) Ether	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Bis(2-ethylhexyl) Phthalate	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Butyl Benzyl Phthalate	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Carbazole	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Chrysene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-11S	**Units:**	ug/L
Lab Code:	R1609943-007	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Di-n-octyl Phthalate	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Dibenz(a,h)anthracene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Dibenzofuran	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Diethyl Phthalate	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Dimethyl Phthalate	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Fluoranthene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Fluorene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Hexachlorobenzene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Hexachlorobutadiene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Hexachlorocyclopentadiene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Hexachloroethane	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Indeno(1,2,3-cd)pyrene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Isophorone	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
N-Nitrosodi-n-propylamine	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
N-Nitrosodimethylamine	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
N-Nitrosodiphenylamine	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Naphthalene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Nitrobenzene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Pentachlorophenol (PCP)	47 U	47	1	09/26/16 13:27	9/22/16	
Phenanthrene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Phenol	9.4 U	9.4	1	09/26/16 13:27	9/22/16	
Pyrene	9.4 U	9.4	1	09/26/16 13:27	9/22/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	92	35 - 141	09/26/16 13:27	
2-Fluorobiphenyl	73	31 - 118	09/26/16 13:27	
2-Fluorophenol	35	10 - 105	09/26/16 13:27	
Nitrobenzene-d5	72	31 - 110	09/26/16 13:27	
Phenol-d6	26	10 - 107	09/26/16 13:27	
p-Terphenyl-d14	83	30 - 133	09/26/16 13:27	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-11M	**Units:**	ug/L
Lab Code:	R1609943-009	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
1,2-Dichlorobenzene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
1,3-Dichlorobenzene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
1,4-Dichlorobenzene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
2,4,5-Trichlorophenol	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
2,4,6-Trichlorophenol	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
2,4-Dichlorophenol	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
2,4-Dimethylphenol	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
2,4-Dinitrophenol	47 U	47	1	09/26/16 13:55	9/22/16	
2,4-Dinitrotoluene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
2,6-Dinitrotoluene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
2-Chloronaphthalene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
2-Chlorophenol	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
2-Methylnaphthalene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
2-Methylphenol	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
2-Nitroaniline	47 U	47	1	09/26/16 13:55	9/22/16	
2-Nitrophenol	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
3,3'-Dichlorobenzidine	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
3- and 4-Methylphenol Coelution	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
3-Nitroaniline	47 U	47	1	09/26/16 13:55	9/22/16	
4,6-Dinitro-2-methylphenol	47 U	47	1	09/26/16 13:55	9/22/16	
4-Bromophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
4-Chloro-3-methylphenol	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
4-Chloroaniline	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
4-Chlorophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
4-Nitroaniline	47 U	47	1	09/26/16 13:55	9/22/16	
4-Nitrophenol	47 U	47	1	09/26/16 13:55	9/22/16	
Acenaphthene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Acenaphthylene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Anthracene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Benz(a)anthracene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Benzo(a)pyrene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Benzo(b)fluoranthene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Benzo(g,h,i)perylene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Benzo(k)fluoranthene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Benzyl Alcohol	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Bis(2-chloroethoxy)methane	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Bis(2-chloroethyl) Ether	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Bis(2-ethylhexyl) Phthalate	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Butyl Benzyl Phthalate	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Carbazole	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Chrysene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-11M	**Units:**	ug/L
Lab Code:	R1609943-009	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Di-n-octyl Phthalate	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Dibenz(a,h)anthracene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Dibenzofuran	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Diethyl Phthalate	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Dimethyl Phthalate	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Fluoranthene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Fluorene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Hexachlorobenzene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Hexachlorobutadiene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Hexachlorocyclopentadiene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Hexachloroethane	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Indeno(1,2,3-cd)pyrene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Isophorone	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
N-Nitrosodi-n-propylamine	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
N-Nitrosodimethylamine	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
N-Nitrosodiphenylamine	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Naphthalene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Nitrobenzene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Pentachlorophenol (PCP)	47 U	47	1	09/26/16 13:55	9/22/16	
Phenanthrene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Phenol	9.4 U	9.4	1	09/26/16 13:55	9/22/16	
Pyrene	9.4 U	9.4	1	09/26/16 13:55	9/22/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	97	35 - 141	09/26/16 13:55	
2-Fluorobiphenyl	73	31 - 118	09/26/16 13:55	
2-Fluorophenol	39	10 - 105	09/26/16 13:55	
Nitrobenzene-d5	77	31 - 110	09/26/16 13:55	
Phenol-d6	27	10 - 107	09/26/16 13:55	
p-Terphenyl-d14	100	30 - 133	09/26/16 13:55	

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:45
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12S	**Units:**	ug/L
Lab Code:	R1609943-011	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
1,2-Dichlorobenzene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
1,3-Dichlorobenzene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
1,4-Dichlorobenzene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
2,4,5-Trichlorophenol	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
2,4,6-Trichlorophenol	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
2,4-Dichlorophenol	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
2,4-Dimethylphenol	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
2,4-Dinitrophenol	47 U	47	1	09/26/16 14:23	9/22/16	
2,4-Dinitrotoluene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
2,6-Dinitrotoluene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
2-Chloronaphthalene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
2-Chlorophenol	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
2-Methylnaphthalene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
2-Methylphenol	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
2-Nitroaniline	47 U	47	1	09/26/16 14:23	9/22/16	
2-Nitrophenol	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
3,3'-Dichlorobenzidine	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
3- and 4-Methylphenol Coelution	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
3-Nitroaniline	47 U	47	1	09/26/16 14:23	9/22/16	
4,6-Dinitro-2-methylphenol	47 U	47	1	09/26/16 14:23	9/22/16	
4-Bromophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
4-Chloro-3-methylphenol	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
4-Chloroaniline	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
4-Chlorophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
4-Nitroaniline	47 U	47	1	09/26/16 14:23	9/22/16	
4-Nitrophenol	47 U	47	1	09/26/16 14:23	9/22/16	
Acenaphthene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Acenaphthylene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Anthracene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Benz(a)anthracene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Benzo(a)pyrene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Benzo(b)fluoranthene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Benzo(g,h,i)perylene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Benzo(k)fluoranthene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Benzyl Alcohol	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Bis(2-chloroethoxy)methane	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Bis(2-chloroethyl) Ether	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Bis(2-ethylhexyl) Phthalate	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Butyl Benzyl Phthalate	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Carbazole	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Chrysene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:45
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12S	**Units:**	ug/L
Lab Code:	R1609943-011	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Di-n-octyl Phthalate	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Dibenz(a,h)anthracene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Dibenzofuran	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Diethyl Phthalate	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Dimethyl Phthalate	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Fluoranthene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Fluorene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Hexachlorobenzene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Hexachlorobutadiene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Hexachlorocyclopentadiene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Hexachloroethane	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Indeno(1,2,3-cd)pyrene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Isophorone	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
N-Nitrosodi-n-propylamine	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
N-Nitrosodimethylamine	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
N-Nitrosodiphenylamine	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Naphthalene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Nitrobenzene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Pentachlorophenol (PCP)	47 U	47	1	09/26/16 14:23	9/22/16	
Phenanthrene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Phenol	9.4 U	9.4	1	09/26/16 14:23	9/22/16	
Pyrene	9.4 U	9.4	1	09/26/16 14:23	9/22/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	97	35 - 141	09/26/16 14:23	
2-Fluorobiphenyl	74	31 - 118	09/26/16 14:23	
2-Fluorophenol	37	10 - 105	09/26/16 14:23	
Nitrobenzene-d5	74	31 - 110	09/26/16 14:23	
Phenol-d6	26	10 - 107	09/26/16 14:23	
p-Terphenyl-d14	84	30 - 133	09/26/16 14:23	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12M	**Units:**	ug/L
Lab Code:	R1609943-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
1,2-Dichlorobenzene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
1,3-Dichlorobenzene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
1,4-Dichlorobenzene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
2,4,5-Trichlorophenol	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
2,4,6-Trichlorophenol	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
2,4-Dichlorophenol	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
2,4-Dimethylphenol	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
2,4-Dinitrophenol	47 U	47	1	09/26/16 14:51	9/22/16	
2,4-Dinitrotoluene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
2,6-Dinitrotoluene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
2-Chloronaphthalene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
2-Chlorophenol	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
2-Methylnaphthalene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
2-Methylphenol	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
2-Nitroaniline	47 U	47	1	09/26/16 14:51	9/22/16	
2-Nitrophenol	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
3,3'-Dichlorobenzidine	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
3- and 4-Methylphenol Coelution	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
3-Nitroaniline	47 U	47	1	09/26/16 14:51	9/22/16	
4,6-Dinitro-2-methylphenol	47 U	47	1	09/26/16 14:51	9/22/16	
4-Bromophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
4-Chloro-3-methylphenol	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
4-Chloroaniline	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
4-Chlorophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
4-Nitroaniline	47 U	47	1	09/26/16 14:51	9/22/16	
4-Nitrophenol	47 U	47	1	09/26/16 14:51	9/22/16	
Acenaphthene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Acenaphthylene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Anthracene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Benz(a)anthracene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Benzo(a)pyrene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Benzo(b)fluoranthene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Benzo(g,h,i)perylene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Benzo(k)fluoranthene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Benzyl Alcohol	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Bis(2-chloroethoxy)methane	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Bis(2-chloroethyl) Ether	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Bis(2-ethylhexyl) Phthalate	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Butyl Benzyl Phthalate	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Carbazole	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Chrysene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12M	**Units:**	ug/L
Lab Code:	R1609943-013	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Di-n-octyl Phthalate	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Dibenz(a,h)anthracene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Dibenzofuran	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Diethyl Phthalate	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Dimethyl Phthalate	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Fluoranthene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Fluorene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Hexachlorobenzene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Hexachlorobutadiene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Hexachlorocyclopentadiene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Hexachloroethane	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Indeno(1,2,3-cd)pyrene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Isophorone	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
N-Nitrosodi-n-propylamine	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
N-Nitrosodimethylamine	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
N-Nitrosodiphenylamine	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Naphthalene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Nitrobenzene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Pentachlorophenol (PCP)	47 U	47	1	09/26/16 14:51	9/22/16	
Phenanthrene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Phenol	9.4 U	9.4	1	09/26/16 14:51	9/22/16	
Pyrene	9.4 U	9.4	1	09/26/16 14:51	9/22/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	98	35 - 141	09/26/16 14:51	
2-Fluorobiphenyl	75	31 - 118	09/26/16 14:51	
2-Fluorophenol	37	10 - 105	09/26/16 14:51	
Nitrobenzene-d5	74	31 - 110	09/26/16 14:51	
Phenol-d6	25	10 - 107	09/26/16 14:51	
p-Terphenyl-d14	102	30 - 133	09/26/16 14:51	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12D	**Units:**	ug/L
Lab Code:	R1609943-015	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
1,2-Dichlorobenzene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
1,3-Dichlorobenzene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
1,4-Dichlorobenzene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
2,4,5-Trichlorophenol	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
2,4,6-Trichlorophenol	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
2,4-Dichlorophenol	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
2,4-Dimethylphenol	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
2,4-Dinitrophenol	47 U	47	1	09/26/16 15:19	9/22/16	
2,4-Dinitrotoluene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
2,6-Dinitrotoluene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
2-Chloronaphthalene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
2-Chlorophenol	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
2-Methylnaphthalene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
2-Methylphenol	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
2-Nitroaniline	47 U	47	1	09/26/16 15:19	9/22/16	
2-Nitrophenol	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
3,3'-Dichlorobenzidine	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
3- and 4-Methylphenol Coelution	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
3-Nitroaniline	47 U	47	1	09/26/16 15:19	9/22/16	
4,6-Dinitro-2-methylphenol	47 U	47	1	09/26/16 15:19	9/22/16	
4-Bromophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
4-Chloro-3-methylphenol	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
4-Chloroaniline	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
4-Chlorophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
4-Nitroaniline	47 U	47	1	09/26/16 15:19	9/22/16	
4-Nitrophenol	47 U	47	1	09/26/16 15:19	9/22/16	
Acenaphthene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Acenaphthylene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Anthracene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Benz(a)anthracene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Benzo(a)pyrene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Benzo(b)fluoranthene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Benzo(g,h,i)perylene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Benzo(k)fluoranthene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Benzyl Alcohol	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Bis(2-chloroethoxy)methane	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Bis(2-chloroethyl) Ether	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Bis(2-ethylhexyl) Phthalate	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Butyl Benzyl Phthalate	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Carbazole	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Chrysene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12D	**Units:**	ug/L
Lab Code:	R1609943-015	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Di-n-octyl Phthalate	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Dibenz(a,h)anthracene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Dibenzofuran	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Diethyl Phthalate	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Dimethyl Phthalate	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Fluoranthene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Fluorene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Hexachlorobenzene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Hexachlorobutadiene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Hexachlorocyclopentadiene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Hexachloroethane	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Indeno(1,2,3-cd)pyrene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Isophorone	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
N-Nitrosodi-n-propylamine	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
N-Nitrosodimethylamine	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
N-Nitrosodiphenylamine	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Naphthalene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Nitrobenzene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Pentachlorophenol (PCP)	47 U	47	1	09/26/16 15:19	9/22/16	
Phenanthrene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Phenol	9.4 U	9.4	1	09/26/16 15:19	9/22/16	
Pyrene	9.4 U	9.4	1	09/26/16 15:19	9/22/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	92	35 - 141	09/26/16 15:19	
2-Fluorobiphenyl	70	31 - 118	09/26/16 15:19	
2-Fluorophenol	35	10 - 105	09/26/16 15:19	
Nitrobenzene-d5	70	31 - 110	09/26/16 15:19	
Phenol-d6	24	10 - 107	09/26/16 15:19	
p-Terphenyl-d14	93	30 - 133	09/26/16 15:19	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:45
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-13S	**Units:**	ug/L
Lab Code:	R1609943-017	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
1,2-Dichlorobenzene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
1,3-Dichlorobenzene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
1,4-Dichlorobenzene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
2,4,5-Trichlorophenol	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
2,4,6-Trichlorophenol	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
2,4-Dichlorophenol	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
2,4-Dimethylphenol	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
2,4-Dinitrophenol	47 U	47	1	09/26/16 15:46	9/22/16	
2,4-Dinitrotoluene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
2,6-Dinitrotoluene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
2-Chloronaphthalene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
2-Chlorophenol	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
2-Methylnaphthalene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
2-Methylphenol	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
2-Nitroaniline	47 U	47	1	09/26/16 15:46	9/22/16	
2-Nitrophenol	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
3,3'-Dichlorobenzidine	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
3- and 4-Methylphenol Coelution	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
3-Nitroaniline	47 U	47	1	09/26/16 15:46	9/22/16	
4,6-Dinitro-2-methylphenol	47 U	47	1	09/26/16 15:46	9/22/16	
4-Bromophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
4-Chloro-3-methylphenol	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
4-Chloroaniline	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
4-Chlorophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
4-Nitroaniline	47 U	47	1	09/26/16 15:46	9/22/16	
4-Nitrophenol	47 U	47	1	09/26/16 15:46	9/22/16	
Acenaphthene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Acenaphthylene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Anthracene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Benz(a)anthracene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Benzo(a)pyrene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Benzo(b)fluoranthene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Benzo(g,h,i)perylene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Benzo(k)fluoranthene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Benzyl Alcohol	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Bis(2-chloroethoxy)methane	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Bis(2-chloroethyl) Ether	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Bis(2-ethylhexyl) Phthalate	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Butyl Benzyl Phthalate	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Carbazole	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Chrysene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:45
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-13S	**Units:**	ug/L
Lab Code:	R1609943-017	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Di-n-octyl Phthalate	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Dibenz(a,h)anthracene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Dibenzofuran	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Diethyl Phthalate	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Dimethyl Phthalate	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Fluoranthene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Fluorene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Hexachlorobenzene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Hexachlorobutadiene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Hexachlorocyclopentadiene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Hexachloroethane	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Indeno(1,2,3-cd)pyrene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Isophorone	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
N-Nitrosodi-n-propylamine	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
N-Nitrosodimethylamine	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
N-Nitrosodiphenylamine	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Naphthalene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Nitrobenzene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Pentachlorophenol (PCP)	47 U	47	1	09/26/16 15:46	9/22/16	
Phenanthrene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Phenol	9.4 U	9.4	1	09/26/16 15:46	9/22/16	
Pyrene	9.4 U	9.4	1	09/26/16 15:46	9/22/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	98	35 - 141	09/26/16 15:46	
2-Fluorobiphenyl	75	31 - 118	09/26/16 15:46	
2-Fluorophenol	38	10 - 105	09/26/16 15:46	
Nitrobenzene-d5	69	31 - 110	09/26/16 15:46	
Phenol-d6	26	10 - 107	09/26/16 15:46	
p-Terphenyl-d14	88	30 - 133	09/26/16 15:46	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 11:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-13M	**Units:**	ug/L
Lab Code:	R1609943-019	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
1,2-Dichlorobenzene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
1,3-Dichlorobenzene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
1,4-Dichlorobenzene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
2,4,5-Trichlorophenol	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
2,4,6-Trichlorophenol	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
2,4-Dichlorophenol	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
2,4-Dimethylphenol	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
2,4-Dinitrophenol	47 U	47	1	09/26/16 16:14	9/22/16	
2,4-Dinitrotoluene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
2,6-Dinitrotoluene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
2-Chloronaphthalene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
2-Chlorophenol	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
2-Methylnaphthalene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
2-Methylphenol	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
2-Nitroaniline	47 U	47	1	09/26/16 16:14	9/22/16	
2-Nitrophenol	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
3,3'-Dichlorobenzidine	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
3- and 4-Methylphenol Coelution	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
3-Nitroaniline	47 U	47	1	09/26/16 16:14	9/22/16	
4,6-Dinitro-2-methylphenol	47 U	47	1	09/26/16 16:14	9/22/16	
4-Bromophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
4-Chloro-3-methylphenol	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
4-Chloroaniline	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
4-Chlorophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
4-Nitroaniline	47 U	47	1	09/26/16 16:14	9/22/16	
4-Nitrophenol	47 U	47	1	09/26/16 16:14	9/22/16	
Acenaphthene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Acenaphthylene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Anthracene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Benz(a)anthracene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Benzo(a)pyrene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Benzo(b)fluoranthene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Benzo(g,h,i)perylene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Benzo(k)fluoranthene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Benzyl Alcohol	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Bis(2-chloroethoxy)methane	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Bis(2-chloroethyl) Ether	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Bis(2-ethylhexyl) Phthalate	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Butyl Benzyl Phthalate	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Carbazole	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Chrysene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 11:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-13M	**Units:**	ug/L
Lab Code:	R1609943-019	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Di-n-octyl Phthalate	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Dibenz(a,h)anthracene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Dibenzofuran	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Diethyl Phthalate	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Dimethyl Phthalate	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Fluoranthene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Fluorene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Hexachlorobenzene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Hexachlorobutadiene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Hexachlorocyclopentadiene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Hexachloroethane	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Indeno(1,2,3-cd)pyrene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Isophorone	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
N-Nitrosodi-n-propylamine	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
N-Nitrosodimethylamine	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
N-Nitrosodiphenylamine	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Naphthalene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Nitrobenzene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Pentachlorophenol (PCP)	47 U	47	1	09/26/16 16:14	9/22/16	
Phenanthrene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Phenol	9.4 U	9.4	1	09/26/16 16:14	9/22/16	
Pyrene	9.4 U	9.4	1	09/26/16 16:14	9/22/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	97	35 - 141	09/26/16 16:14	
2-Fluorobiphenyl	70	31 - 118	09/26/16 16:14	
2-Fluorophenol	36	10 - 105	09/26/16 16:14	
Nitrobenzene-d5	69	31 - 110	09/26/16 16:14	
Phenol-d6	25	10 - 107	09/26/16 16:14	
p-Terphenyl-d14	100	30 - 133	09/26/16 16:14	

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 11:30
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-14S	**Units:**	ug/L
Lab Code:	R1609943-021	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
1,2-Dichlorobenzene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
1,3-Dichlorobenzene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
1,4-Dichlorobenzene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
2,4,5-Trichlorophenol	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
2,4,6-Trichlorophenol	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
2,4-Dichlorophenol	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
2,4-Dimethylphenol	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
2,4-Dinitrophenol	47 U	47	1	09/26/16 16:41	9/22/16	
2,4-Dinitrotoluene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
2,6-Dinitrotoluene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
2-Chloronaphthalene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
2-Chlorophenol	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
2-Methylnaphthalene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
2-Methylphenol	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
2-Nitroaniline	47 U	47	1	09/26/16 16:41	9/22/16	
2-Nitrophenol	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
3,3'-Dichlorobenzidine	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
3- and 4-Methylphenol Coelution	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
3-Nitroaniline	47 U	47	1	09/26/16 16:41	9/22/16	
4,6-Dinitro-2-methylphenol	47 U	47	1	09/26/16 16:41	9/22/16	
4-Bromophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
4-Chloro-3-methylphenol	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
4-Chloroaniline	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
4-Chlorophenyl Phenyl Ether	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
4-Nitroaniline	47 U	47	1	09/26/16 16:41	9/22/16	
4-Nitrophenol	47 U	47	1	09/26/16 16:41	9/22/16	
Acenaphthene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Acenaphthylene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Anthracene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Benz(a)anthracene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Benzo(a)pyrene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Benzo(b)fluoranthene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Benzo(g,h,i)perylene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Benzo(k)fluoranthene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Benzyl Alcohol	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Bis(2-chloroethoxy)methane	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Bis(2-chloroethyl) Ether	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Bis(2-ethylhexyl) Phthalate	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Butyl Benzyl Phthalate	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Carbazole	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Chrysene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 11:30
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-14S	**Units:**	ug/L
Lab Code:	R1609943-021	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Di-n-octyl Phthalate	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Dibenz(a,h)anthracene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Dibenzofuran	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Diethyl Phthalate	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Dimethyl Phthalate	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Fluoranthene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Fluorene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Hexachlorobenzene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Hexachlorobutadiene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Hexachlorocyclopentadiene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Hexachloroethane	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Indeno(1,2,3-cd)pyrene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Isophorone	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
N-Nitrosodi-n-propylamine	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
N-Nitrosodimethylamine	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
N-Nitrosodiphenylamine	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Naphthalene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Nitrobenzene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Pentachlorophenol (PCP)	47 U	47	1	09/26/16 16:41	9/22/16	
Phenanthrene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Phenol	9.4 U	9.4	1	09/26/16 16:41	9/22/16	
Pyrene	9.4 U	9.4	1	09/26/16 16:41	9/22/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	97	35 - 141	09/26/16 16:41	
2-Fluorobiphenyl	73	31 - 118	09/26/16 16:41	
2-Fluorophenol	34	10 - 105	09/26/16 16:41	
Nitrobenzene-d5	70	31 - 110	09/26/16 16:41	
Phenol-d6	25	10 - 107	09/26/16 16:41	
p-Terphenyl-d14	73	30 - 133	09/26/16 16:41	

Metals

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10S Dissolved	**Basis:**	NA
Lab Code:	R1609943-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	10 U	ug/L	10	1	10/03/16 11:01	09/29/16	
Lead, Dissolved	6010C	50 U	ug/L	50	1	10/03/16 11:01	09/29/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10M Dissolved	**Basis:**	NA
Lab Code:	R1609943-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	10 U	ug/L	10	1	10/03/16 11:21	09/29/16	
Lead, Dissolved	6010C	50 U	ug/L	50	1	10/03/16 11:21	09/29/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:30
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10D Dissoved	**Basis:**	NA
Lab Code:	R1609943-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	10 U	ug/L	10	1	10/03/16 11:25	09/29/16	
Lead, Dissolved	6010C	50 U	ug/L	50	1	10/03/16 11:25	09/29/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-11S Dissolved	**Basis:**	NA
Lab Code:	R1609943-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	10 U	ug/L	10	1	10/03/16 11:36	09/29/16	
Lead, Dissolved	6010C	50 U	ug/L	50	1	10/03/16 11:36	09/29/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-11M Dissolved	**Basis:**	NA
Lab Code:	R1609943-010		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	10 U	ug/L	10	1	10/03/16 11:40	09/29/16	
Lead, Dissolved	6010C	50 U	ug/L	50	1	10/03/16 11:40	09/29/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:45
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12S Dissolved	**Basis:**	NA
Lab Code:	R1609943-012		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	10 U	ug/L	10	1	10/03/16 11:44	09/29/16	
Lead, Dissolved	6010C	50 U	ug/L	50	1	10/03/16 11:44	09/29/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12M Dissolved	**Basis:**	NA
Lab Code:	R1609943-014		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	10 U	ug/L	10	1	10/03/16 11:48	09/29/16	
Lead, Dissolved	6010C	50 U	ug/L	50	1	10/03/16 11:48	09/29/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12D Dissolved	**Basis:**	NA
Lab Code:	R1609943-016		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	10 U	ug/L	10	1	10/03/16 11:52	09/29/16	
Lead, Dissolved	6010C	50 U	ug/L	50	1	10/03/16 11:52	09/29/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:45
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-13S Dissoved	**Basis:**	NA
Lab Code:	R1609943-018		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	10 U	ug/L	10	1	10/03/16 11:56	09/29/16	
Lead, Dissolved	6010C	50 U	ug/L	50	1	10/03/16 11:56	09/29/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 11:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-13M Dissolved	**Basis:**	NA
Lab Code:	R1609943-020		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	10 U	ug/L	10	1	10/03/16 12:00	09/29/16	
Lead, Dissolved	6010C	50 U	ug/L	50	1	10/03/16 12:00	09/29/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 11:30
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-14S Dissolved	**Basis:**	NA
Lab Code:	R1609943-022		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	10 U	ug/L	10	1	10/03/16 12:03	09/29/16	
Lead, Dissolved	6010C	50 U	ug/L	50	1	10/03/16 12:03	09/29/16	

General Chemistry

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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www.alsglobal.com

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10S	**Basis:**	NA
Lab Code:	R1609943-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Nonpolar (SGT-HEM)	1664A	4.7 U	mg/L	4.7	1	09/27/16 08:34	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10M	**Basis:**	NA
Lab Code:	R1609943-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Nonpolar (SGT-HEM)	1664A	4.7 U	mg/L	4.7	1	09/27/16 08:34	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 08:30
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-10D	**Basis:**	NA
Lab Code:	R1609943-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Nonpolar (SGT-HEM)	1664A	4.7 U	mg/L	4.7	1	09/27/16 08:34	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-11S	**Basis:**	NA
Lab Code:	R1609943-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Nonpolar (SGT-HEM)	1664A	4.7 U	mg/L	4.7	1	09/27/16 08:34	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-11M	**Basis:**	NA
Lab Code:	R1609943-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Nonpolar (SGT-HEM)	1664A	4.7 U	mg/L	4.7	1	09/27/16 08:34	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 09:45
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12S	**Basis:**	NA
Lab Code:	R1609943-011		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Nonpolar (SGT-HEM)	1664A	4.7 U	mg/L	4.7	1	09/27/16 08:34	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12M	**Basis:**	NA
Lab Code:	R1609943-013		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Nonpolar (SGT-HEM)	1664A	4.8 U	mg/L	4.8	1	09/27/16 08:34	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:15
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-12D	**Basis:**	NA
Lab Code:	R1609943-015		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Nonpolar (SGT-HEM)	1664A	4.7 U	mg/L	4.7	1	09/27/16 08:34	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 10:45
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-13S	**Basis:**	NA
Lab Code:	R1609943-017		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Nonpolar (SGT-HEM)	1664A	4.7 U	mg/L	4.7	1	09/27/16 08:34	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 11:00
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-13M	**Basis:**	NA
Lab Code:	R1609943-019		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Nonpolar (SGT-HEM)	1664A	4.7 U	mg/L	4.7	1	09/27/16 08:34	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16 11:30
Sample Matrix:	Water	**Date Received:**	09/21/16 13:20
Sample Name:	MW-14S	**Basis:**	NA
Lab Code:	R1609943-021		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Nonpolar (SGT-HEM)	1664A	4.7 U	mg/L	4.7	1	09/27/16 08:34	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
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Volatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Unicorn Management Consultants **Service Request:** R1609943
Project: Union Rd/2011-100
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Sample Name	Lab Code	4-Bromofluorobenzene 85 - 122	Toluene-d8 87 - 121	Dibromofluoromethane 89 - 119
MW-10S	R1609943-001	104	111	112
MW-10M	R1609943-003	102	111	112
MW-10D	R1609943-005	105	111	112
MW-11S	R1609943-007	103	112	113
MW-11M	R1609943-009	103	113	111
MW-12S	R1609943-011	105	113	113
MW-12M	R1609943-013	105	112	111
MW-12D	R1609943-015	111	113	114
MW-13S	R1609943-017	110	111	113
MW-13M	R1609943-019	111	113	114
MW-14S	R1609943-021	111	113	113
TB-A	R1609943-023	103	109	110
TB-B	R1609943-024	112	110	114
TB-C	R1609943-025	110	107	113
Lab Control Sample	RQ1611289-03	102	113	111
Method Blank	RQ1611289-04	102	111	111
Lab Control Sample	RQ1611345-03	110	115	114
Method Blank	RQ1611345-04	113	113	114
MW-14S MS	RQ1611345-05	114	114	114
MW-14S DMS	RQ1611345-06	112	114	113

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QA/QC Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	09/21/16
Sample Matrix:	Water	**Date Received:**	09/21/16
		Date Analyzed:	09/23/16
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	MW-14S	**Units:**	ug/L
Lab Code:	R1609943-021	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030C		

		Matrix Spike RQ1611345-05			Duplicate Matrix Spike RQ1611345-06				
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Acetone	10 U	52.3	50.0	105	50.3	50.0	101	29-151	4	30
Benzene	5.0 U	56.5	50.0	113	53.4	50.0	107	76-129	6	30
Bromodichloromethane	5.0 U	56.1	50.0	112	54.6	50.0	109	76-127	3	30
Bromoform	5.0 U	54.0	50.0	108	50.0	50.0	100	58-133	8	30
Bromomethane	5.0 U	55.5	50.0	111	60.2	50.0	120	10-162	8	30
2-Butanone (MEK)	10 U	55.9	50.0	112	53.2	50.0	106	46-141	5	30
Carbon Disulfide	10 U	56.2	50.0	112	57.9	50.0	116	34-162	3	30
Carbon Tetrachloride	5.0 U	60.1	50.0	120	58.5	50.0	117	65-135	3	30
Chlorobenzene	5.0 U	53.9	50.0	108	51.9	50.0	104	76-125	4	30
Chloroethane	5.0 U	64.1	50.0	128	62.5	50.0	125	70-140	2	30
Chloroform	5.0 U	56.1	50.0	112	53.2	50.0	106	75-130	5	30
Chloromethane	5.0 U	66.5	50.0	133	64.4	50.0	129	55-160	3	30
Dibromochloromethane	5.0 U	50.8	50.0	102	48.9	50.0	98	72-128	4	30
1,1-Dichloroethane	5.0 U	59.4	50.0	119	57.1	50.0	114	74-132	4	30
1,2-Dichloroethane	5.0 U	57.9	50.0	116	55.0	50.0	110	68-130	5	30
1,1-Dichloroethene	5.0 U	57.6	50.0	115	53.7	50.0	107	74-139	7	30
cis-1,2-Dichloroethene	5.0 U	52.4	50.0	105	50.6	50.0	101	72-133	4	30
trans-1,2-Dichloroethene	5.0 U	54.5	50.0	109	50.9	50.0	102	77-125	7	30
1,2-Dichloropropane	5.0 U	52.1	50.0	104	51.0	50.0	102	79-124	2	30
cis-1,3-Dichloropropene	5.0 U	50.5	50.0	101	47.4	50.0	95	52-134	6	30
trans-1,3-Dichloropropene	5.0 U	49.8	50.0	100	47.4	50.0	95	50-142	5	30
Ethylbenzene	5.0 U	55.0	50.0	110	54.0	50.0	108	72-134	2	30
2-Hexanone	10 U	56.2	50.0	112	52.7	50.0	105	56-132	6	30
Methylene Chloride	5.0 U	48.3	50.0	97	45.9	50.0	92	75-121	5	30
4-Methyl-2-pentanone (MIBK)	10 U	54.8	50.0	110	52.0	50.0	104	60-141	5	30
Styrene	5.0 U	12.9	50.0	26 *	17.3	50.0	35	34-156	29	30
1,1,2,2-Tetrachloroethane	5.0 U	48.2	50.0	96	45.0	50.0	90	72-122	7	30
Tetrachloroethene	5.0 U	57.1	50.0	114	54.2	50.0	108	67-137	5	30
Toluene	5.0 U	56.5	50.0	113	53.3	50.0	107	79-125	6	30
1,1,1-Trichloroethane	5.0 U	66.1	50.0	132 *	64.2	50.0	128 *	74-127	3	30
1,1,2-Trichloroethane	5.0 U	51.3	50.0	103	47.2	50.0	94	79-119	8	30
Trichloroethene	5.0 U	55.3	50.0	111	53.1	50.0	106	62-142	4	30
Vinyl Chloride	5.0 U	76.7	50.0	153	72.7	50.0	145	60-157	5	30
o-Xylene	5.0 U	55.2	50.0	110	52.2	50.0	104	68-134	5	30
m,p-Xylenes	5.0 U	107	100	107	104	100	104	68-138	3	30

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

Results flagged with a pound (#) indicate the control criteria is not applicable.

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

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611289-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/22/16 14:14	
Benzene	5.0	U	5.0	1	09/22/16 14:14	
Bromodichloromethane	5.0	U	5.0	1	09/22/16 14:14	
Bromoform	5.0	U	5.0	1	09/22/16 14:14	
Bromomethane	5.0	U	5.0	1	09/22/16 14:14	
2-Butanone (MEK)	10	U	10	1	09/22/16 14:14	
Carbon Disulfide	10	U	10	1	09/22/16 14:14	
Carbon Tetrachloride	5.0	U	5.0	1	09/22/16 14:14	
Chlorobenzene	5.0	U	5.0	1	09/22/16 14:14	
Chloroethane	5.0	U	5.0	1	09/22/16 14:14	
Chloroform	5.0	U	5.0	1	09/22/16 14:14	
Chloromethane	5.0	U	5.0	1	09/22/16 14:14	
Dibromochloromethane	5.0	U	5.0	1	09/22/16 14:14	
1,1-Dichloroethane	5.0	U	5.0	1	09/22/16 14:14	
1,2-Dichloroethane	5.0	U	5.0	1	09/22/16 14:14	
1,1-Dichloroethene	5.0	U	5.0	1	09/22/16 14:14	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 14:14	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/22/16 14:14	
1,2-Dichloropropane	5.0	U	5.0	1	09/22/16 14:14	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 14:14	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/22/16 14:14	
Ethylbenzene	5.0	U	5.0	1	09/22/16 14:14	
2-Hexanone	10	U	10	1	09/22/16 14:14	
Methylene Chloride	5.0	U	5.0	1	09/22/16 14:14	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/22/16 14:14	
Styrene	5.0	U	5.0	1	09/22/16 14:14	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/22/16 14:14	
Tetrachloroethene	5.0	U	5.0	1	09/22/16 14:14	
Toluene	5.0	U	5.0	1	09/22/16 14:14	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/22/16 14:14	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/22/16 14:14	
Trichloroethene	5.0	U	5.0	1	09/22/16 14:14	
Vinyl Chloride	5.0	U	5.0	1	09/22/16 14:14	
o-Xylene	5.0	U	5.0	1	09/22/16 14:14	
m,p-Xylenes	5.0	U	5.0	1	09/22/16 14:14	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611289-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	102	85 - 122	09/22/16 14:14	
Toluene-d8	111	87 - 121	09/22/16 14:14	
Dibromofluoromethane	111	89 - 119	09/22/16 14:14	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611345-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Q
Acetone	10	U	10	1	09/23/16 11:01	
Benzene	5.0	U	5.0	1	09/23/16 11:01	
Bromodichloromethane	5.0	U	5.0	1	09/23/16 11:01	
Bromoform	5.0	U	5.0	1	09/23/16 11:01	
Bromomethane	5.0	U	5.0	1	09/23/16 11:01	
2-Butanone (MEK)	10	U	10	1	09/23/16 11:01	
Carbon Disulfide	10	U	10	1	09/23/16 11:01	
Carbon Tetrachloride	5.0	U	5.0	1	09/23/16 11:01	
Chlorobenzene	5.0	U	5.0	1	09/23/16 11:01	
Chloroethane	5.0	U	5.0	1	09/23/16 11:01	
Chloroform	5.0	U	5.0	1	09/23/16 11:01	
Chloromethane	5.0	U	5.0	1	09/23/16 11:01	
Dibromochloromethane	5.0	U	5.0	1	09/23/16 11:01	
1,1-Dichloroethane	5.0	U	5.0	1	09/23/16 11:01	
1,2-Dichloroethane	5.0	U	5.0	1	09/23/16 11:01	
1,1-Dichloroethene	5.0	U	5.0	1	09/23/16 11:01	
cis-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 11:01	
trans-1,2-Dichloroethene	5.0	U	5.0	1	09/23/16 11:01	
1,2-Dichloropropane	5.0	U	5.0	1	09/23/16 11:01	
cis-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 11:01	
trans-1,3-Dichloropropene	5.0	U	5.0	1	09/23/16 11:01	
Ethylbenzene	5.0	U	5.0	1	09/23/16 11:01	
2-Hexanone	10	U	10	1	09/23/16 11:01	
Methylene Chloride	5.0	U	5.0	1	09/23/16 11:01	
4-Methyl-2-pentanone (MIBK)	10	U	10	1	09/23/16 11:01	
Styrene	5.0	U	5.0	1	09/23/16 11:01	
1,1,2,2-Tetrachloroethane	5.0	U	5.0	1	09/23/16 11:01	
Tetrachloroethene	5.0	U	5.0	1	09/23/16 11:01	
Toluene	5.0	U	5.0	1	09/23/16 11:01	
1,1,1-Trichloroethane	5.0	U	5.0	1	09/23/16 11:01	
1,1,2-Trichloroethane	5.0	U	5.0	1	09/23/16 11:01	
Trichloroethene	5.0	U	5.0	1	09/23/16 11:01	
Vinyl Chloride	5.0	U	5.0	1	09/23/16 11:01	
o-Xylene	5.0	U	5.0	1	09/23/16 11:01	
m,p-Xylenes	5.0	U	5.0	1	09/23/16 11:01	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611345-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	113	85 - 122	09/23/16 11:01	
Toluene-d8	113	87 - 121	09/23/16 11:01	
Dibromofluoromethane	114	89 - 119	09/23/16 11:01	

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

Service Request: R1609943
Date Analyzed: 09/22/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611289-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Acetone	8260C	16.5	20.0	83	40-161
Benzene	8260C	21.6	20.0	108	76-118
Bromodichloromethane	8260C	19.8	20.0	99	78-126
Bromoform	8260C	22.3	20.0	111	71-136
Bromomethane	8260C	22.5	20.0	112	42-166
2-Butanone (MEK)	8260C	16.9	20.0	84	61-137
Carbon Disulfide	8260C	21.3	20.0	106	65-127
Carbon Tetrachloride	8260C	18.7	20.0	93	68-125
Chlorobenzene	8260C	21.7	20.0	109	80-121
Chloroethane	8260C	19.3	20.0	97	70-127
Chloroform	8260C	19.5	20.0	98	76-120
Chloromethane	8260C	22.6	20.0	113	69-145
Dibromochloromethane	8260C	18.7	20.0	93	77-128
1,1-Dichloroethane	8260C	20.8	20.0	104	78-117
1,2-Dichloroethane	8260C	18.6	20.0	93	71-127
1,1-Dichloroethene	8260C	21.2	20.0	106	74-135
cis-1,2-Dichloroethene	8260C	21.6	20.0	108	80-121
trans-1,2-Dichloroethene	8260C	21.2	20.0	106	80-120
1,2-Dichloropropane	8260C	21.2	20.0	106	80-119
cis-1,3-Dichloropropene	8260C	19.6	20.0	98	74-126
trans-1,3-Dichloropropene	8260C	19.2	20.0	96	67-135
Ethylbenzene	8260C	21.8	20.0	109	76-120
2-Hexanone	8260C	16.6	20.0	83	63-124
Methylene Chloride	8260C	21.5	20.0	108	73-122
4-Methyl-2-pentanone (MIBK)	8260C	17.0	20.0	85	66-124
Styrene	8260C	23.1	20.0	115	80-124
1,1,2,2-Tetrachloroethane	8260C	19.9	20.0	99	78-122
Tetrachloroethene	8260C	22.5	20.0	113	78-124
Toluene	8260C	22.2	20.0	111	77-120
1,1,1-Trichloroethane	8260C	19.2	20.0	96	74-120
1,1,2-Trichloroethane	8260C	20.2	20.0	101	82-118
Trichloroethene	8260C	21.9	20.0	109	78-123
Vinyl Chloride	8260C	21.3	20.0	106	69-133

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

Service Request: R1609943
Date Analyzed: 09/22/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611289-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
o-Xylene	8260C	22.5	20.0	113	80-120
m,p-Xylenes	8260C	45.9	40.0	115	78-123

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

Service Request: R1609943
Date Analyzed: 09/23/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611345-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Acetone	8260C	20.3	20.0	102	40-161
Benzene	8260C	22.0	20.0	110	76-118
Bromodichloromethane	8260C	22.7	20.0	113	78-126
Bromoform	8260C	23.4	20.0	117	71-136
Bromomethane	8260C	26.0	20.0	130	42-166
2-Butanone (MEK)	8260C	20.9	20.0	105	61-137
Carbon Disulfide	8260C	23.3	20.0	117	65-127
Carbon Tetrachloride	8260C	21.8	20.0	109	68-125
Chlorobenzene	8260C	21.7	20.0	109	80-121
Chloroethane	8260C	25.0	20.0	125	70-127
Chloroform	8260C	21.4	20.0	107	76-120
Chloromethane	8260C	23.9	20.0	119	69-145
Dibromochloromethane	8260C	20.9	20.0	105	77-128
1,1-Dichloroethane	8260C	22.5	20.0	112	78-117
1,2-Dichloroethane	8260C	23.9	20.0	120	71-127
1,1-Dichloroethene	8260C	20.6	20.0	103	74-135
cis-1,2-Dichloroethene	8260C	20.9	20.0	105	80-121
trans-1,2-Dichloroethene	8260C	20.5	20.0	103	80-120
1,2-Dichloropropane	8260C	21.4	20.0	107	80-119
cis-1,3-Dichloropropene	8260C	19.9	20.0	100	74-126
trans-1,3-Dichloropropene	8260C	21.2	20.0	106	67-135
Ethylbenzene	8260C	21.0	20.0	105	76-120
2-Hexanone	8260C	19.8	20.0	99	63-124
Methylene Chloride	8260C	19.5	20.0	97	73-122
4-Methyl-2-pentanone (MIBK)	8260C	20.4	20.0	102	66-124
Styrene	8260C	22.7	20.0	114	80-124
1,1,2,2-Tetrachloroethane	8260C	19.5	20.0	97	78-122
Tetrachloroethene	8260C	22.0	20.0	110	78-124
Toluene	8260C	21.9	20.0	109	77-120
1,1,1-Trichloroethane	8260C	23.7	20.0	119	74-120
1,1,2-Trichloroethane	8260C	20.6	20.0	103	82-118
Trichloroethene	8260C	20.2	20.0	101	78-123
Vinyl Chloride	8260C	27.6	20.0	138 *	69-133

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

Service Request: R1609943
Date Analyzed: 09/23/16

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1611345-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
o-Xylene	8260C	22.1	20.0	110	80-120
m,p-Xylenes	8260C	45.6	40.0	114	78-123

Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Unicorn Management Consultants **Service Request:** R1609943
Project: Union Rd/2011-100
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3510C

Sample Name	Lab Code	2,4,6-Tribromophenol 35 - 141	2-Fluorobiphenyl 31 - 118	2-Fluorophenol 10 - 105
MW-10S	R1609943-001	99	71	36
MW-10M	R1609943-003	95	72	37
MW-10D	R1609943-005	98	76	36
MW-11S	R1609943-007	92	73	35
MW-11M	R1609943-009	97	73	39
MW-12S	R1609943-011	97	74	37
MW-12M	R1609943-013	98	75	37
MW-12D	R1609943-015	92	70	35
MW-13S	R1609943-017	98	75	38
MW-13M	R1609943-019	97	70	36
MW-14S	R1609943-021	97	73	34
Method Blank	RQ1611235-01	94	69	38
Lab Control Sample	RQ1611235-02	98	82	41
Duplicate Lab Control Sample	RQ1611235-03	98	82	41

Client: Unicorn Management Consultants **Service Request:** R1609943
Project: Union Rd/2011-100
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3510C

Sample Name	Lab Code	Nitrobenzene-d5 31 - 110	Phenol-d6 10 - 107	p-Terphenyl-d14 30 - 133
MW-10S	R1609943-001	71	25	85
MW-10M	R1609943-003	74	26	85
MW-10D	R1609943-005	76	27	96
MW-11S	R1609943-007	72	26	83
MW-11M	R1609943-009	77	27	100
MW-12S	R1609943-011	74	26	84
MW-12M	R1609943-013	74	25	102
MW-12D	R1609943-015	70	24	93
MW-13S	R1609943-017	69	26	88
MW-13M	R1609943-019	69	25	100
MW-14S	R1609943-021	70	25	73
Method Blank	RQ1611235-01	76	26	100
Lab Control Sample	RQ1611235-02	82	30	96
Duplicate Lab Control Sample	RQ1611235-03	85	30	94

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611235-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4-Trichlorobenzene	10 U	10	1	09/26/16 09:16	9/22/16	
1,2-Dichlorobenzene	10 U	10	1	09/26/16 09:16	9/22/16	
1,3-Dichlorobenzene	10 U	10	1	09/26/16 09:16	9/22/16	
1,4-Dichlorobenzene	10 U	10	1	09/26/16 09:16	9/22/16	
2,4,5-Trichlorophenol	10 U	10	1	09/26/16 09:16	9/22/16	
2,4,6-Trichlorophenol	10 U	10	1	09/26/16 09:16	9/22/16	
2,4-Dichlorophenol	10 U	10	1	09/26/16 09:16	9/22/16	
2,4-Dimethylphenol	10 U	10	1	09/26/16 09:16	9/22/16	
2,4-Dinitrophenol	50 U	50	1	09/26/16 09:16	9/22/16	
2,4-Dinitrotoluene	10 U	10	1	09/26/16 09:16	9/22/16	
2,6-Dinitrotoluene	10 U	10	1	09/26/16 09:16	9/22/16	
2-Chloronaphthalene	10 U	10	1	09/26/16 09:16	9/22/16	
2-Chlorophenol	10 U	10	1	09/26/16 09:16	9/22/16	
2-Methylnaphthalene	10 U	10	1	09/26/16 09:16	9/22/16	
2-Methylphenol	10 U	10	1	09/26/16 09:16	9/22/16	
2-Nitroaniline	50 U	50	1	09/26/16 09:16	9/22/16	
2-Nitrophenol	10 U	10	1	09/26/16 09:16	9/22/16	
3,3'-Dichlorobenzidine	10 U	10	1	09/26/16 09:16	9/22/16	
3- and 4-Methylphenol Coelution	10 U	10	1	09/26/16 09:16	9/22/16	
3-Nitroaniline	50 U	50	1	09/26/16 09:16	9/22/16	
4,6-Dinitro-2-methylphenol	50 U	50	1	09/26/16 09:16	9/22/16	
4-Bromophenyl Phenyl Ether	10 U	10	1	09/26/16 09:16	9/22/16	
4-Chloro-3-methylphenol	10 U	10	1	09/26/16 09:16	9/22/16	
4-Chloroaniline	10 U	10	1	09/26/16 09:16	9/22/16	
4-Chlorophenyl Phenyl Ether	10 U	10	1	09/26/16 09:16	9/22/16	
4-Nitroaniline	50 U	50	1	09/26/16 09:16	9/22/16	
4-Nitrophenol	50 U	50	1	09/26/16 09:16	9/22/16	
Acenaphthene	10 U	10	1	09/26/16 09:16	9/22/16	
Acenaphthylene	10 U	10	1	09/26/16 09:16	9/22/16	
Anthracene	10 U	10	1	09/26/16 09:16	9/22/16	
Benz(a)anthracene	10 U	10	1	09/26/16 09:16	9/22/16	
Benzo(a)pyrene	10 U	10	1	09/26/16 09:16	9/22/16	
Benzo(b)fluoranthene	10 U	10	1	09/26/16 09:16	9/22/16	
Benzo(g,h,i)perylene	10 U	10	1	09/26/16 09:16	9/22/16	
Benzo(k)fluoranthene	10 U	10	1	09/26/16 09:16	9/22/16	
Benzyl Alcohol	10 U	10	1	09/26/16 09:16	9/22/16	
2,2'-Oxybis(1-chloropropane)	10 U	10	1	09/26/16 09:16	9/22/16	
Bis(2-chloroethoxy)methane	10 U	10	1	09/26/16 09:16	9/22/16	
Bis(2-chloroethyl) Ether	10 U	10	1	09/26/16 09:16	9/22/16	
Bis(2-ethylhexyl) Phthalate	10 U	10	1	09/26/16 09:16	9/22/16	
Butyl Benzyl Phthalate	10 U	10	1	09/26/16 09:16	9/22/16	
Carbazole	10 U	10	1	09/26/16 09:16	9/22/16	
Chrysene	10 U	10	1	09/26/16 09:16	9/22/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1611235-01	**Basis:**	NA

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3510C

Analyte Name	Result		MRL	Dil.	Date Analyzed	Date Extracted	Q
Di-n-butyl Phthalate	10	U	10	1	09/26/16 09:16	9/22/16	
Di-n-octyl Phthalate	10	U	10	1	09/26/16 09:16	9/22/16	
Dibenz(a,h)anthracene	10	U	10	1	09/26/16 09:16	9/22/16	
Dibenzofuran	10	U	10	1	09/26/16 09:16	9/22/16	
Diethyl Phthalate	10	U	10	1	09/26/16 09:16	9/22/16	
Dimethyl Phthalate	10	U	10	1	09/26/16 09:16	9/22/16	
Fluoranthene	10	U	10	1	09/26/16 09:16	9/22/16	
Fluorene	10	U	10	1	09/26/16 09:16	9/22/16	
Hexachlorobenzene	10	U	10	1	09/26/16 09:16	9/22/16	
Hexachlorobutadiene	10	U	10	1	09/26/16 09:16	9/22/16	
Hexachlorocyclopentadiene	10	U	10	1	09/26/16 09:16	9/22/16	
Hexachloroethane	10	U	10	1	09/26/16 09:16	9/22/16	
Indeno(1,2,3-cd)pyrene	10	U	10	1	09/26/16 09:16	9/22/16	
Isophorone	10	U	10	1	09/26/16 09:16	9/22/16	
N-Nitrosodi-n-propylamine	10	U	10	1	09/26/16 09:16	9/22/16	
N-Nitrosodimethylamine	10	U	10	1	09/26/16 09:16	9/22/16	
N-Nitrosodiphenylamine	10	U	10	1	09/26/16 09:16	9/22/16	
Naphthalene	10	U	10	1	09/26/16 09:16	9/22/16	
Nitrobenzene	10	U	10	1	09/26/16 09:16	9/22/16	
Pentachlorophenol (PCP)	50	U	50	1	09/26/16 09:16	9/22/16	
Phenanthrene	10	U	10	1	09/26/16 09:16	9/22/16	
Phenol	10	U	10	1	09/26/16 09:16	9/22/16	
Pyrene	10	U	10	1	09/26/16 09:16	9/22/16	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	94	35 - 141	09/26/16 09:16	
2-Fluorobiphenyl	69	31 - 118	09/26/16 09:16	
2-Fluorophenol	38	10 - 105	09/26/16 09:16	
Nitrobenzene-d5	76	31 - 110	09/26/16 09:16	
Phenol-d6	26	10 - 107	09/26/16 09:16	
p-Terphenyl-d14	100	30 - 133	09/26/16 09:16	

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

Service Request: R1609943
Date Analyzed: 09/26/16

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1611235-02			RQ1611235-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4-Trichlorobenzene	8270D	69.7	100	70	73.2	100	73	10-127	4	30
1,2-Dichlorobenzene	8270D	70.7	100	71	70.4	100	70	23-130	1	30
1,3-Dichlorobenzene	8270D	69.1	100	69	69.8	100	70	21-90	1	30
1,4-Dichlorobenzene	8270D	69.7	100	70	71.7	100	72	10-124	3	30
2,4,5-Trichlorophenol	8270D	101	100	101	106	100	106	63-121	5	30
2,4,6-Trichlorophenol	8270D	99.0	100	99	102	100	102	64-116	3	30
2,4-Dichlorophenol	8270D	94.2	100	94	99.8	100	100	52-111	6	30
2,4-Dimethylphenol	8270D	97.2	100	97	104	100	104	44-114	7	30
2,4-Dinitrophenol	8270D	139	100	139	147	100	147	10-160	6	30
2,4-Dinitrotoluene	8270D	101	100	101	104	100	104	62-142	3	30
2,6-Dinitrotoluene	8270D	107	100	107	109	100	109	61-139	2	30
2-Chloronaphthalene	8270D	77.2	100	77	80.6	100	81	53-98	5	30
2-Chlorophenol	8270D	85.0	100	85	84.7	100	85	42-112	<1	30
2-Methylnaphthalene	8270D	77.3	100	77	80.5	100	81	34-102	5	30
2-Methylphenol	8270D	76.5	100	77	76.0	100	76	59-104	1	30
2-Nitroaniline	8270D	99.5	100	100	107	100	107	52-133	7	30
2-Nitrophenol	8270D	98.2	100	98	105	100	105	51-115	7	30
3,3'-Dichlorobenzidine	8270D	94.4	100	94	89.2	100	89	45-122	5	30
3- and 4-Methylphenol Coelution	8270D	63.1	100	63	64.4	100	64	50-111	2	30
3-Nitroaniline	8270D	83.5	100	84	87.4	100	87	48-115	4	30
4,6-Dinitro-2-methylphenol	8270D	123	100	123	123	100	123	35-168	<1	30
4-Bromophenyl Phenyl Ether	8270D	94.3	100	94	98.0	100	98	65-113	4	30
4-Chloro-3-methylphenol	8270D	102	100	102	104	100	104	52-113	2	30
4-Chloroaniline	8270D	88.6	100	89	92.3	100	92	47-104	3	30
4-Chlorophenyl Phenyl Ether	8270D	89.3	100	89	94.3	100	94	61-110	5	30
4-Nitroaniline	8270D	89.5	100	90	87.8	100	88	54-133	2	30
4-Nitrophenol	8270D	31.7 J	100	32	30.3 J	100	30	10-126	6	30
Acenaphthene	8270D	86.3	100	86	88.9	100	89	54-125	3	30
Acenaphthylene	8270D	85.5	100	85	88.3	100	88	60-106	3	30
Anthracene	8270D	107	100	107	109	100	109	55-116	2	30
Benz(a)anthracene	8270D	103	100	103	102	100	102	66-110	<1	30
Benzo(a)pyrene	8270D	107	100	107	109	100	109	44-114	2	30
Benzo(b)fluoranthene	8270D	96.5	100	97	101	100	101	69-117	4	30

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

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

Service Request: R1609943
Date Analyzed: 09/26/16

Duplicate Lab Control Sample Summary
Semivolatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1611235-02			RQ1611235-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzo(g,h,i)perylene	8270D	103	100	103	104	100	104	63-136	<1	30
Benzo(k)fluoranthene	8270D	107	100	107	106	100	106	49-133	<1	30
Benzyl Alcohol	8270D	89.8	100	90	88.8	100	89	31-109	1	30
2,2'-Oxybis(1-chloropropane)	8270D	87.9	100	88	85.7	100	86	47-132	2	30
Bis(2-chloroethoxy)methane	8270D	95.0	100	95	97.6	100	98	55-110	3	30
Bis(2-chloroethyl) Ether	8270D	85.4	100	85	86.5	100	87	56-102	2	30
Bis(2-ethylhexyl) Phthalate	8270D	110	100	110	111	100	111	70-132	<1	30
Butyl Benzyl Phthalate	8270D	104	100	104	104	100	104	41-148	<1	30
Carbazole	8270D	99.6	100	100	100	100	100	61-126	<1	30
Chrysene	8270D	101	100	101	103	100	103	57-118	2	30
Di-n-butyl Phthalate	8270D	120	100	120	121	100	121	57-139	<1	30
Di-n-octyl Phthalate	8270D	116	100	116	117	100	117	70-134	<1	30
Dibenz(a,h)anthracene	8270D	86.6	100	87	86.8	100	87	58-132	<1	30
Dibenzofuran	8270D	85.6	100	86	89.3	100	89	62-105	3	30
Diethyl Phthalate	8270D	107	100	107	108	100	108	65-122	<1	30
Dimethyl Phthalate	8270D	103	100	103	107	100	107	58-119	4	30
Fluoranthene	8270D	108	100	108	110	100	110	66-127	2	30
Fluorene	8270D	91.3	100	91	93.8	100	94	66-110	3	30
Hexachlorobenzene	8270D	104	100	104	107	100	107	68-115	3	30
Hexachlorobutadiene	8270D	77.2	100	77	81.3	100	81	16-95	5	30
Hexachlorocyclopentadiene	8270D	58.6	100	59	62.8	100	63	10-99	7	30
Hexachloroethane	8270D	67.3	100	67	70.2	100	70	15-92	4	30
Indeno(1,2,3-cd)pyrene	8270D	106	100	106	109	100	109	65-124	3	30
Isophorone	8270D	98.3	100	98	102	100	102	50-116	4	30
N-Nitrosodi-n-propylamine	8270D	83.7	100	84	84.3	100	84	49-115	<1	30
N-Nitrosodimethylamine	8270D	44.6	100	45	45.6	100	46	31-70	2	30
N-Nitrosodiphenylamine	8270D	96.8	100	97	101	100	101	45-123	4	30
Naphthalene	8270D	75.1	100	75	78.7	100	79	36-95	5	30
Nitrobenzene	8270D	96.3	100	96	102	100	102	46-108	6	30
Pentachlorophenol (PCP)	8270D	160 E	100	160 *	162 E	100	162 *	41-154	1	30
Phenanthrene	8270D	101	100	101	106	100	106	58-118	5	30
Phenol	8270D	38.2	100	38	36.7	100	37	10-113	3	30
Pyrene	8270D	106	100	106	102	100	102	69-127	4	30

Metals

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609943-MB1		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	10 U	ug/L	10	1	10/03/16 10:50	09/29/16	
Lead, Dissolved	6010C	50 U	ug/L	50	1	10/03/16 10:50	09/29/16	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609943-MB2		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	10 U	ug/L	10	1	10/03/16 10:54	09/29/16	
Lead, Dissolved	6010C	50 U	ug/L	50	1	10/03/16 10:54	09/29/16	

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QA/QC Report

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

Service Request:R1609943
Date Collected:09/21/16
Date Received:09/21/16
Date Analyzed:10/3/16

Matrix Spike Summary
Inorganic Parameters

Sample Name: MW-10S Dissolved
Lab Code: R1609943-002

Units:ug/L
Basis:NA

Matrix Spike
R1609943-002MS

Analyte Name	Method	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Arsenic, Dissolved	6010C	10 U	42	40	104	75-125
Lead, Dissolved	6010C	50 U	519	500	104	75-125

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

Results flagged with a pound (#) indicate the control criteria is not applicable.

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

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dba ALS Environmental

QA/QC Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project	Union Rd/2011-100	**Date Collected:**	09/21/16
Sample Matrix:	Water	**Date Received:**	09/21/16
		Date Analyzed:	10/03/16

Replicate Sample Summary
Inorganic Parameters

Sample Name:	MW-10S Dissolved	**Units:**	ug/L
Lab Code:	R1609943-002	**Basis:**	NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample R1609943-002DUP Result	Average	RPD	RPD Limit
Arsenic, Dissolved	6010C	10	10 U	10 U	NC	NC	20
Lead, Dissolved	6010C	50	50 U	50 U	NC	NC	20

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

Results flagged with a pound (#) indicate the control criteria is not applicable.

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

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

Service Request: R1609943
Date Analyzed: 10/03/16

Lab Control Sample Summary
Inorganic Parameters

Units:ug/L
Basis:NA

Lab Control Sample
R1609943-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Arsenic, Dissolved	6010C	42	40	106	80-120
Lead, Dissolved	6010C	524	500	105	80-120

General Chemistry

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1609943
Project:	Union Rd/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1609943-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Nonpolar (SGT-HEM)	1664A	5.0 U	mg/L	5.0	1	09/27/16 08:34	

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

Service Request: R1609943
Date Analyzed: 09/27/16

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		R1609943-LCS			R1609943-DLCS					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Oil and Grease, Nonpolar (SGT-HEM)	1664A	37.7	42.7	88	39.5	42.7	93	64-132	5	34

APPENDIX C

EFFLUENT PUMP REPLACEMENT PHOTOGRAPHS


BARNES


BARNES

Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Site Management Periodic Review Report Notice

Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. **915128**

Site Name Union Road Site

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

Reporting Period: December 26, 2015 to December 26, 2016

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

Box 2

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

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

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

Signature of Owner, Remedial Party or Designated Representative

Date

SITE NO. 915128

Box 3

Description of Institutional Controls

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

Box 4

Description of Engineering Controls

Parcel	Engineering Control
114.17-1-2	Cover System Groundwater Treatment System Fencing/Access Control
114.17-1-3.1	Groundwater Treatment System Cover System Fencing/Access Control

Box 5

Periodic Review Report (PRR) Certification Statements

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

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

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

YES	NO
☒	☐

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

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

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

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

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

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

YES	NO
☒	☐

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

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

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. 915128

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

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

I Michael Perrico (print name) at 52 Federal Road, Suite 2C, Danbury CT, (print business address)

am certifying as Remedial Party (Owner or Remedial Party)

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

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

12/4/16
Date

IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

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

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

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

Mich O'Co 12/14/16

Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

Date

BUFFALO
SEWER AUTHORITY

ADMINISTRATIVE OFFICES
1038 CITY HALL
65 NIAGARA SQUARE
BUFFALO, NY 14202-3378
PHONE: (716) 851-4664
FAX: (716) 856-5810

WASTEWATER TREATMENT PLANT
FOOT OF WEST FERRY
90 WEST FERRY STREET
BUFFALO, NY 14213-1799
PHONE: (716) 851-4664
FAX: (716) 883-3789

May 19, 2016

Mr. Michael O'Connor
Unicorn Mgt. Consultants, LLC.
52 Federal Rd, Suite 2C
Danbury, CT. 06810

RE: **B.P.D.E.S. Permit #16-08-E1016**

Dear Mr. O'Connor:

Enclosed is your new EC/BPDES Permit #16-08-E1016. This permit is jointly issued by the BSA & the Erie County Division of Sewerage Management.

This original permit must be maintained at your Unicorn Mgt. facility and must be available for inspection at all times. It is your responsibility to assure continual compliance with the terms and conditions of this permit. Finally, you must apply for renewal at least 6 months before this permit expires.

If you have any further questions, please call Al Alagna at 716-851-4664, ext. 5257.

Very truly yours,
BUFFALO SEWER AUTHORITY

Leslie Sedita

Leslie Sedita
Industrial Waste Administrator

cc: M. Letina
A. Alagna
Laura Surdej (w/enclosure)

RECEIVED
MAY 23 2016
UNICORN MANAGEMENT CONSULTANTS, LLC

AUTHORIZATION TO DISCHARGE UNDER THE ERIE COUNTY/BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT NO. 16-08-E1016
USEPA Category 40 CFR403

In accordance with the provisions of the Federal Water Pollution Control Act, as amended, and the Sewer Regulations of the Buffalo Sewer Authority and the Rules and Regulations for Erie County Sewer Districts authorization is hereby granted to:

AMERICAN PREMIER UNDERWRITERS, INC.

to discharge wastewater from a facility located at:

INACTIVE HAZARDOUS WASTE DISPOSAL SITE # 915128

333 LOSSON ROAD

CHEEKTOWAGA, NEW YORK 14225

to the Erie County Sewer District #1 and the Buffalo Municipal Sewer System.

Issuance of this permit is based upon a permit application filed on **February 4, 2016** and analytical data. This permit is granted in accordance with discharge limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

Effective this 1st day of August 2016

To Expire the 31st day of July 2019

Chief Treatment Plant Supervisor
Erie County Department of Environment & Planning
Division of Sewerage Management

Signed this 9th **day of** May **, 2016**

General Manager, Buffalo Sewer Authority

Signed this 16th **day of** May **, 2016**

PART I: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

During the period beginning the effective date of this Permit and lasting until the expiration date, discharge from the permitted facility outfall(s) (see attached map) shall be limited and monitored **quarterly** by the permittee as specified below.

Sample		Discharge Limitations		Sampling Requirements	
Point	**Parameter**	**Daily Max.**	**M.A.I.D.[1]**	**Period**	**Type**
001	pH	5.0 – 12.0 S.U.	--	1 day	Composite
	T. Suspended Solids[2]	250 mg/L	--	1 day	Composite
	T. Lead	0.83 lbs	65 mg/L	1 day	Composite
	T. Extractable Hydrocarbons	100 mg/L	--	1 day	Composite
	T. Phenols	0.25 lbs	20 mg/L	1 day	Composite
	T. Flow	22 gpm, not to exceed 20,000 gpd	--	1 day	Discharge meter readings

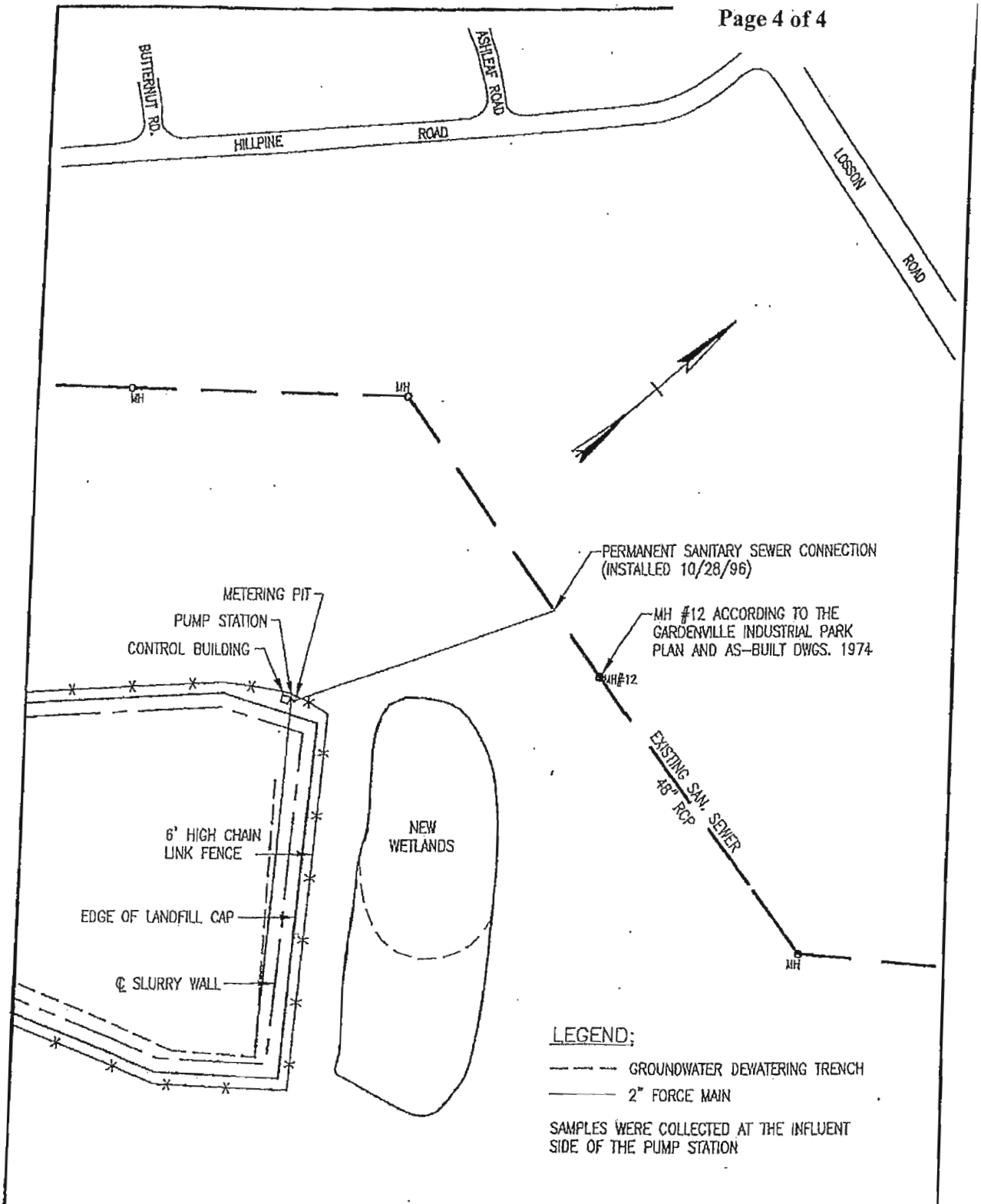
(1) Maximum Allowable Instantaneous Discharge (slug) limit.
(2) Parameter is surchargeable above the stated limit.

PART I: SPECIFIC CONDITIONS

B. DISCHARGE MONITORING REPORTING REQUIREMENTS

During the period beginning the effective date of this permit and lasting until the expiration date, discharge monitoring results shall be summarized and reported quarterly by the permittee on the days specified below:

Sample Point	Parameter	Reporting Requirements	
		Initial Report	**Subsequent Reports**
001	All parameters	December 31, 2016	Every December 31st, March 31st, June 30th and September 30th



REVISION NO.		PROJECT	UNION ROAD SITE TOWN OF CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2046-100 FILENAME 2046100E SCALE 1" =200' DATE 11/20/01 BY AD CKD FIGURE # 1
NO.	DATE	DRAWING	LANDFILL DEWATERING LOCATION		

ERIE COUNTY/BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT
PART II GENERAL CONDITIONS

A. MONITORING AND REPORTING

1. Local Limits

Except as otherwise specified in this permit, the permit holder shall comply with all specific prohibitions, limits on pollutants or pollutant parameters set forth in the Buffalo Sewer Authority Sewer Use Regulations, as amended from time to time, and such prohibitions, limits and parameters shall be deemed pretreatment standards for purposes of the Clean Water Act.

2. Definitions

Definitions of terms contained in this permit are as defined in the Rules and Regulations for Erie County Sewer Districts and the Buffalo Sewer Authority Sewer Use Regulations.

3. Discharge Sampling Analysis

All Wastewater discharge samples and analyses and flow measurements shall be representative of the volume and character of the monitored discharge. Methods employed for flow measurements and sample collections and analyses shall conform to the Buffalo Sewer Authority "Sampling Measurement and Analytical Guidelines Sheet."

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of the permit, the permittee shall record the information as required in the "Sampling Measurement and Analytical Guidelines Sheet."

5. Additional Monitoring by Permittee

If the permittee monitors any pollutants at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in 40 CFR Part 136 the results of such monitoring shall be included in the calculation and reporting of values required under Part I,B. Such increased frequency shall also be indicated.

6. Reporting

All reports prepared in accordance with this Permit shall be submitted to:

Erie County Department of Environment and Planning
Division of Sewerage Management
Erie County Sewer District # 6
260 Lehigh Avenue
Lackawanna, New York 14218
Attention: Laura Surdej
Industrial Wastewater Specialist

All self monitoring reports shall be prepared in accordance with the BSA "Sampling Measurement and Analytical Guidelines Sheet." These reporting requirements shall not relieve the permittee of any other reports which may be required by the N.Y.S.D.E.C. or the U.S.E.P.A.

7. Certification Statement

All self-monitoring reports shall include the following certification statement, signed by the preparer of the report:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the systems, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations".

B. PERMITTEE REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit and with the information contained in the EC/BPDES Permit Application on which basis this permit is granted. In the event of any facility expansions, production increases, process modifications or the installation, modification or repair of any pretreatment equipment which may result in new, different or increased discharges of pollutants, a new

EC/BPDES Permit Application must be submitted prior to any change. Following receipt of an amended application, the BSA and Erie County may modify this permit to specify and limit any pollutants not previously limited. In the event that the proposed change will be covered under an applicable Categorical Standard, a Baseline Monitoring Report must be submitted at least ninety (90) days prior to any discharge.

2. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation shall be retained at this facility for a minimum of three (3) years, or longer if requested by the General Manager and/or the Sewer District Board.

3. Slug Control Plan

Upon written notification by the BSA that a slug control plan is necessary for the permittee, the plan shall be prepared in accordance with the BSA "Sampling Measurement and Analytical Guidelines" sheet. Within 90 days of the BSA notification, the permittee must implement the slug control plan.

4. Notification of Slug, Accidental Discharge or Spill

In the event that a slug, accidental discharge or any spill occurs at the facility for which this permit is issued, it is the responsibility of the permittee to immediately notify the Erie County Sewer District at 716-823-8188 and the B.S.A. Treatment Plant of the quantity and character of such discharge. During normal business hours call 716-851-4664, ext. 5374. After normal business hours call 716-851-4664, ext 600. For all sludge discharges, and when requested by the B.S.A following an accidental discharge or spill, within five (5) days following all such discharges, the permittee shall submit a report describing the character and duration of the discharge, the cause of the discharge, and measures taken or that will be taken to prevent a recurrence of such discharge.

5. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any discharge limitation specified in this permit, the permittee or their assigns must verbally notify the Industrial Waste Section at 716-851-4664 ext. 5374 within twenty-four (24) hours of becoming aware of the violation. The permittee shall provide the Erie County Division of Sewerage Management with the following information, in writing, within five (5) days of becoming aware of such condition:

a. a description of the discharge and cause of noncompliance and;

b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

Additionally, the permittee shall repeat the sampling and analysis and submit these results of the report analysis to the Industrial Waste Section within 30 days after becoming aware of the violation.

6. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the Buffalo and Erie County Sewerage System resulting from noncompliance with any discharge limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

7. Waste Residuals

Solids, sludges, filter backwash or other pollutants removed in the course of treatment or control of wastewaters and/or the treatment of intake waters, shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the Buffalo or Erie County Sewer System.

8. Power Failures

In order to maintain compliance with the discharge limitations and prohibitions of this permit, the permittee shall provide an alternative power source sufficient to operate the wastewater control facilities; or, if such alternative power source is not provided the permittee shall halt, reduce or otherwise control production and/or controlled discharges upon the loss of power to the wastewater control facilities.

9. Treatment Upsets

a. Any industrial user which experiences an upset in operation that places it in a temporary state of noncompliance, which is not the result of operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation, shall inform the Industrial Waste Section immediately upon becoming aware of the upset. Where such information is given verbally, a written report shall be filed by the user within five (5) days. The report shall contain:

(I) A description of the upset, its cause(s) and impact on the discharger's compliance status;

(ii) The duration of noncompliance, including exact dates and times of noncompliance, and if the noncompliance is continuing, the time by which compliance is reasonably expected to be restored; and

(iii) All steps taken or planned to reduce, eliminate, and prevent recurrence of such an upset.

b. An industrial user which complies with the notification provisions of this Section in a timely manner shall have an affirmative defense to any enforcement action brought by the Industrial Waste Section and/or Erie County for any noncompliance of the limits in this permit, which arises out of violations attributable to and alleged to have occurred during the period of the documented and verified upset.

10. Treatment Bypasses

a. A bypass of the treatment system is prohibited unless the following conditions are met:

(i) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; or

(ii) There was no feasible alternative to the bypass, including the use of auxiliary treatment or retention of the wastewater; and

(iii) The industrial user properly notified the Industrial Waste Section as described in paragraph b. below.

b. Industrial users must provide immediate notice to the Industrial Waste Section upon delivery of an unanticipated bypass. If necessary, the Industrial Waste Section may require the industrial user to submit a written report explaining the cause(s), nature, and duration of the bypass, and the steps being taken to prevent its recurrence.

c. An industrial user may allow a bypass to occur which does not cause pretreatment standards or requirements to be violated, but only if it is for essential maintenance to ensure efficient operation of the treatment system. Industrial users anticipating a bypass must submit notice to the Industrial Waste Section at least ten (10) days in advance. The Industrial Waste Section may only approve the anticipated bypass if the circumstances satisfy those set forth in paragraph a. above.

C. PERMITTEE RESPONSIBILITIES

1. Permit Availability

The originally signed permit must be available upon request at all times for review at the address stated on the first page of this permit.

2. Inspections

The permittee shall allow the representatives of the Buffalo Sewer Authority or Erie County Sewer District upon the presentation of credentials and during normal working hours or at any other reasonable times, to have access to and copy any records required in this permit; and to sample any discharge of pollutants.

3. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities for which this permit has been issued the permit shall become null and void. The succeeding owner shall submit a completed Erie County/Buffalo Sewer Authority permit application prior to discharge to the sewer system.

D. PERMITTEE LIABILITIES

1. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to the following:

a. Violation of any terms or conditions of this permit,

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts,

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

2. Imminent Danger

In the event there exists an imminent danger to health or property, the permitter reserves the right to take immediate action to halt the permitted discharge to the sewerage works.

3. Civil and Criminal Liability

Nothing in this permit shall relieve the permittee from any requirements, liabilities, or penalties under provisions of the "Sewer Regulations for Erie County Sewer Districts," the "Sewer Regulations of the Buffalo Sewer Authority" or any Federal, State and/or local laws or regulations.

E. NATIONAL PRETREATMENT STANDARDS

If a pretreatment standard or prohibition (including any Schedule of Compliance specified in such pretreatment standard or prohibition) is established under Section 307 (b) of the Act for a pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with such pretreatment standard or prohibition.

F. PLANT CLOSURE

In the event of plant closure, the permittee is required to notify the Industrial Waste Section in writing as soon as an anticipated closure date is determined, but in no case later than five (5) days of the actual closure.

G. CONFIDENTIALITY

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Buffalo Sewer Authority or Erie County Department of Environment and Planning, Division of Sewerage Management. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

H. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Revised March 18, 2014 by LS