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Unicorn Management Consultants, LLC

ANNUAL GROUNDWATER MONITORING REPORT
CLOSURE YEAR 21 (2017)

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

Prepared for:

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

Prepared by:

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

January 10, 2018

Document Authorization Form

Annual Groundwater Monitoring Report
Closure Year 21 (2017)

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

Prepared for:

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

Prepared by:

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

January 10, 2018

AUTHORIZATIONS:

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

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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.

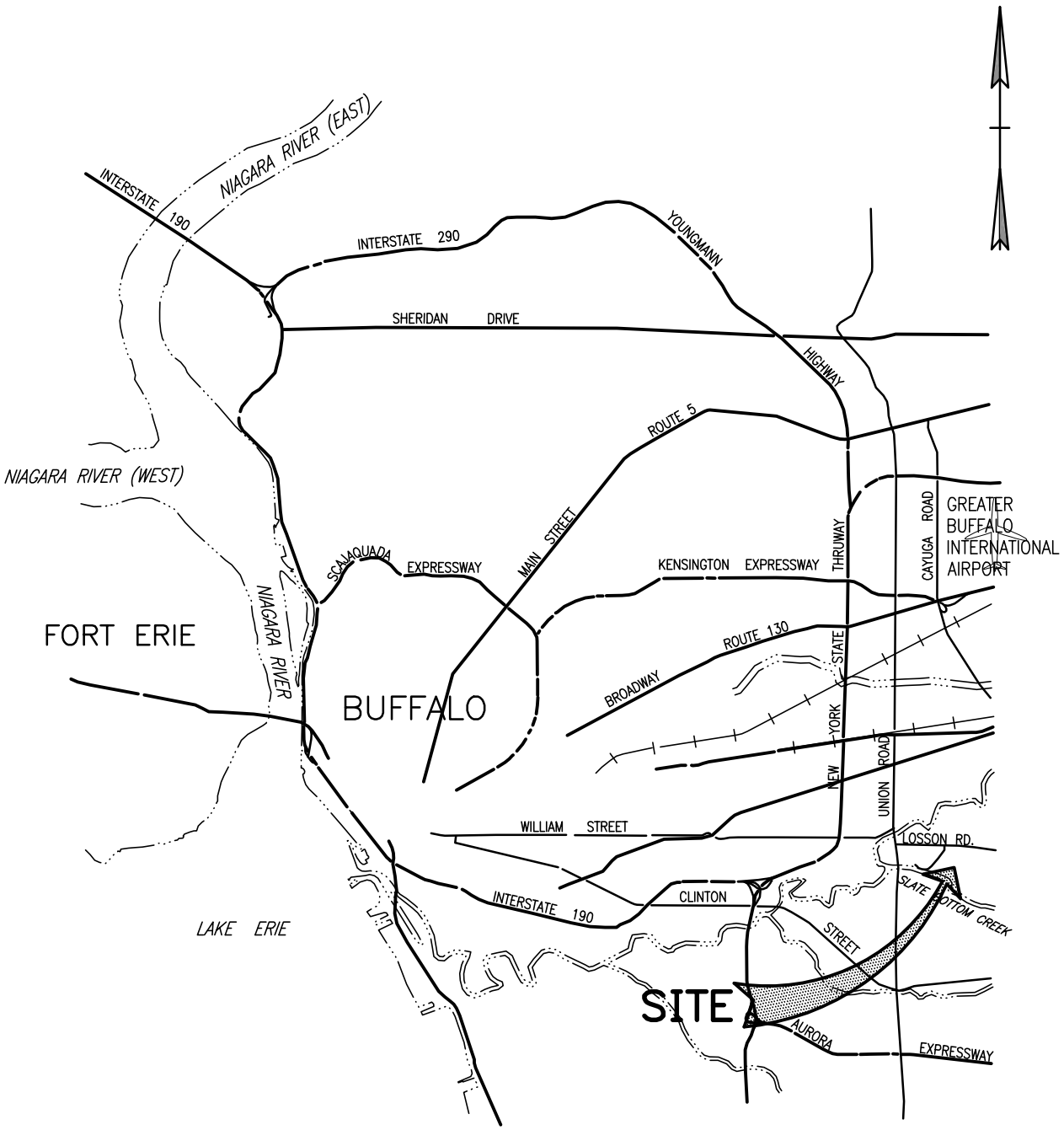
The Union Road site ("the Site") is a Class 4 Site as defined by the New York State Department of Environmental Conservation (NYSDEC). The Site registry number is 915128. The Site is located at 333 Losson Road in Cheektowaga, New York (see Figure 1-1). A Record of Decision (ROD) for the Site was signed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

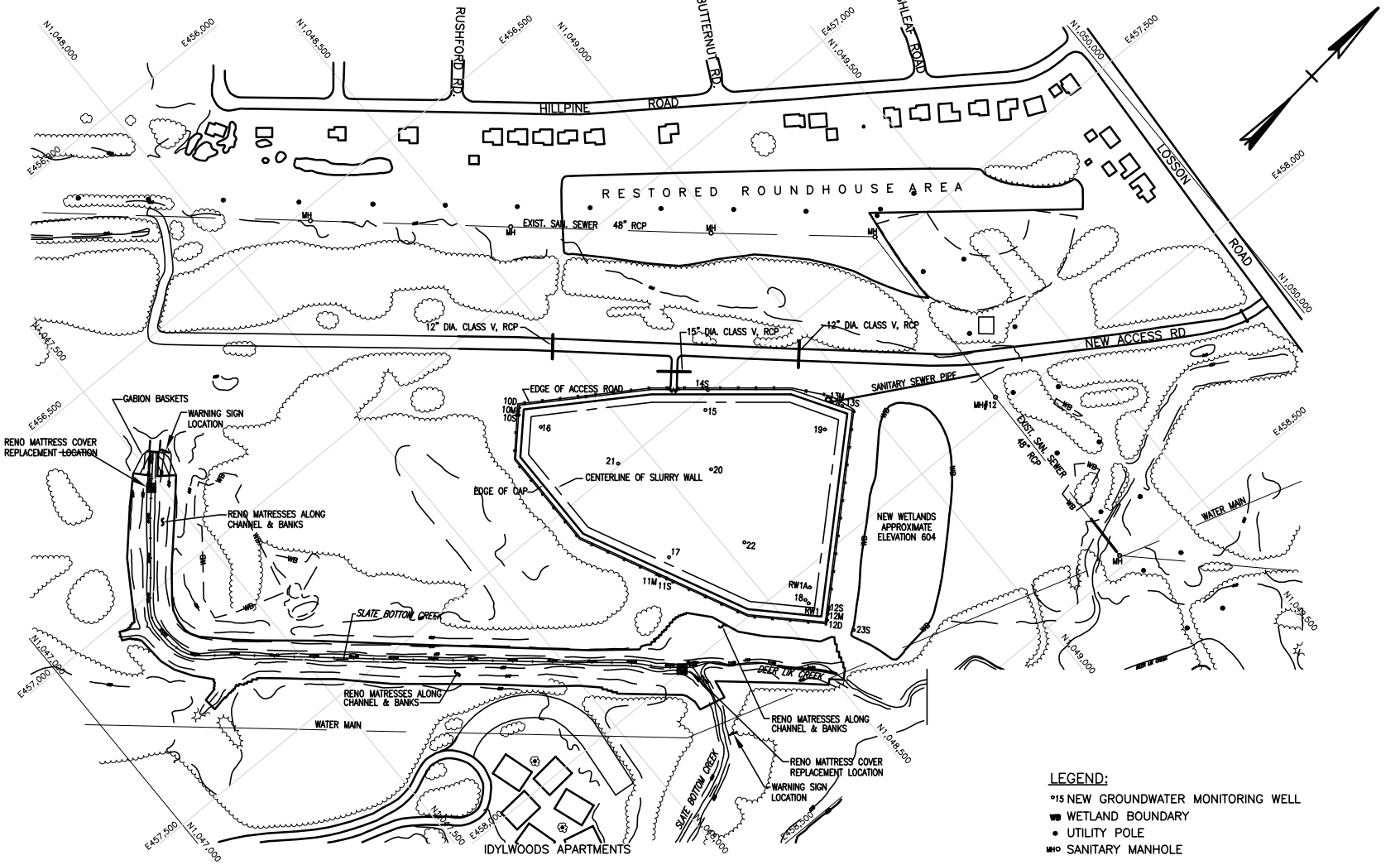
The GMP, Inspection and Operation and Maintenance activities for the Site went into effect following the landfill closure. This report presents and summarizes the groundwater monitoring data for the Annual Monitoring of Closure Year 21 (2017). This is the 25th sampling event since the landfill closure.

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



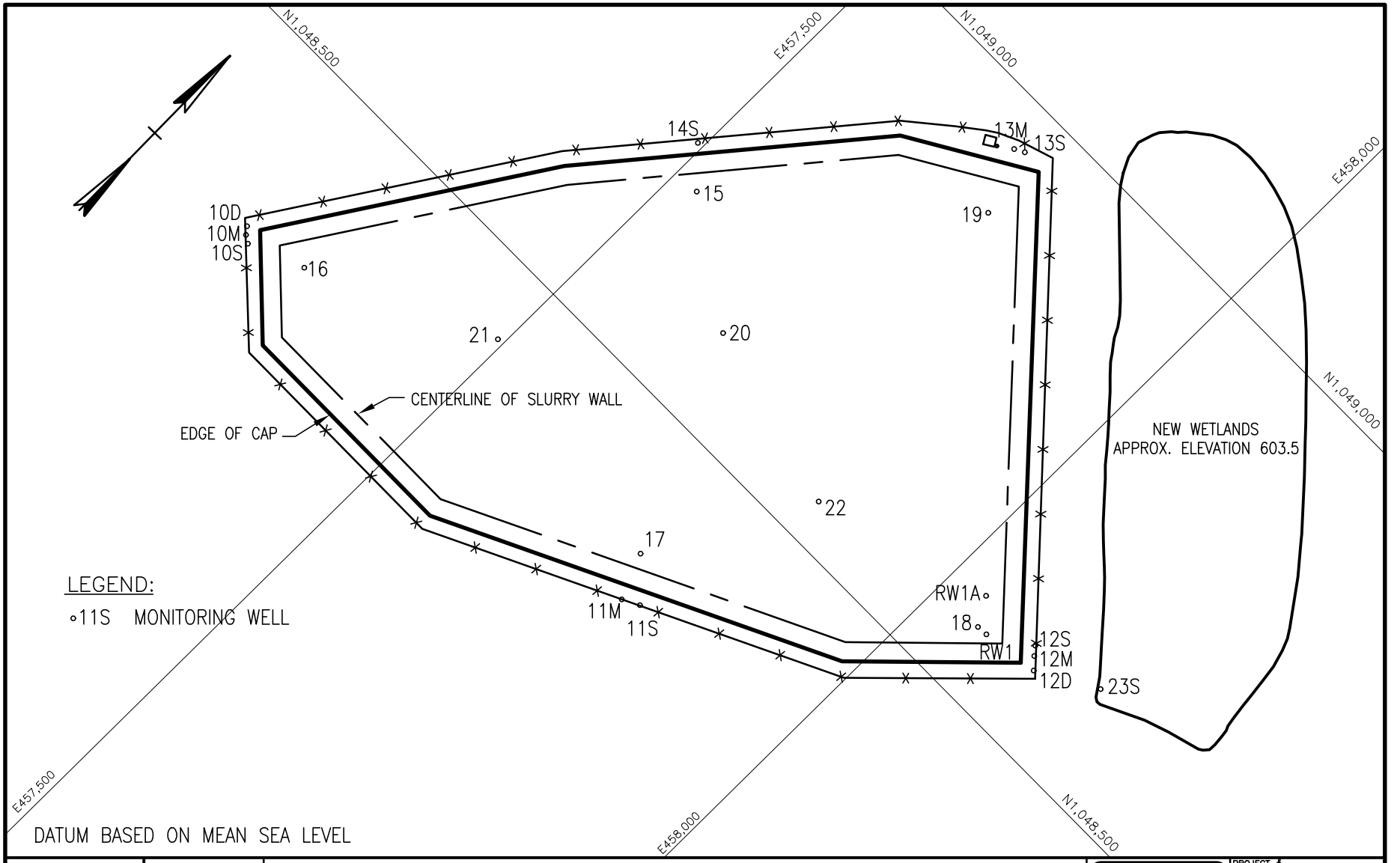
REVISIONS		PROJECT	UNION ROAD SITE TOWN OF CHEEKTOWAGA, NEW YORK	Unicorn Management Consultants, LLC 52 FEDERAL ROAD DANBURY, CT (203) 205-9000	PROJECT # 2011-200
NO.	DATE				FILENAME: 2045100B
		DRAWING	SITE LOCATION		SCALE: 1" =400' DATE: 8/23/06
					BY: AD CK:
					FIGURE # 1-2

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 2017 was conducted on September 6, 2017. 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. An electronic copy of the analytical data report is included in Appendix B.

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 21 (2017)

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:
Checked by:
Date:

TABLE 3-2
UNION ROAD
GROUNDWATER MONITORING REPORT

Unicorn Management Consultants, LLC

September 6, 2017
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	9.60	613.49	13.59	2.2	6.70	
10M	622.50	589.6	11.46	611.04	21.44	3.4	10.40	
10D	622.02	574.1	15.53	606.49	32.39	5.2	7.00	
11S	622.74	597.1	14.86	607.88	10.78	1.7	5.30	
11M	622.86	578.4	20.21	602.65	24.25	3.9	10.40	
12S	622.62	595.8	19.88	602.74	6.94	1.1	2.00	
12M	622.97	578.8	21.41	601.56	22.76	3.6	10.80	
12D	621.18	557.8	18.38	602.80	45.00	7.2	21.70	
13S	622.96	599.1	12.53	610.43	11.33	1.8	5.50	
13M	621.66	585.8	12.47	609.19	23.39	3.7	7.00	
14S [2]	621.61	602.1	10.93	610.68	8.58	1.4	4.00	

[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: 9/28/17
Checked by: MA
Date: 1/8/18

TABLE 3-3
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 6, 2017

Unicorn Management Consultants, LLC

SHALLOW WELL SVOCs

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

Prepared by: MP
Date: 9/28/17
Checked by: MA
Date: 1/8/18

TABLE 3-3
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 6, 2017

Unicorn Management Consultants, LLC

SHALLOW WELL SVOCs

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	
4-chloro-3-methlyphenol	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: 9/28/17
Checked by: MA
Date: 1/8/18

TABLE 3-4
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 6, 2017

Unicorn Management Consultants, LLC

SHALLOW WELL VOCs

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: 9/28/17
Checked by: MA
Date: 1/8/18

TABLE 3-5
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 6, 2017

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: 9/28/17
Checked by: MA
Date: 1/8/18

TABLE 3-5
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 6, 2017

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	
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	

ND - Not Detected, above the laboratory detection limit

Prepared by: MP
Date: 9/28/17
Checked by: MA
Date: 1/8/18

TABLE 3-6
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 6, 2017

Unicorn Management Consultants, LLC

MEDIUM WELL VOCs

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: 9/28/17
Checked by: MA
Date: 1/8/18

TABLE 3-7
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 6, 2017

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: 9/28/17
Checked by: MA
Date: 1/8/18

TABLE 3-7
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 6, 2017

Unicorn Management Consultants, LLC

DEEP WELL SVOCs

ANALYTE	ANALYTICAL RESULTS (ug/L)		MRL
	MW-10D	MW-12D	
Dilution	1.00	1.00	
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: 9/28/17
Checked by: MA
Date: 1/8/18

TABLE 3-8
UNION ROAD
ANNUAL GROUNDWATER MONITORING
September 6, 2017

Unicorn Management Consultants, LLC

DEEP WELL VOCs

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 6, 2017, 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: 9/28/17
Checked by: MA
Date: 1/8/18

TABLE 4-1
UNION ROAD
GROUNDWATER MONITORING REPORT

Unicorn Management Consultants, LLC

GROUNDWATER WELL MEASUREMENTS
September 6, 2017

Well Number	Riser Elev.[1] (Feet)	Depth to Water (Feet)	Water Elev. (Feet)
10S	623.09	9.60	613.49
10M	622.50	11.46	611.04
10D	622.02	15.35	606.67
11S	622.74	14.86	607.88
11M	622.86	20.21	602.65
12S	622.62	19.88	602.74
12M	622.97	21.41	601.56
12D	621.18	18.38	602.80
13S	622.96	12.53	610.43
13M	621.66	12.47	609.19
14S [2]	621.61	10.93	610.68
15	624.67	15.88	608.79
16	624.51	14.75	609.76
17	624.44	20.74	603.70
18 [3]	624.67	Dry	<602.75
19	625.08	21.35	603.73
20 [4]	631.98	28.03	603.95
21	629.25	21.59	607.66
22 [4]	629.24	25.74	603.50
23S	607.45	8.51	598.94
RW1 [5]	623.76	NM	

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

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

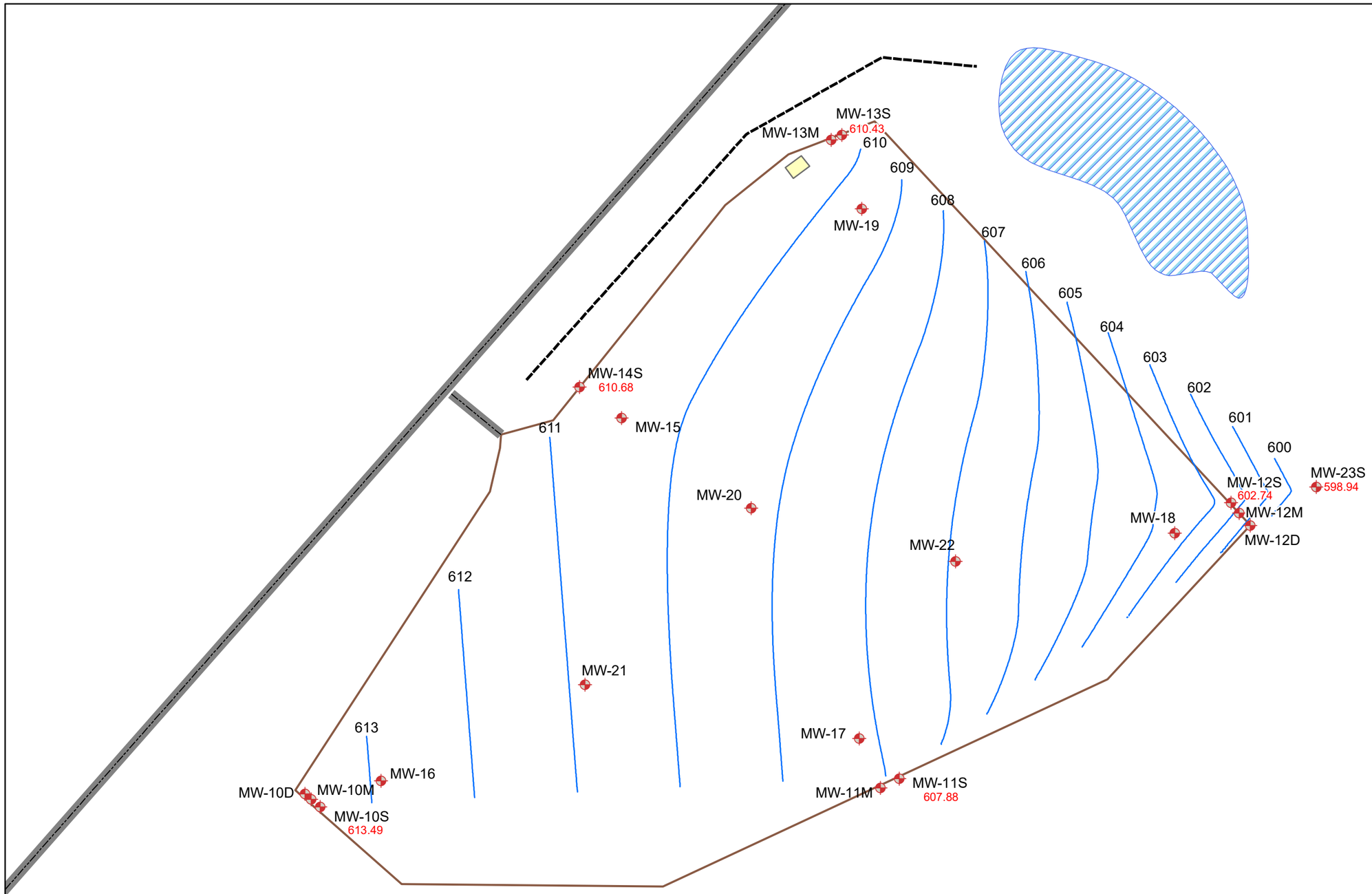
[3] MW-18 is dry; measuring tape stopped without indicating water.

[4] Depth measured to free product. 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



Union Road- Shallow Groundwater Elevation Contour Map for 9/06/17

Unicorn Management Consultants, LLC

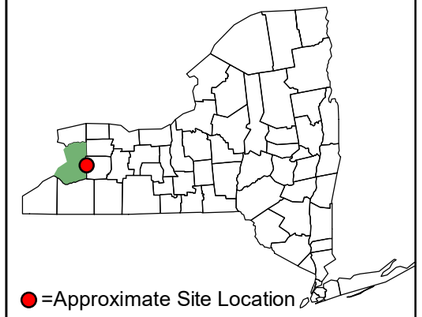
52 Federal Road
Suite 2C
Danbury, CT
06810

(203) 205-9000

Project Name: Union Road

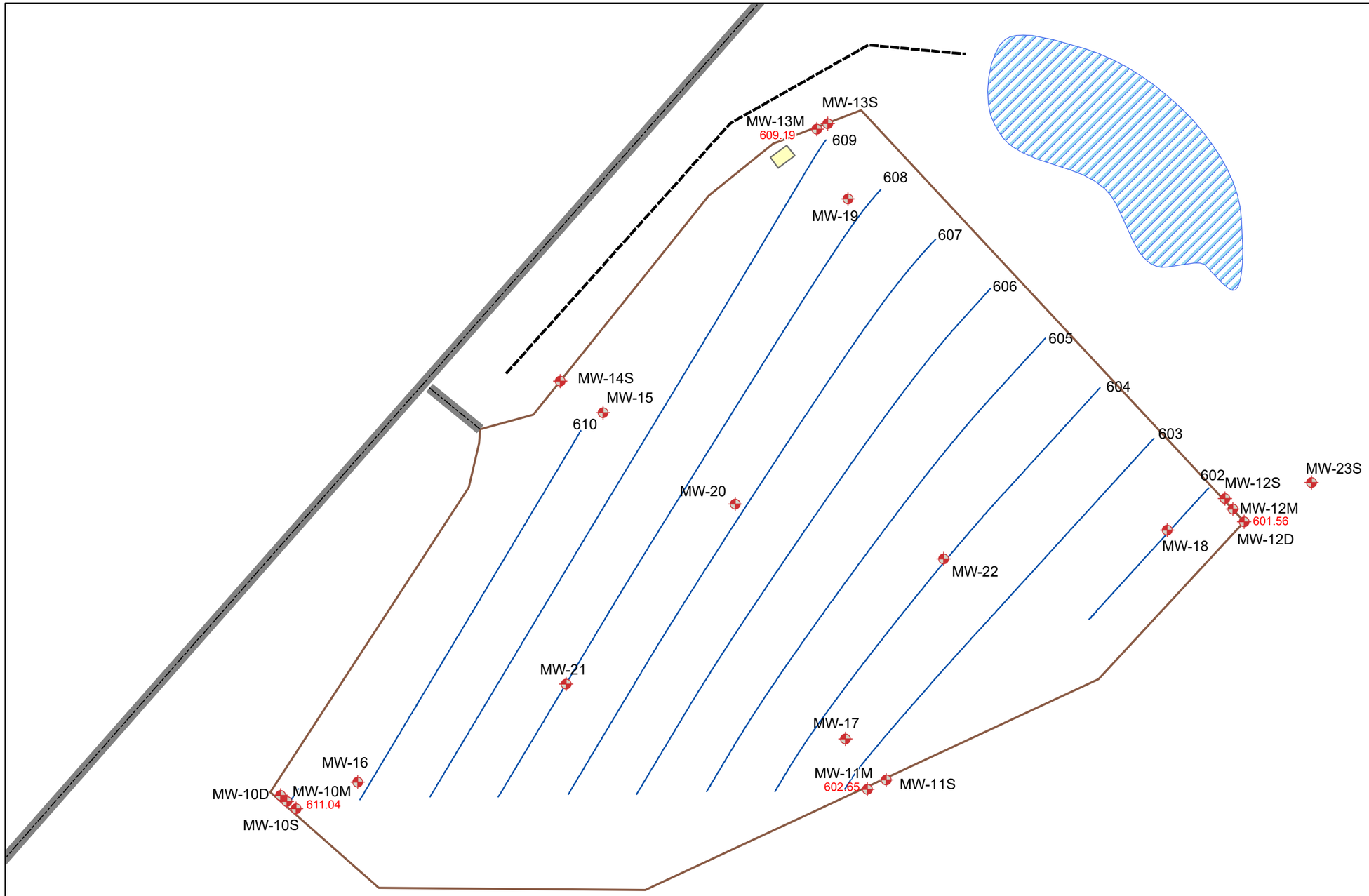
FIGURE 4-1

Author: RTM	**Checked By:** ----
Project #: 2011	**Created:** 10/10/2011 **Revised:** 1/8/18
Scale: 1 in:100 ft	**File:** GWContour_S_2017



Legend

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



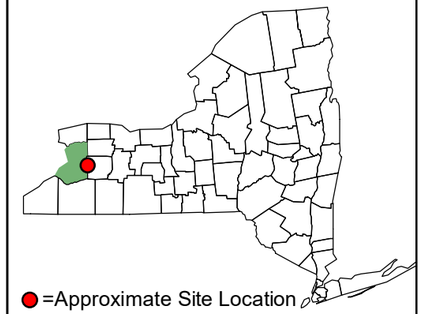
Union Road- Middle Groundwater Elevation Contour Map for 9/06/17

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

Project Name: Union Road

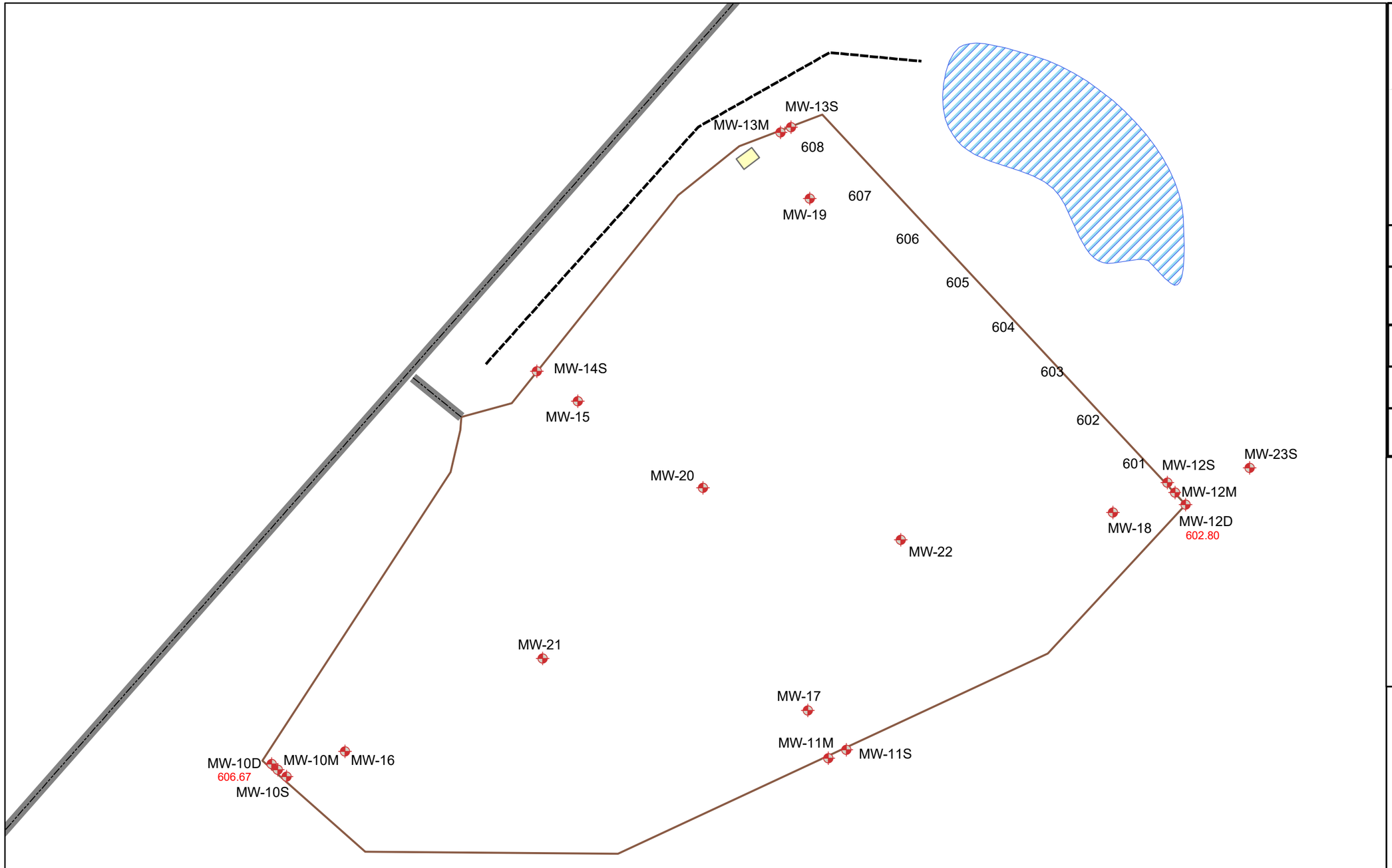
FIGURE 4-2

Author: RTM	**Checked By:** ----
Project #: 2011	**Created:** 10/10/2011
	Revised: 1/8/18
Scale: 1 in:100 ft	**File:** GWContour_M_2017



Legend

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



0 62.5 125 250 375 500 Feet

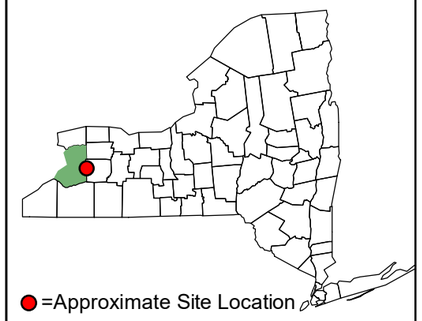
Union Road- Deep Groundwater Elevation Map for 9/06/17

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

Project Name: Union Road

FIGURE 4-3

Author: RTM	**Checked By:** ----
Project #: 2011	**Created:** 10/10/2011
	Revised: 1/8/18
Scale: 1 in:100 ft	**File:** GWContour_D_2017



Legend

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

5. SITE INSPECTION AND MAINTENANCE

UMC performed an annual site inspection on April 11, 2017. 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 2017. During the 2017 site inspection, Some groundhog tunneling was observed along the north eastern landfill fence. Upon closer inspection, UMC notes that the observed tunneling is located in the dense grass along the base of the fence, and does not impact the landfill cap or soils along the fence.

On April 9, 2017, UMC filled a small number of animals burrows located on the sloped area between the landfill and the northern wetlands. These burrows were previously increasing in size due to rainfall caused erosion. No new erosion was observed during the site inspection.

Some rutting attributed to vehicular traffic was observed along the southwestern side of the site near Slate Bottom Creek. This rutting does not affect the integrity of the capped landfill.

As requested by the NYSDEC, grass on the landfill area is mowed annually. Annual Mowing was performed on October 1, 2017.

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 have 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 April 11, 2017, the gabion basket wing-walls were stable and the reno mattresses installed along the creek were 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: Since 2014, UMC has upgraded various aging dewatering system components as part of the ongoing Site maintenance. These upgrades have included the installation of a new internet connected telemetry system, a new trench dewatering pump control box, new water level sensor probes in both RW-1 and the sump pit, and two new effluent pumps in the sump pit. These upgrades ensure that the Site dewatering syetem continues to operate as intended.

In February 2017, UMC began receiving "duplex hi" notifications from the dewatering system's telemetry system. These notifications indicated that water was not being discharged from the sump pit quickly enough. Upon inspection, UMC observed water draining back into the sump pit from the effluent discharge pipe. UMC believed that this was due to a poor seal between the discharge pipe and the new effluent pumps installed on December 9, 2016.

On March 20, 2017, UMC oversaw the removal and reinstalation of the two installed effluent pumps. Reinstalling both pumps realigned the gaskets and eliminated any backflow from the discharge pipe to the sump pit.

The dewatering system is currently operating without issue.

6. CONCLUSION

The groundwater quality within the exterior wells and the groundwater elevation measurements during the 2017 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.

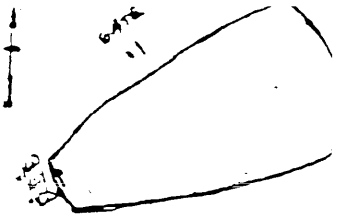
Though samples collected from Monitoring wells MW-11S and MW-14S did not contain detectable concentrations of TPH during this monitoring period, detectable concentrations of TPH have existed in samples from both MW-11S and MW-14S since their construction in 1997. As discussed in previous monitoring reports,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

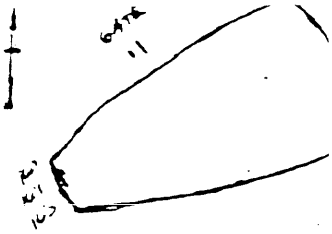
BORING NO. 10-M	
PROJECT NO. NAME Union Road - 2035-200	LOCATION Buffalo NY
DRILLING CONTRACTOR/DRILLER Maxim	
GEOLOGIST. OFFICE John J Zacher JR	
DRILLING EQUIPMENT. METHOD HSA	SIZE TYPE OF BIT 6" HSA / SAMPLING METHOD Split Spoon / START. FINISH D: 1/3/97
WELL INSTALLED? YES ☒ NO ☐	CASING MAT./DIA.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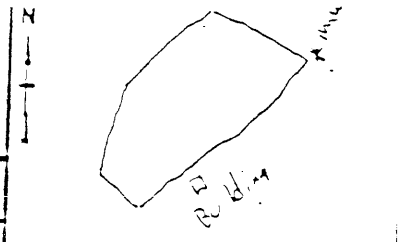
TEST BORING LOG



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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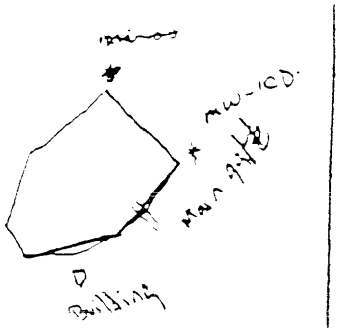
TEST BORING LOG



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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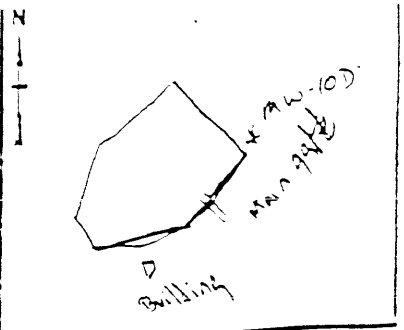
TEST BORING LOG



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.)

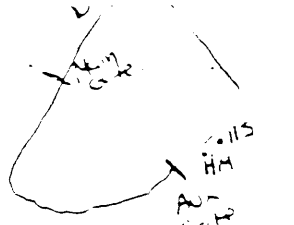
REMARKS:

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

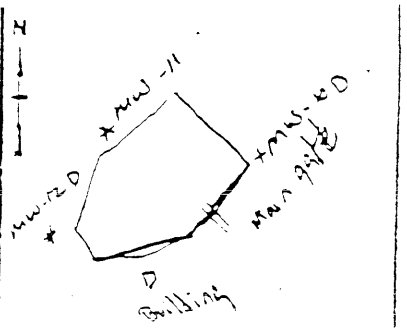
BORING NO. MW-11M

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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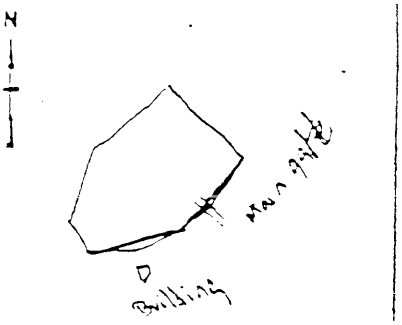
TEST BORING LOG



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	

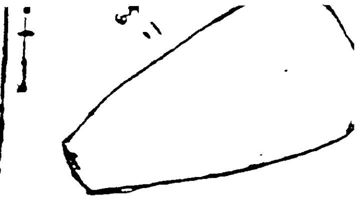
WELL CONST.

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: HAHM

GEOLOGIST, OFFICE: JOHN J ZACHER JR

DRILLING EQUIPMENT, METHOD: HSA

SIZE/TYPE OF BIT: 6" HSA

SAMPLING METHOD: SPLIT SPOON

START, FINISH DA: 1-2-97

WELL INSTALLED? YES ☒ NO ☐

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

SCREEN: TYPE SLOT MAT. STAINLESS LENGTH 10' DIA. 2" SLOT SIZE 0.020

ELEVATION OF: 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/.5 FT	DESCRIPTION	REMARKS
0				SAMPLING START AT 15' BG	
15	15'-17	21"	6 8 7 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
25	23-25	24"	5 6 5 4	BROWN GREY CLAY 0-12 12-24	STIFF / MOIST
				BOB 25'	

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

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

TEST BORING LOG

BORING NO.	12-M
PROJECT NO., NAME	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?	YES ☒ NO ☐
CASING MAT./DIA.	STAINLESS STEEL / 2"
SCREEN: TYPE	SLOT
MAT.	STAINLESS
LENGTH	10'
DIA.	2"
SLOT SIZE	0.020

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

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

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, 5, 5	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		
25	24-26	24"	2, 1, 1, 1	GREY TO RED BROWN CLAY, TRACE ROCKS	SOFT, MOIST		
	26-28	19"	4, 7, 7, 8	RED BROWN CLAY	STIFF, LITTLE H_2O		
	28-30	18	2, 4, 2, 7	LT BROWN / TAN CLAY, TRACE SILTS, LITTLE ROCKS (1/8")	SOFT, DAMP		
30	30-32	16	2, 2, 3, 4	LT BROWN / TAN CLAY - LITTLE GREY, LITTLE ROCKS (1/8 - 1/4)	STIFF DAMP		
	32-34	18	3, 8, 12, 10	TOP 12" - LT BROWN / TAN CLAY - SOME GREYS, LITTLE ROCKS BOT 6" - GREY CLAY AND SAND, NO COHESIVE STRENGTH	SOFT DAMP, SOME H_2O WET		
35	34-36	24"	1, 2, 2, 1	GREY CLAY AND SAND	NO STRENGTH, WET		
	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		

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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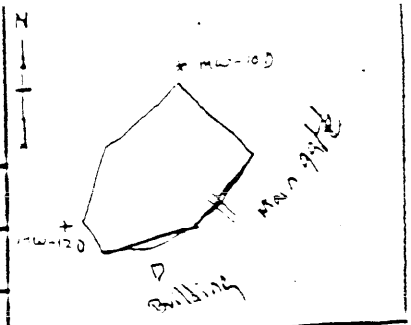
TEST BORING LOG



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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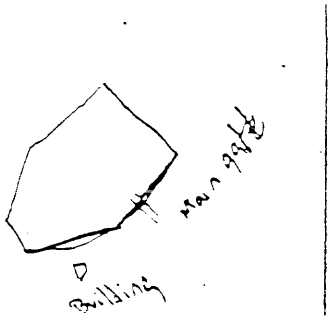
TEST BORING LOG



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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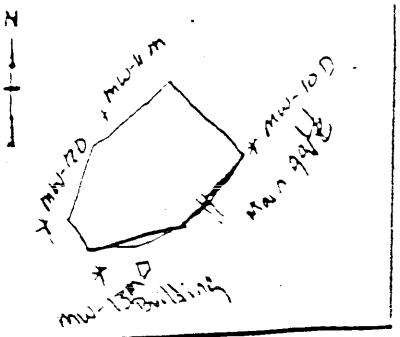
TEST BORING LOG



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

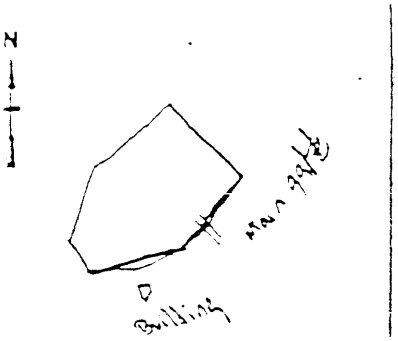
WELL INSTALLED? YES ☑ NO ☐

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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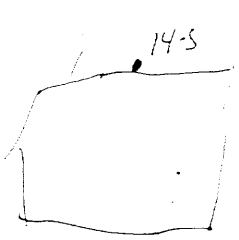
TEST BORING LOG



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.

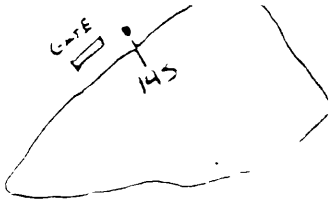
DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHOLOG
				Topsoil		grout	
				Fill - Reddish brown Sandy Clay		3.8 Bentonite	
5						5.3	
				Reddish Brown Clay	SAND	6.8	
10							
15						16.8	
				End of Boring		17.3	

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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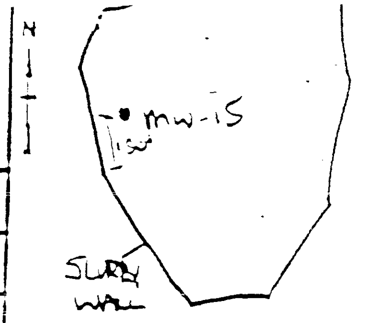
TEST BORING LOG



BORING NO. mw-15

PROJECT NO., NAME: UNION ROAD

LOCATION: ON LANDFILL CAP

DRILLING CONTRACTOR/DRILLER: MAXIM - EMPIRE · P. JENCE

GEOLOGIST, OFFICE: HANLON / SZWAKA · DANBURY

DRILLING EQUIPMENT, METHOD: 55B BSA · 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.D

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

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'	26/6	Poorly graded clay silt & gravel. Fill organic. Tan/brown. Hard/firm. Moist (frozen) + little 1/4" gravel.	
2–4		1'	13/4	Tan/brown clay, firm. No coarse materials. Fl. staining.	
4–6		1.5'	27/6	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'	11/6	Grey/green clay, no coarse material, soft. Trace silt	Fine sand ↳
8–10		1.8	9/6	Same but black. Silty clay. Trace orange. Same but grey/grey. Silty clay.	Consol. gravel ↳
10–12		2'	5/6	Grey/grey silt. Some clay. Soft.	
12–14		1.5'	6/6	Same	
14–16		1.5'	4/6	Same	
16–18		2'	4	Same	

EOB 19.0'

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

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

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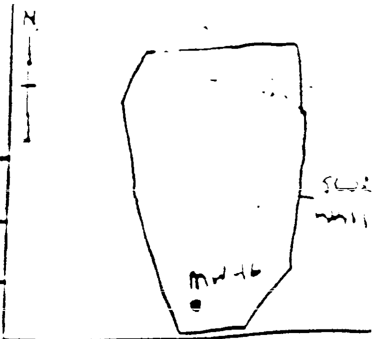
TEST BORING LOG



BORING NO.	MW-16
PROJECT NO., NAME	UNION ROAD
LOCATION	CAP INTERIOR
DRILLING CONTRACTOR/DRILLER	MAXIM/EMPIRE BENCE
GEOLOGIST/OFFICE	HANLON/SZNAJA Danbury
DRILLING EQUIPMENT, METHOD	CME 650 HSA
SIZE TYPE OF BIT	6 1/4"
SAMPLING METHOD	SS
START, FINISH DATE	2/21/96
WELL INSTALLED?	YES ☑ NO ☐
CASING MAT./DIA.	2" SS
SCREEN: TYPE	0.20
MAT.	SS
LENGTH	10
DIA.	2"
SLOT SIZE	0.20
ELEVATION OF: (FT. ABOVE M.S.L.) GROUND SURFACE	~~618.8~~ 618.9
TOP OF WELL CASING	620.0
TOP & BOTTOM SCREEN	~~18.8~~ 610.0 - 600.0
GW SURFACE	NA
DATE	2/21/96
REMARKS:	ALL ELEVATIONS AND DEPTHS RELATIVE TO PRE-CAP GRADE

LOG OF TEST BORING

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

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

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

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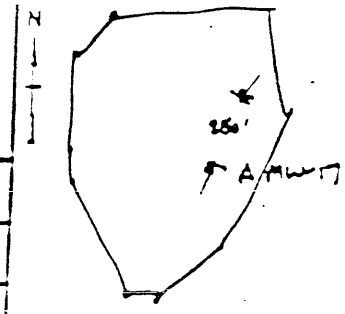
TEST BORING LOG



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

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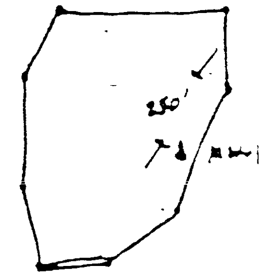
TEST BORING LOG



BORING NO.: MW-17

PROJECT NO., NAME: [illegible] Road

LOCATION: Landfill cap

DRILLING CONTRACTOR/DRILLER: Mulia-Empire D. Benge

GEOLOGIST, OFFICE: M. [illegible] Danbury

DRILLING EQUIPMENT, METHOD: B53 HSA

SIZE, TYPE OF BIT: 6.25" HSA

SAMPLING METHOD: 2" SS

START, FINISH DATE: 2/22/96

WELL INSTALLED? YES ☑ NO ☐

CASING MAT./DIA.: 2" SS

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

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

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

LOG OF TEST BORING

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

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

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

A DIVISION OF NES
44 SHELTER ROCK ROAD
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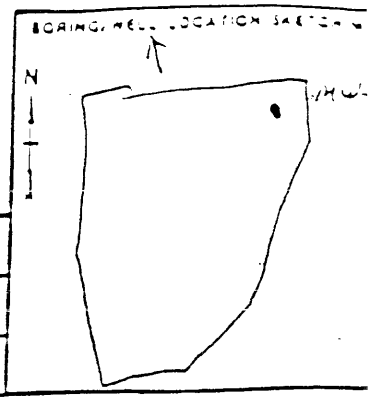
TEST BORING LOG

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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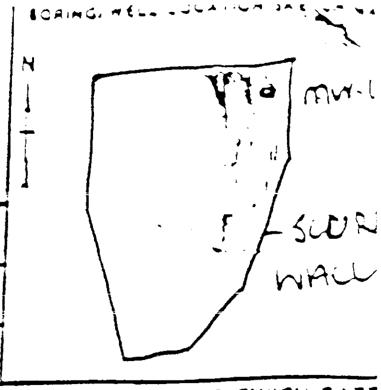
BORING, WELL LOCATION SKETCH MAP



TEST BORING LOG

BORING NO.	MW-18
PROJECT NO., NAME	UNION ROAD
LOCATION	INSIDE CAP AREA
DRILLING CONTRACTOR/DRILLER	MARTIN/EMPIRE P. BONKE
GEOLOGIST, OFFICE	HANDEX/SEWAREN DANOVZI
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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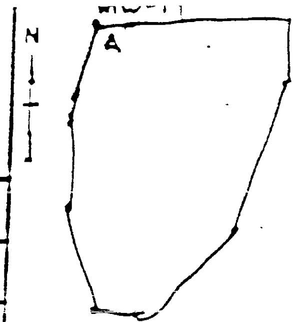

TEST BORING LOG

BORING NO.: MW-19

PROJECT NO., NAME: Union Road

LOCATION: Landfill Cap

DRILLING CONTRACTOR/DRILLER: Mann-Lamar, P. Bence

GEOLOGIST, OFFICE: Szlaka, 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: 618.5' — TOP OF WELL CASING: 617.5' — TOP & BOTTOM SCREEN: 605' - 595' — GW SURFACE: unk. — DATE: 2/22/96

REMARKS: Elevation & depth relative to pre-cap surface

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
0–2'		1.25	15/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.	0.0
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 staining. Trace gravel [illegible] single black [illegible] mat'l & staining	Fine Sand
10–12'		1.75'	24/ft	11 Black, firm, dry clay. Trace organics. [illegible] 12' [illegible] mat'l. [illegible]	
12'–14		1.0'	14/ft	Black, wet, silt & sand. Some gravel. [illegible] petrol. odor. Trace organics	WET — Coarse Sand
14–16		1.0'	10/ft	Same. Slight sheen present. Brick, [illegible] frags. Present.	
16–18'		1.0'	6/ft	16' Soft, wet, gray/grey 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.: GROUT

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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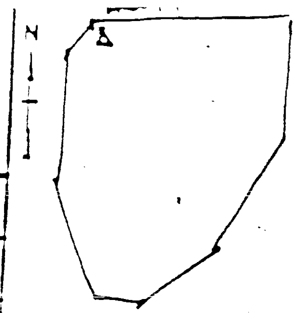
TEST BORING LOG



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	SIZE/TYPE OF BIT	SAMPLING METHOD	START, FINISH DATE
B58 HSA	6.25" HSA	2" SS	2/23/96

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
	618.5'	617.5	605'-595'	[illegible]	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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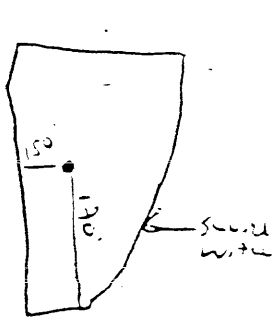
TEST BORING LOG



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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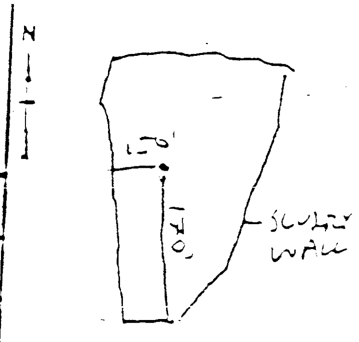
TEST BORING LOG



BORING NO. MW-20	
PROJECT NO., NAME: UNION ROAD	LOCATION: INTERIOR OF CAP
DRILLING CONTRACTOR/DRILLER: MAXIM / [illegible] BERCE	
GEOLOGIST, OFFICE: HANLON/SWAIN DANBURY	

DRILLING EQUIPMENT, METHOD	SIZE, TYPE OF BIT	SAMPLING METHOD	START, FINISH DAT
CME 850 HSA	6¼"	SS	2/21/96

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

ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	DATE
	~~62~~ 624.6	627.0	607.0 - 597.0	NA	2/21/96

REMARKS: ELEVATIONS AND DEPTHS RELATIVE TO PRE-CAP GRADE

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS
20		0	3	~~[illegible]~~ ? NO RECOVERY	
		2.0	8	Same w/rks up to 1.5" grades into finer material w/30% organics	
				Bottom 3" Black clay, NO coarse, trace organics	
25			7	soft Gray 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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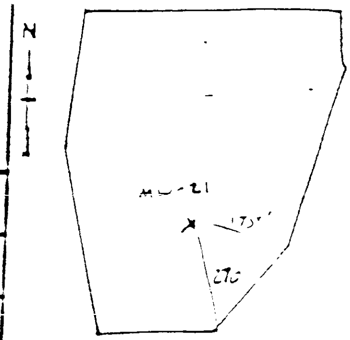

TEST BORING LOG

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	SIZE, TYPE OF BIT	SAMPLING METHOD	START, FINISH DATE
853 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		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'	595'-605'	NR	2/22/96

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

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHO LOG
		2'	41/½	Brown frozen clay. Black coal and cinder clinker fill material. Trace organics. Frozen/very hard.	Frozen		
2'					Air hammer on SS		
		1.25'	UNK	Same	broken. Use manual 140# hammer.		
4'							
5		1.25'	9/½	Same w/ grey/black clay. Fe+ staining. 10-15% organics. Black coal cinders present.	0.24		
6		1'	50/½	→ Light tan, dry, sand & gravel. No fines, angular (3/4-) → Black & dark red cinder fill material. Dry. Trace fines, rock frags 1", angular. → Medium silt & sand. Poorly graded. Dry.			
8'		1'	7/½	Same w/ maybe gravel (¼") rock & waste frags, rounded. Black silt & fine sand. Trace organics. Dry.			
10							
		1.25'	9/½	Poorly graded red sand. No coarse material. Dry. Fe+ stained			
12							
		0'	15/½				
14'							
15		1'	5/½	Same			
16'							
		0.5'	9/½	Red silty sand. With gravel & rock mat'l.	Moist		
18'							
			4/½	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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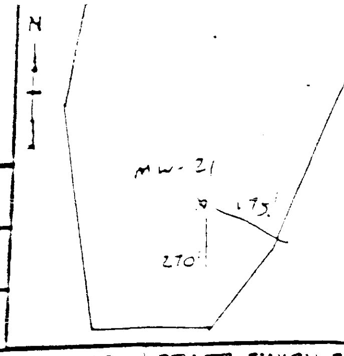
TEST BORING LOG



BORING NO. MW-21		
PROJECT NO., NAME: Union Road	LOCATION: Landfill Cap	
DRILLING CONTRACTOR/DRILLER: Maximum Empire; D. Rence		
GEOLOGIST, OFFICE: M. Szuara; Danbury		
DRILLING EQUIPMENT, METHOD: 35 HSA	SIZE, TYPE OF BIT: 6.25" H.S.A.	SAMPLING METHOD: 2" SS	START, FINISH DA: 2/22/9
WELL INSTALLED? YES ☒ NO ☐	CASING MAT./DIA.: 2" SS	SCREEN: TYPE — MAT. S.S. LENGTH 10' DIA. 2" SLOT SIZE 20

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

REMARKS: All Elevations & Depths relative to Ir-cap grade

LOG OF TEST BORING

DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	DESCRIPTION	REMARKS	WELL CONST.	GRAPHIC LITHO LOG
		.25'	40/4	Some 2" Rock Boulders SS refusing			
22		1.0	19/ft	Black silt & sand, Angular Rock frags. Slight petrol. odor			
24		1.5	1/H	Grey clay no waste material			
25							
26				EOB 26'			
30							
35							

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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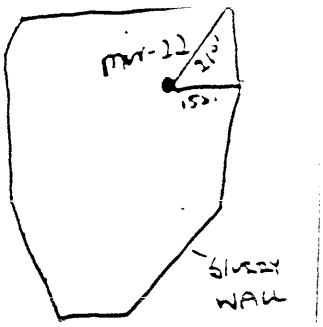
TEST BORING LOG



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	

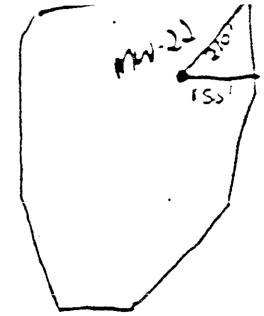
DEPTH (FT)	SAMPLE NO. AND TYPE	RECOVERY (FT)	PENETRATION RESISTANCE BLOWS/FT	LOG OF TEST BORING — DESCRIPTION	REMARKS
2	2'	13/16		TAN CLAY, WET. FIRM. BOTTOM 6" POSS. WASTE, BLACK STAIN, 20% ORGANIC & COARSE MAT'L	
	1'	5/16		SAME. NOT AS COARSE	
4'					
5	1.5'	12/18		SAME RED FINE/MED. SAND. NO FINES 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: Maxim- Enviro P. Dence	
GEOLOGIST, OFFICE: Hanlon / Sowanda Danbury	

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

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

ELEVATION OF: (FT. ABOVE M.S.L.)	GROUND SURFACE	TOP OF WELL CASING	TOP & BOTTOM SCREEN	GW SURFACE	DATE
	623.4	626.40	606' 596'	NA	2/20/96

REMARKS: PRE-CAP SURFACE

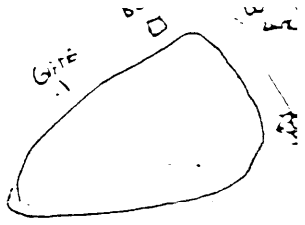
LOG OF TEST BORING

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

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

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

TEST BORING LOG



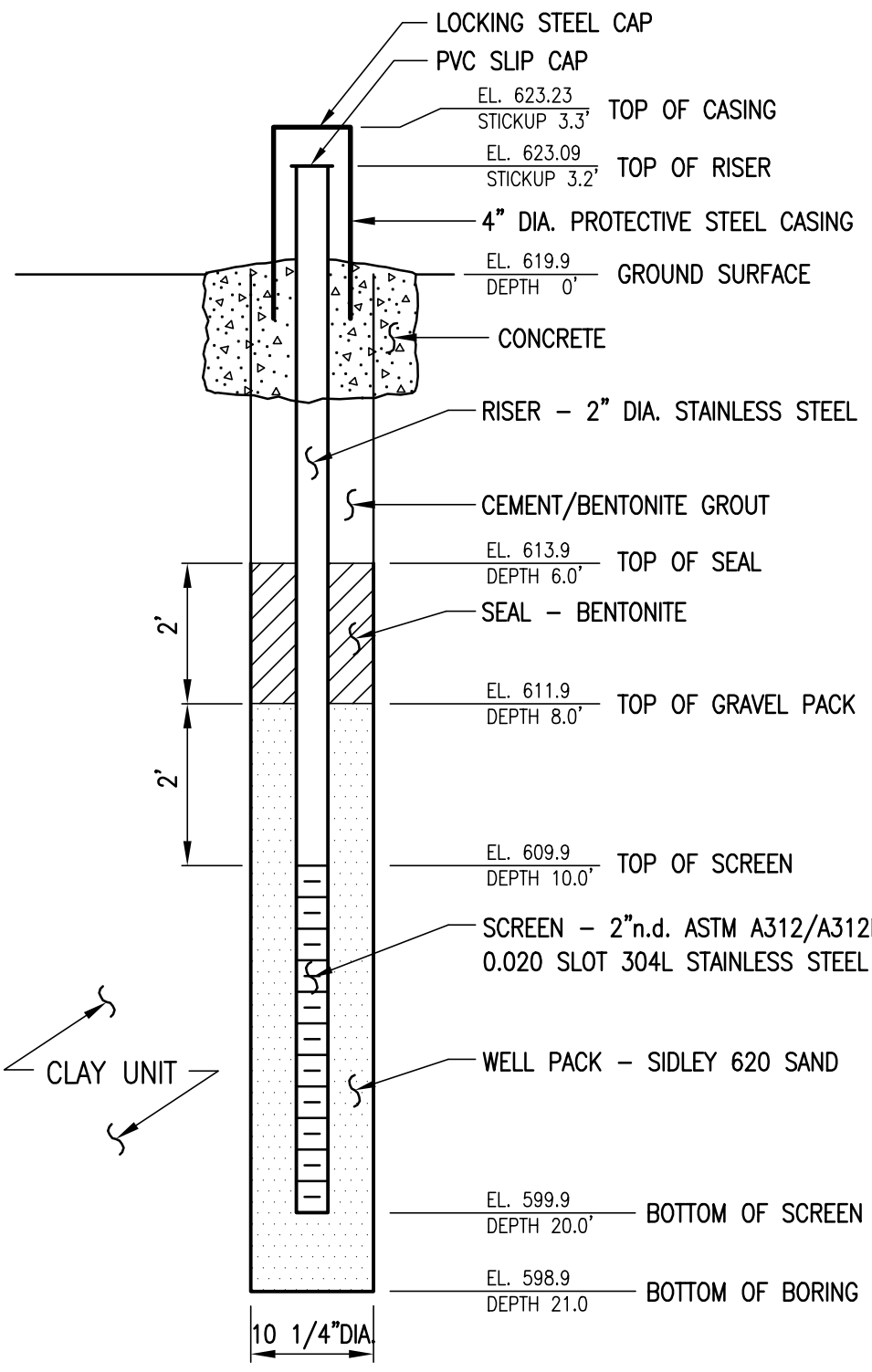
BORING NO. 23S	
PROJECT NO., NAME: UNION ROAD 2035-200	LOCATION: BUFFALO NY
DRILLING CONTRACTOR/DRILLER: MAXIM	
GEOLOGIST, OFFICE: JOHN J ZACHER JR	
DRILLING EQUIPMENT, METHOD: HSA	SIZE, TYPE OF BIT: 10" HSA; SAMPLING METHOD: SPLIT SPOON; START, FINISH DA: 1-6-97
WELL INSTALLED? YES ☒ NO ☐	CASING MAT./DIA.: STAINLESS STEEL 2"
SCREEN: TYPE SLOT MAT. STAINLESS LENGTH 10' DIA. 2" SLOT SIZE 0.02	
ELEVATION OF: 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

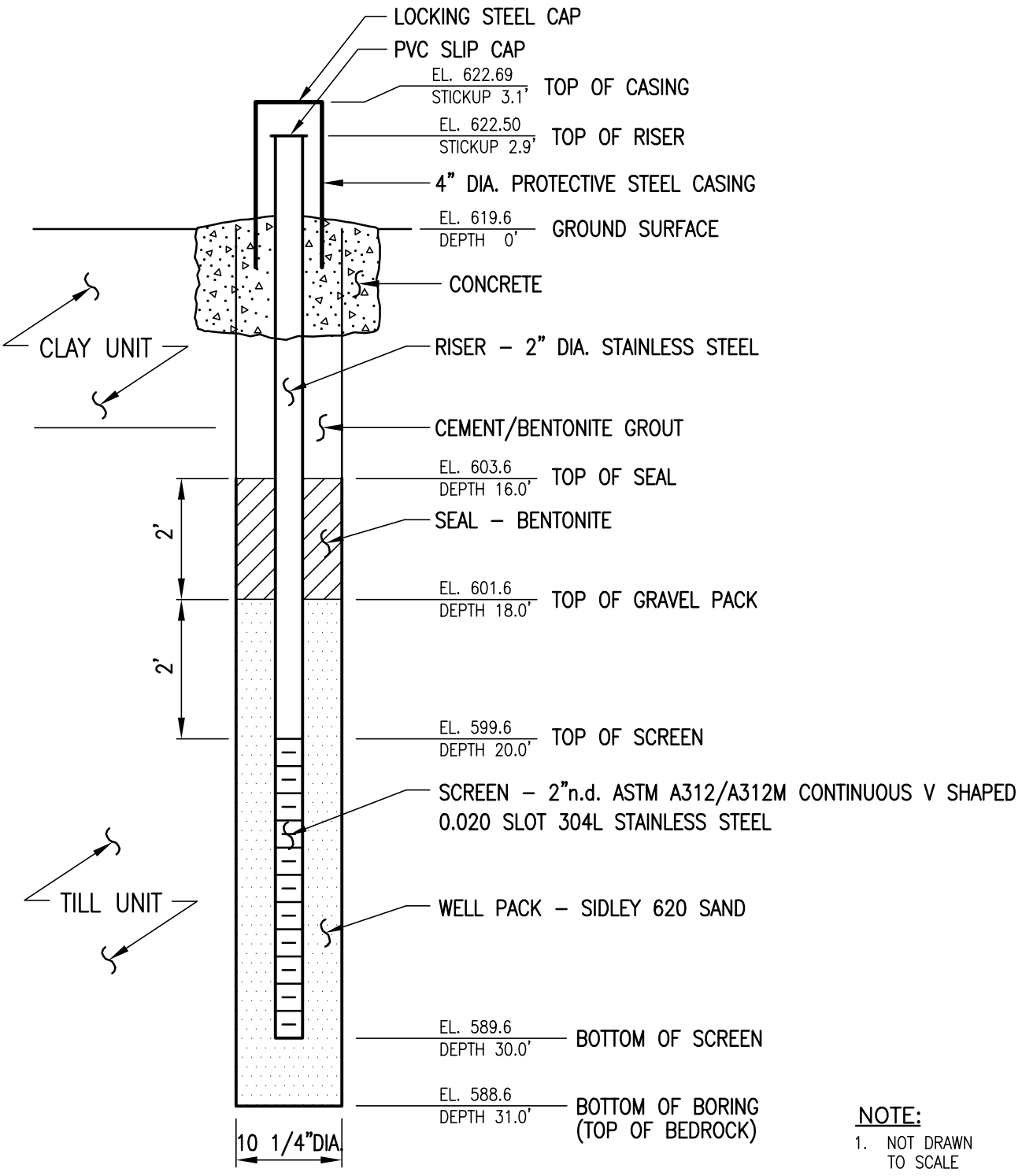


NOTE:

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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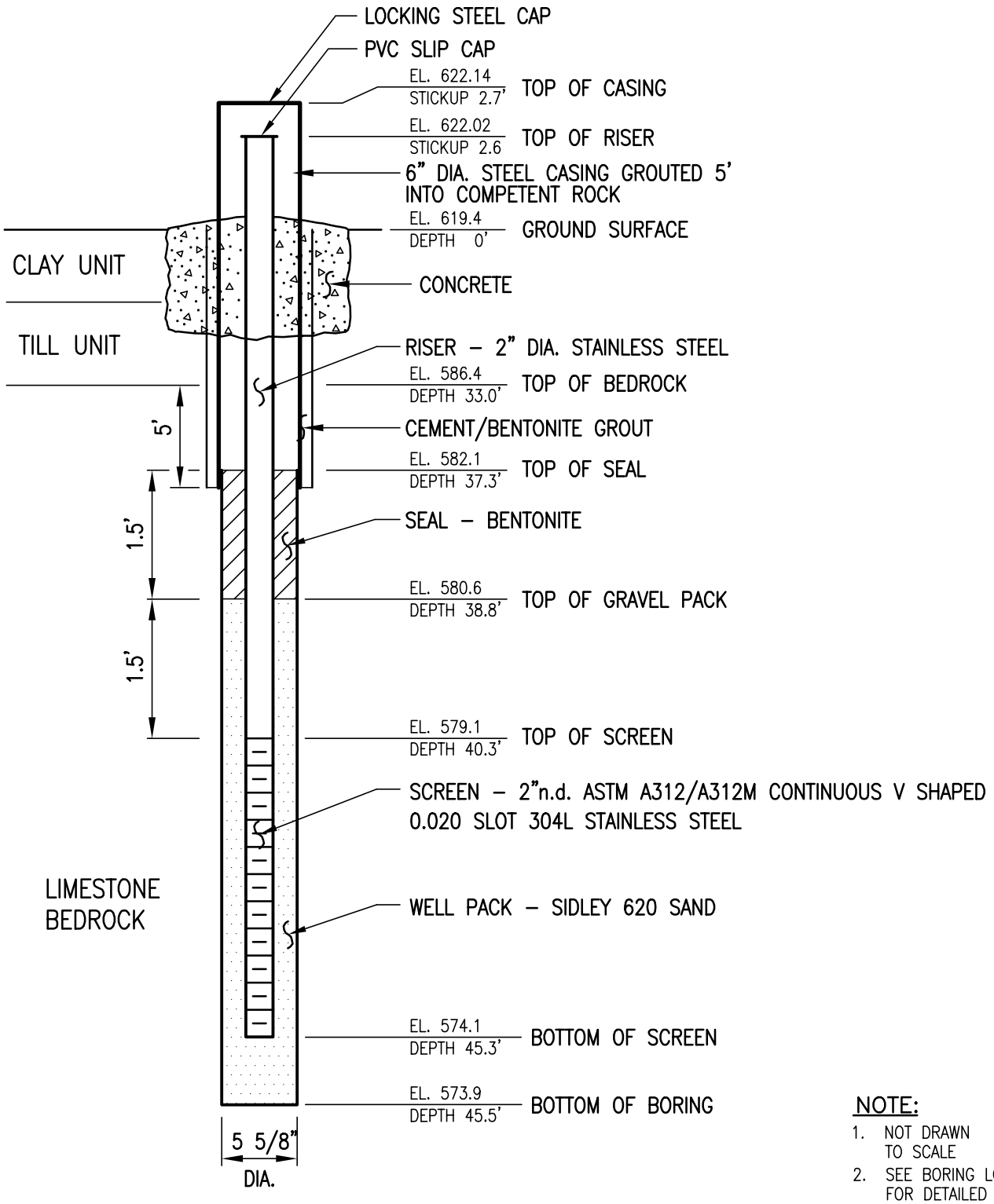
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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

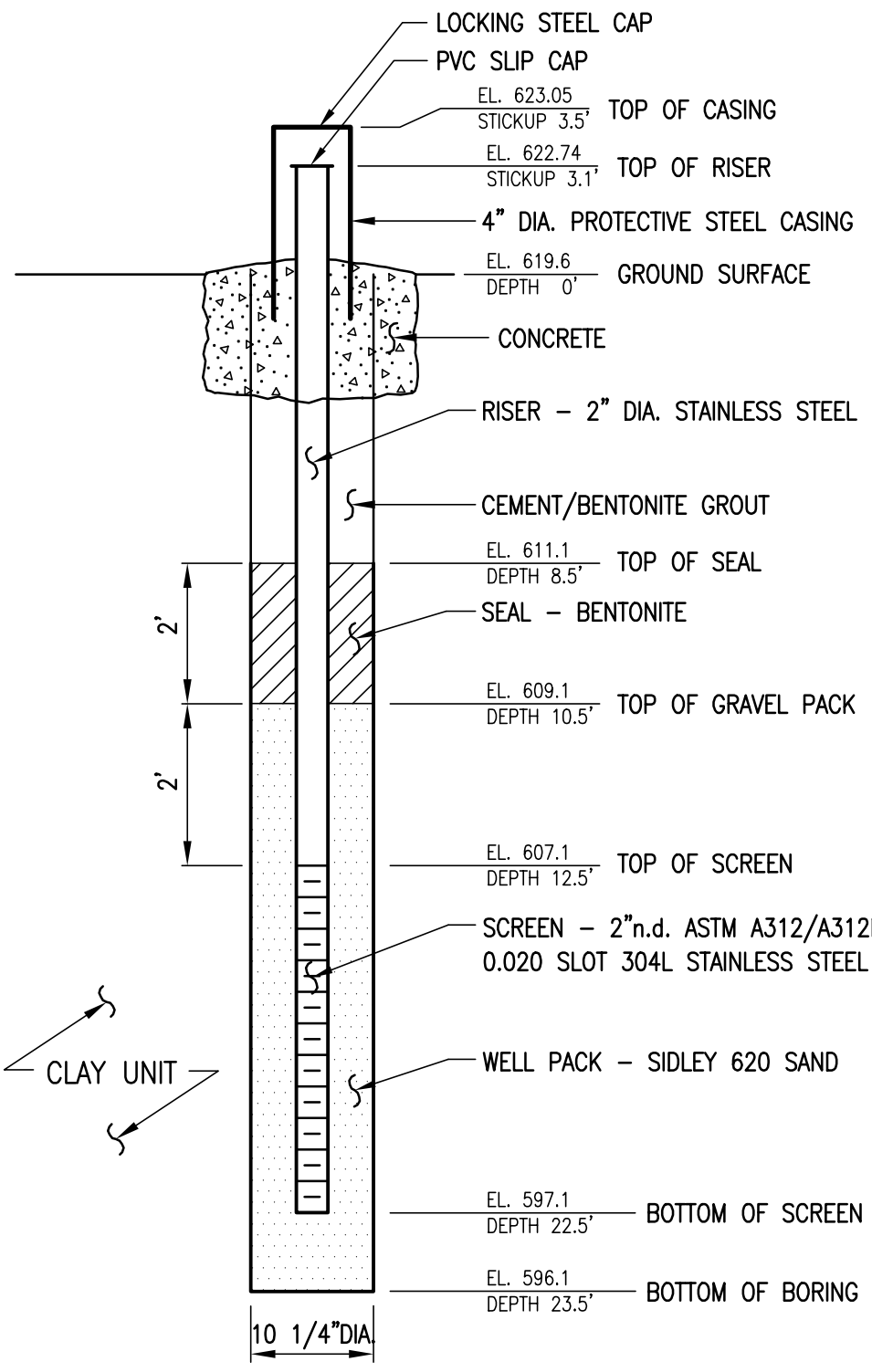


NOTE:

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:

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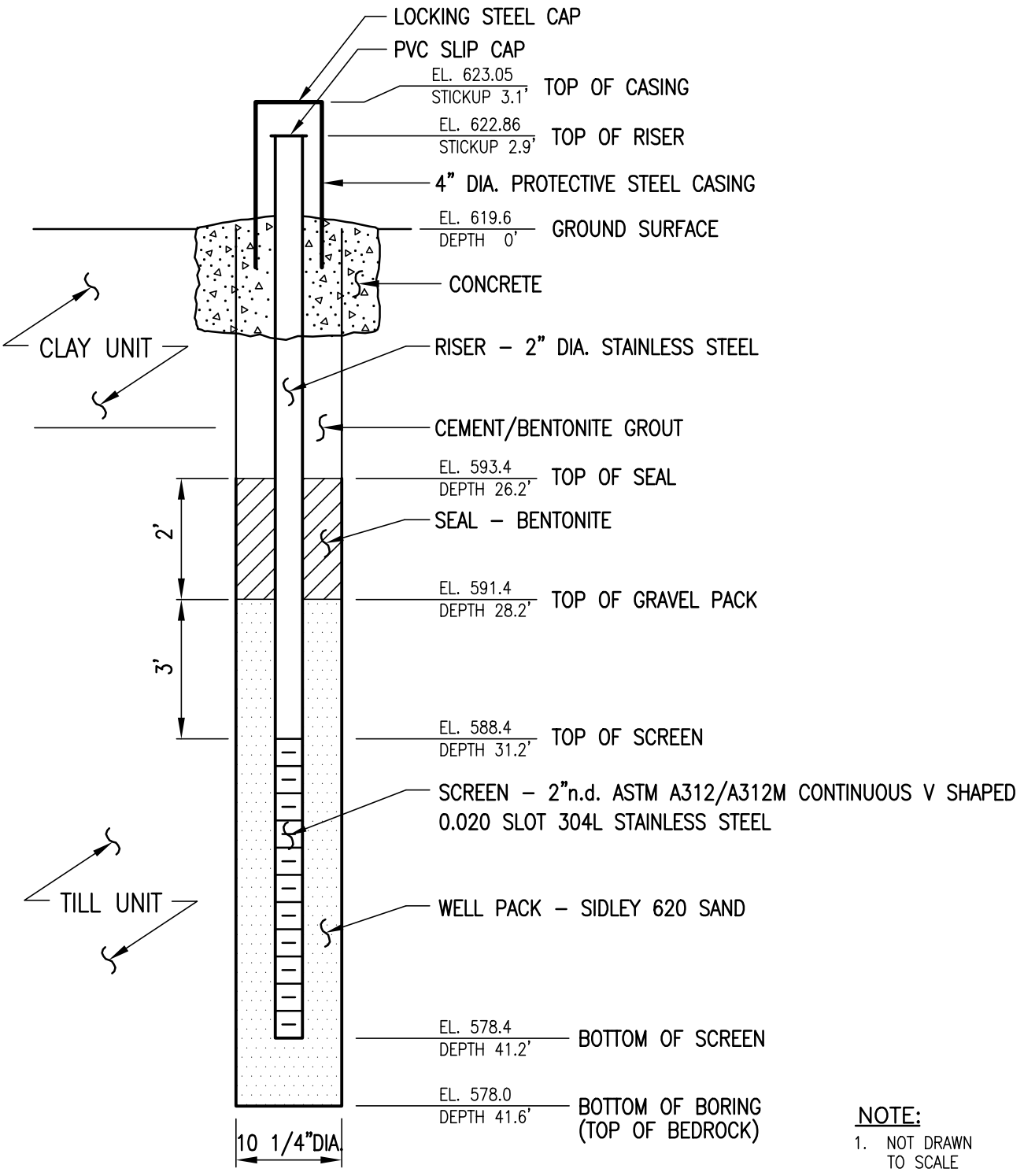
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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

MW–11M



NOTE:

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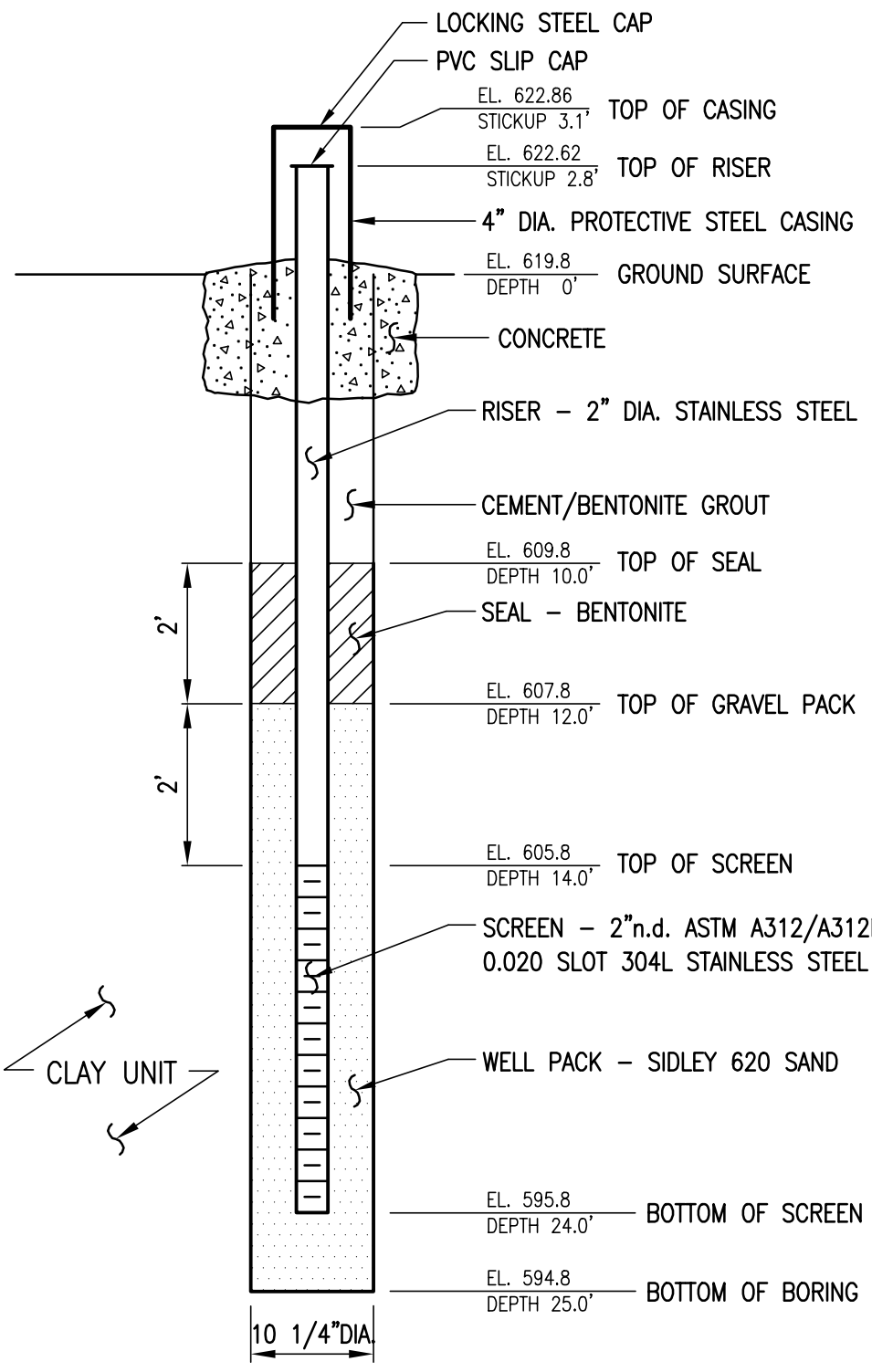
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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

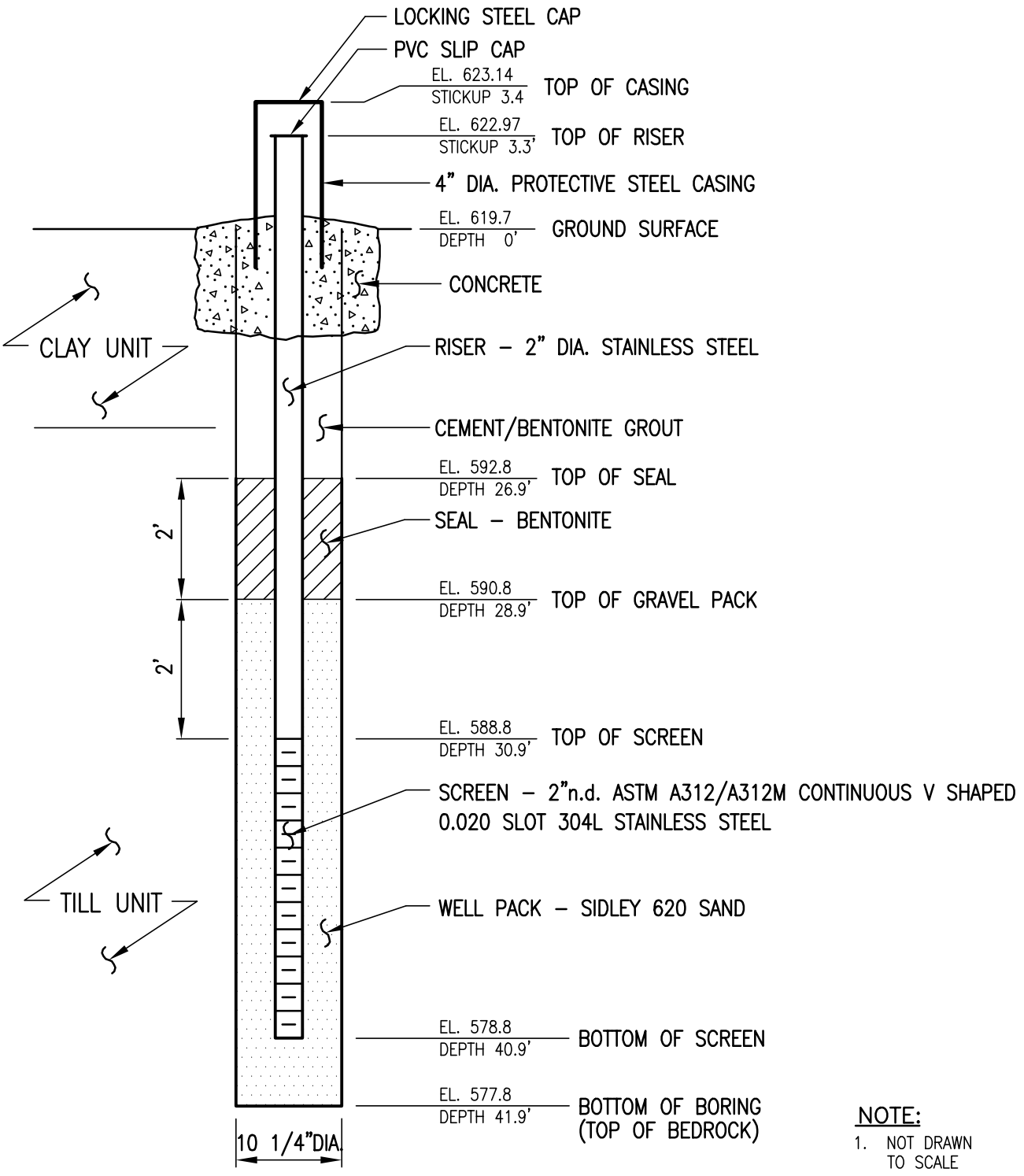


NOTE:

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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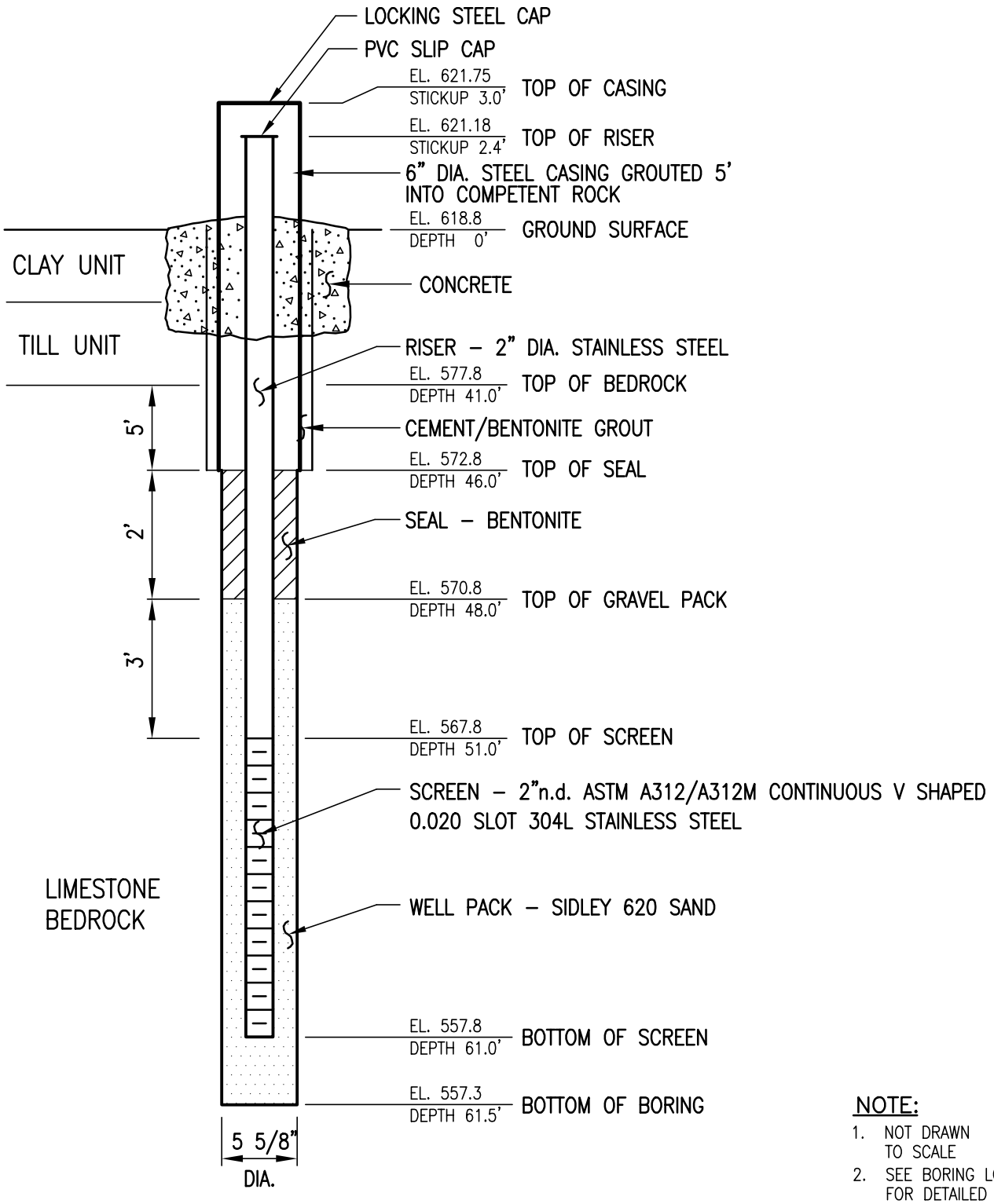
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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

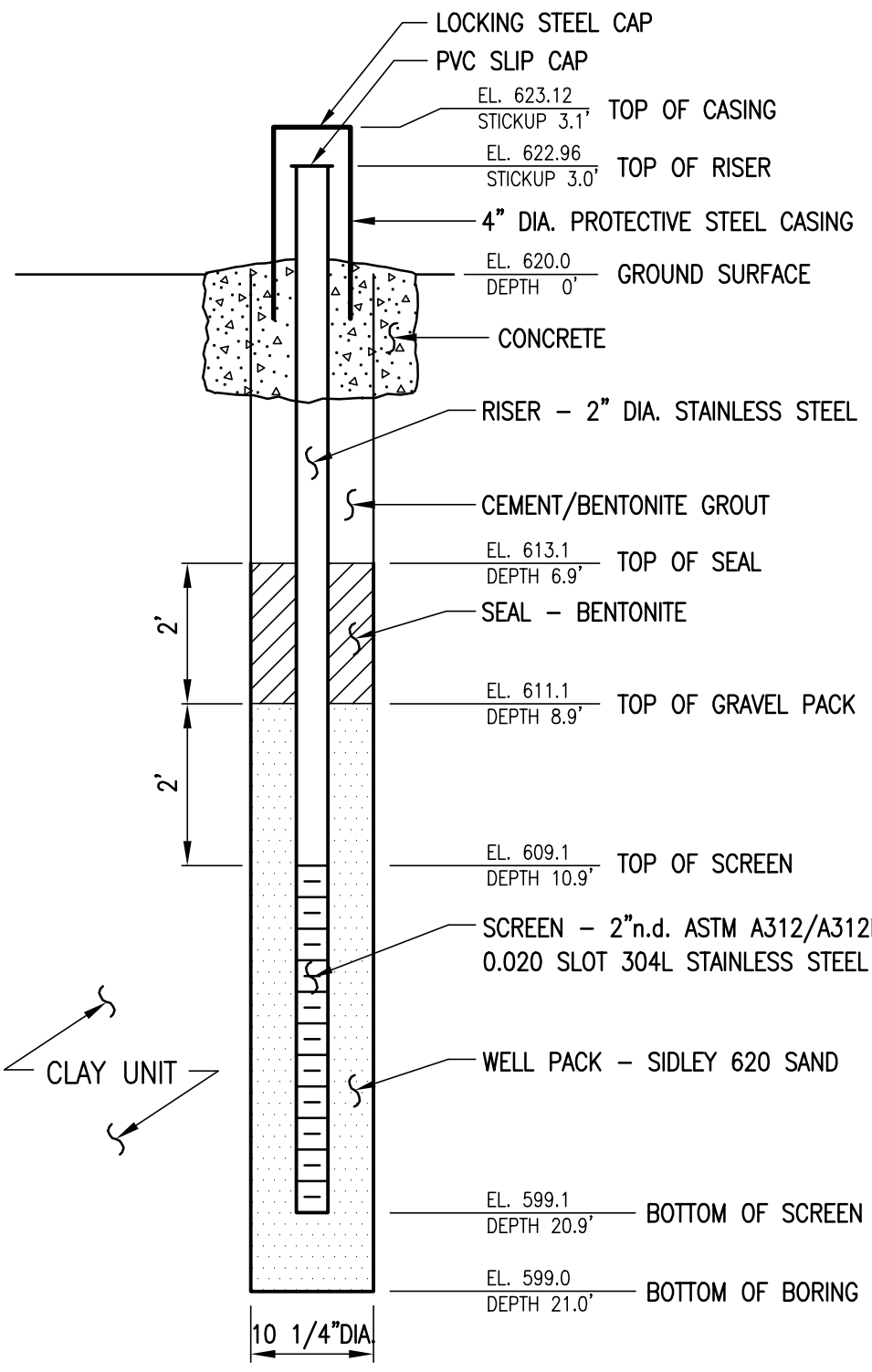


NOTE:

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

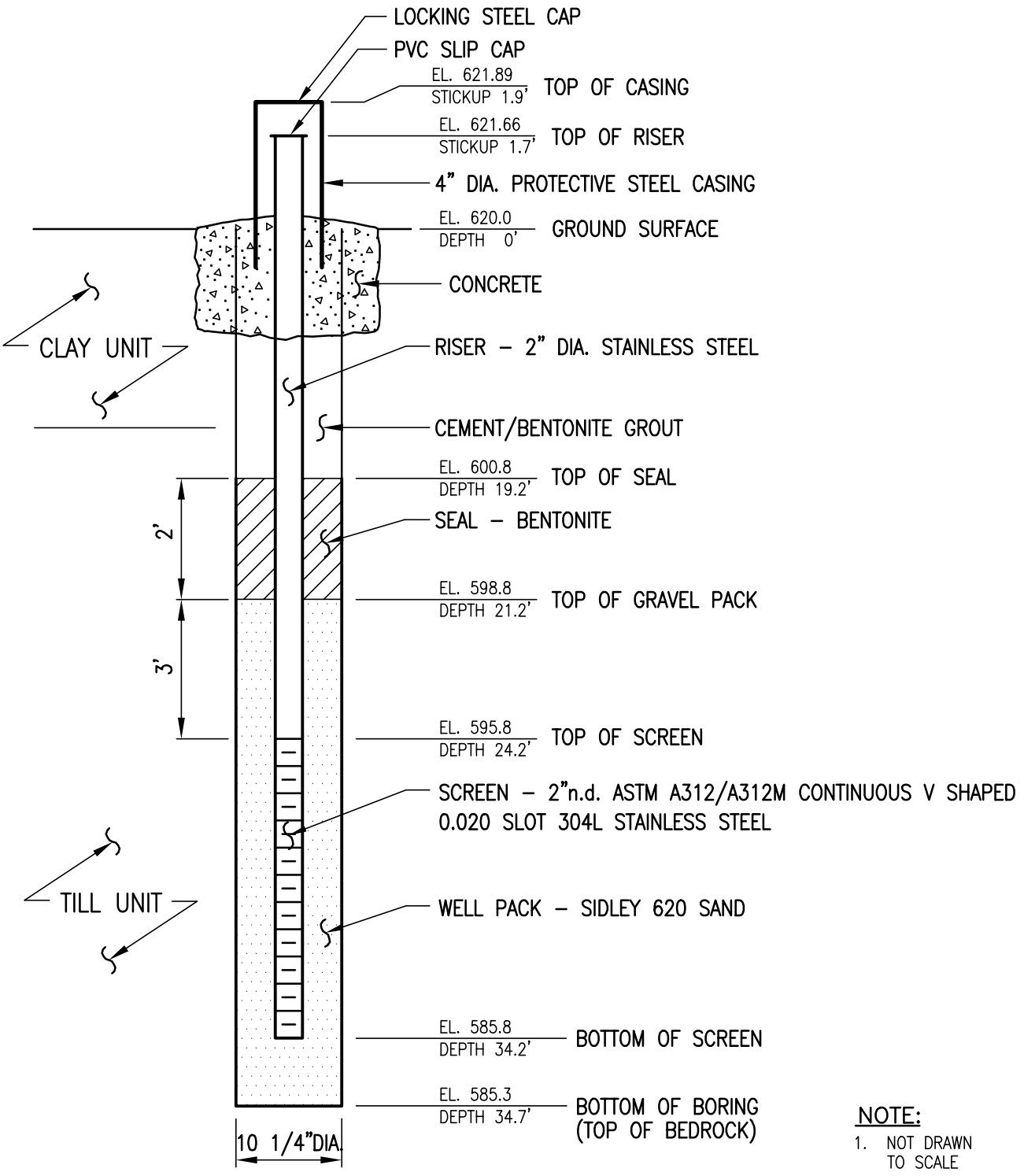


NOTE:

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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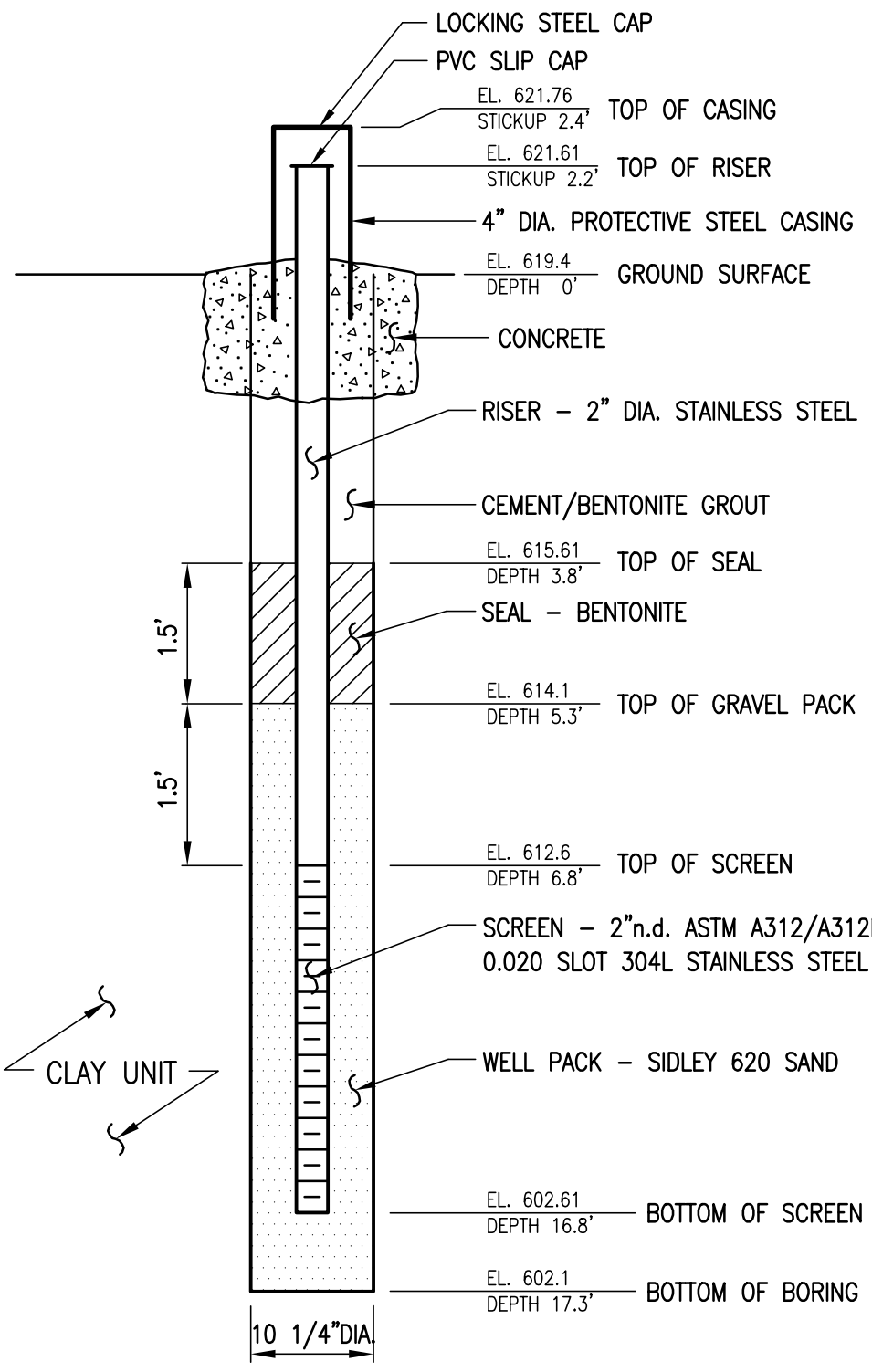
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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:

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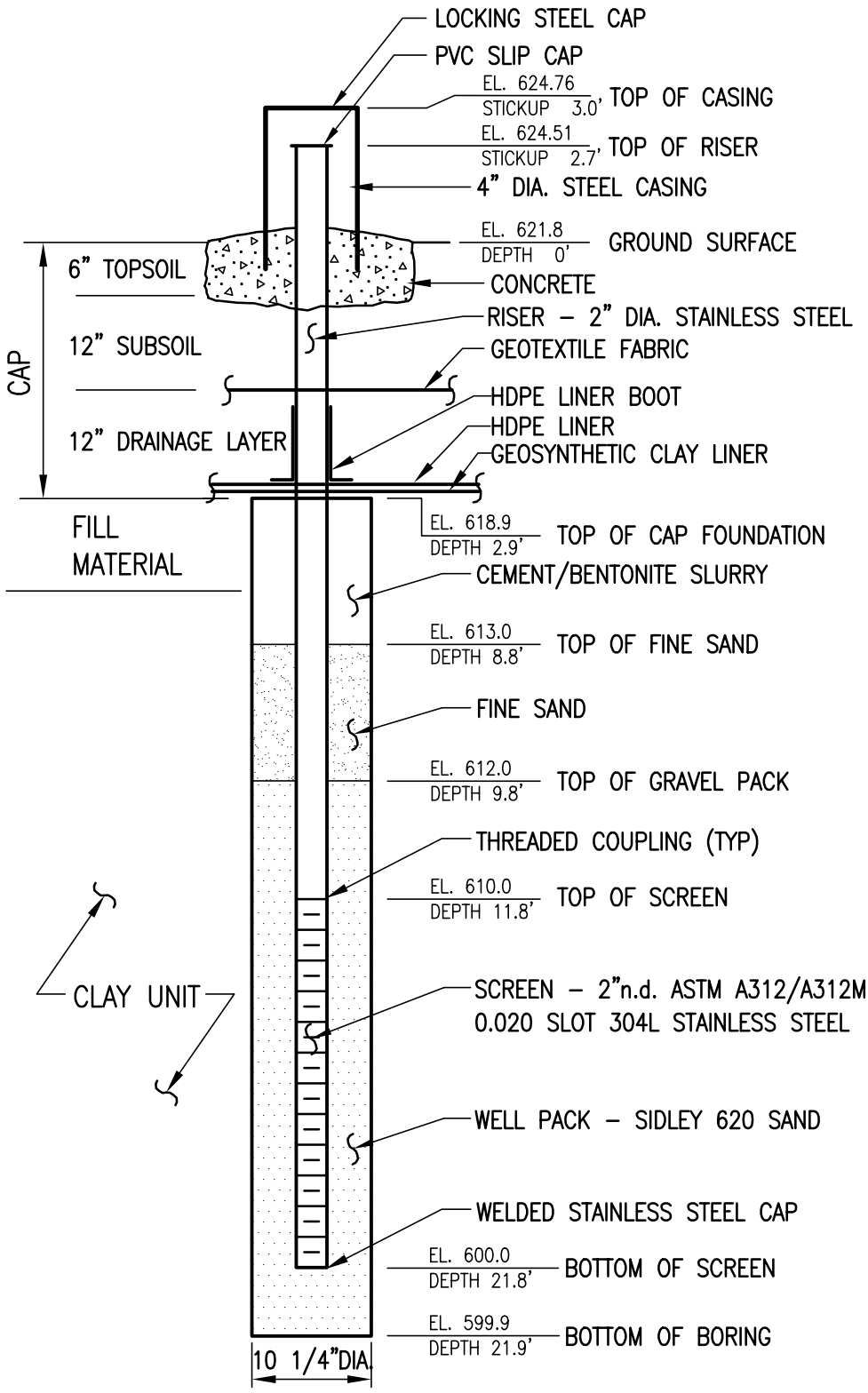
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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	SHALLOW GROUNDWATER MONITORING WELL DETAIL		BY: AD / CK:
					FIGURE # MW–14S

MW–16



NOTE:

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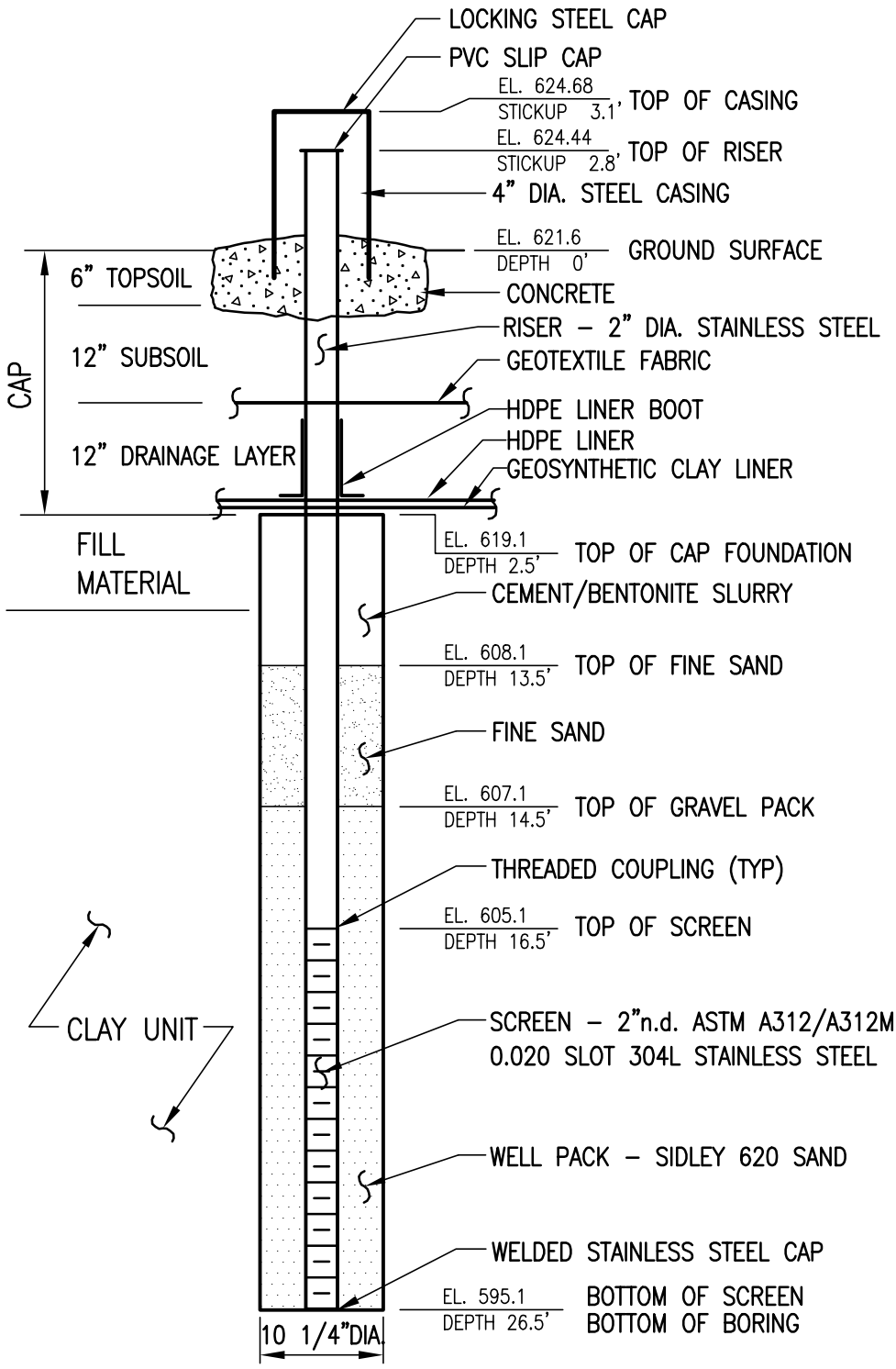
2. SEE BORING LOG FOR DETAILED SOIL DESCRIPTION.

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

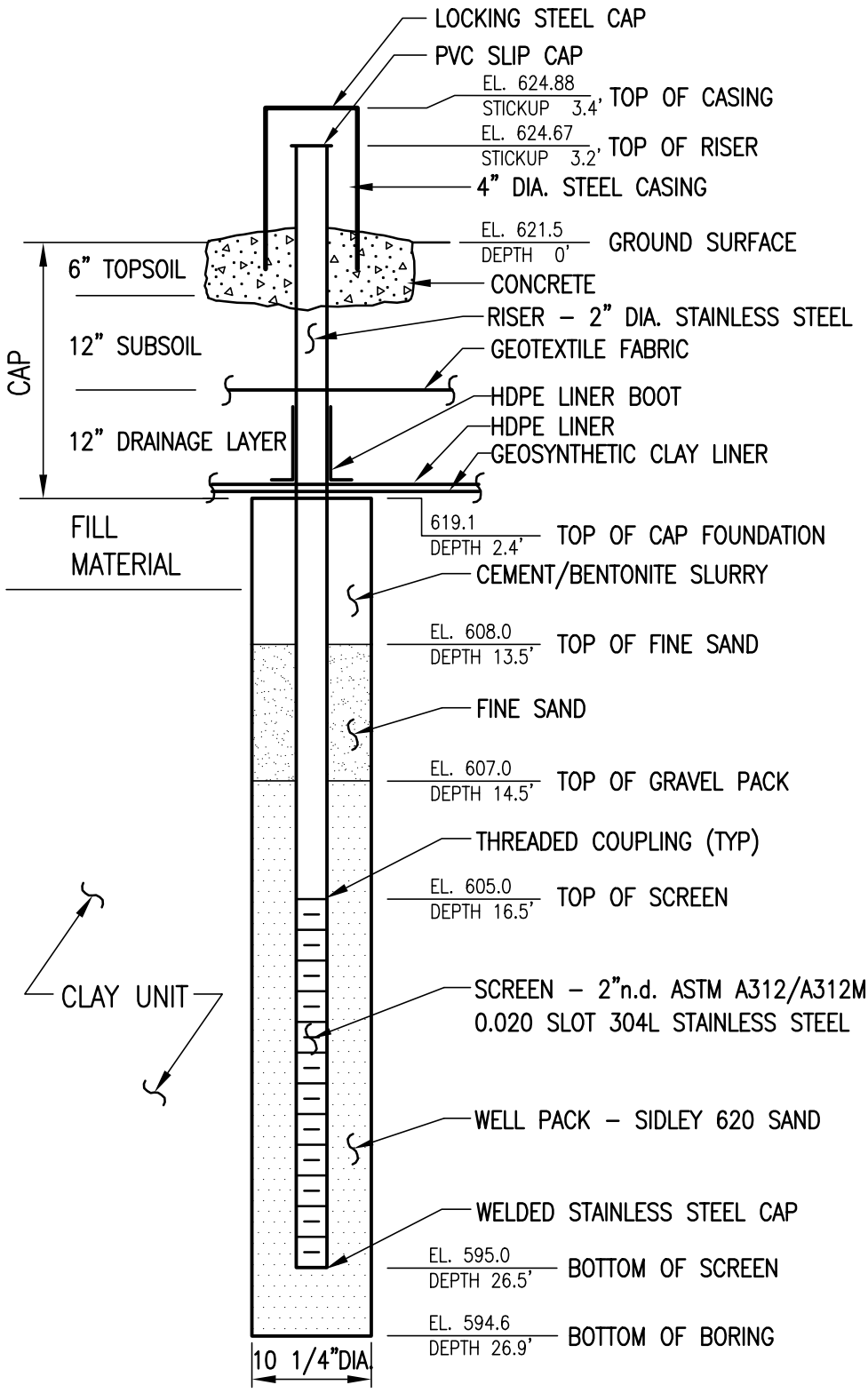


NOTE:

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–17

MW–18

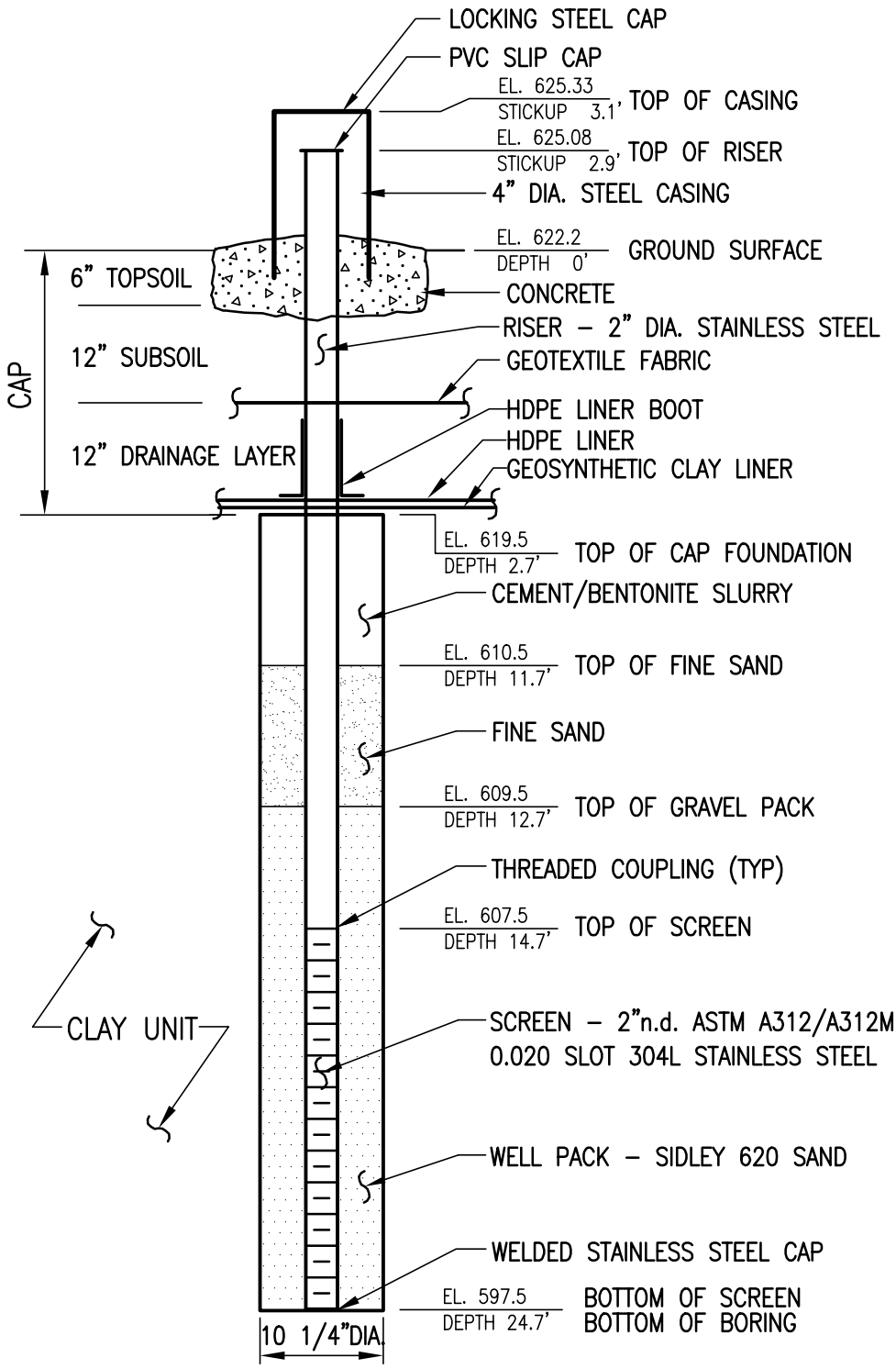


NOTE:

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

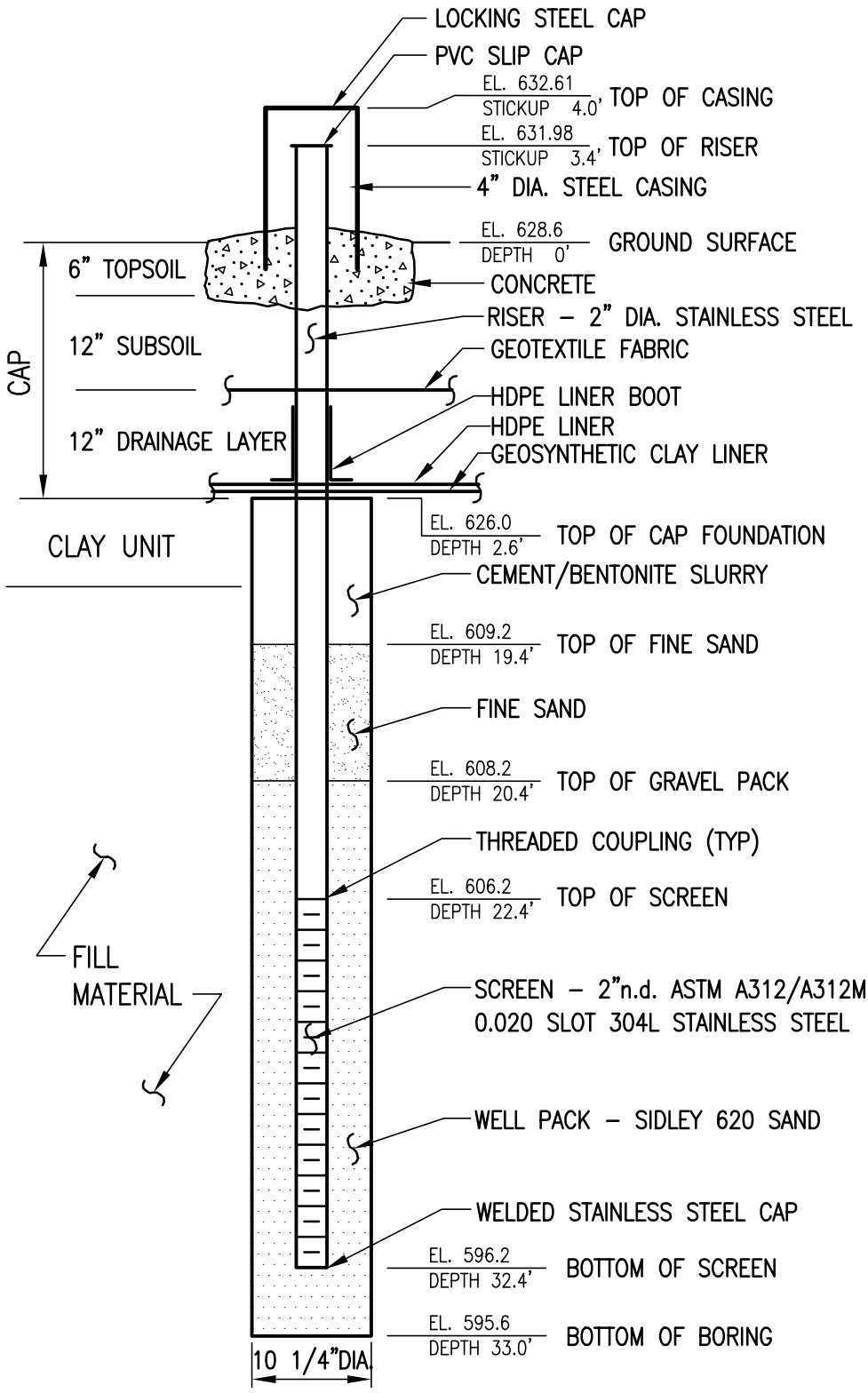


NOTE:

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

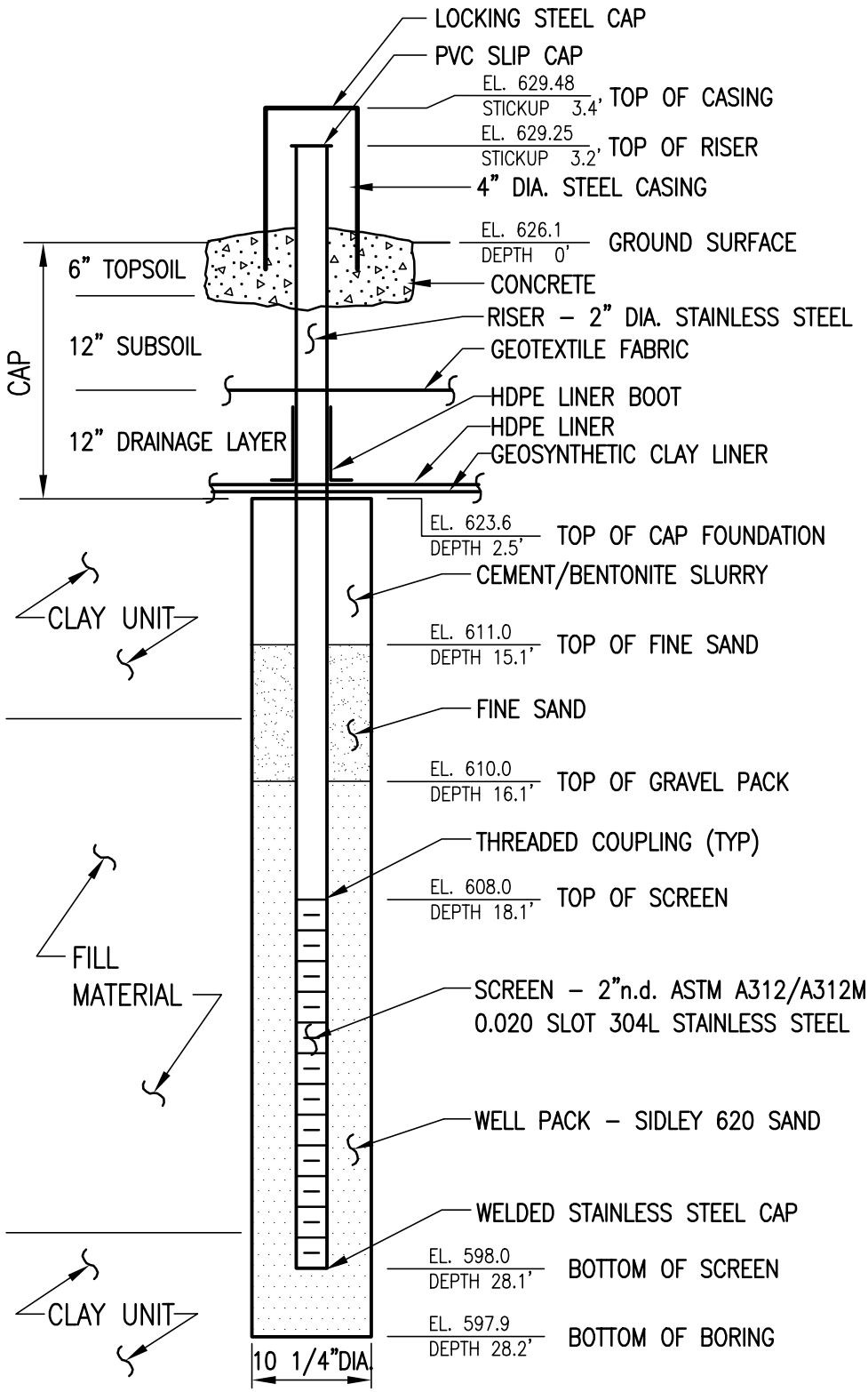


NOTE:

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

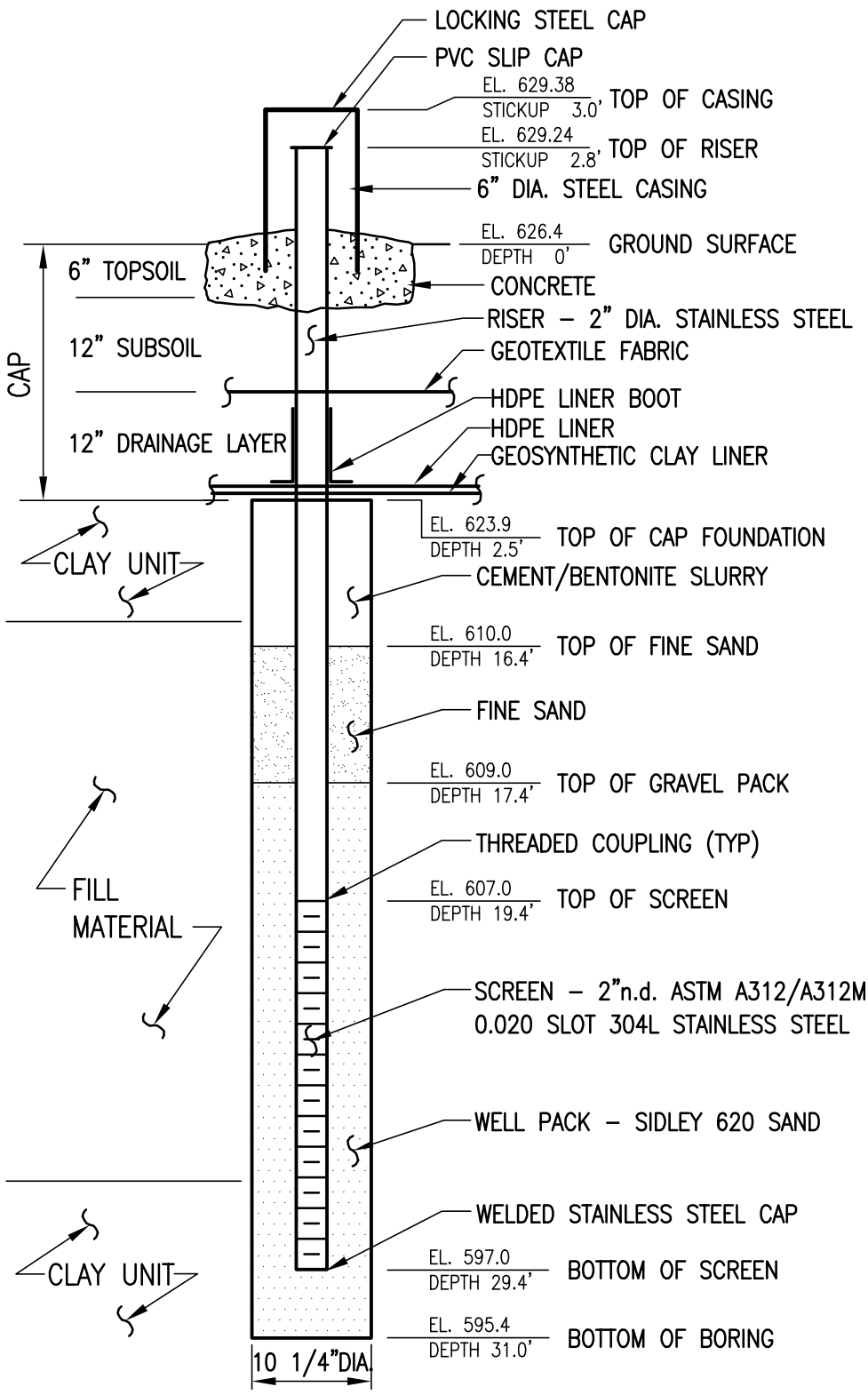


NOTE:

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

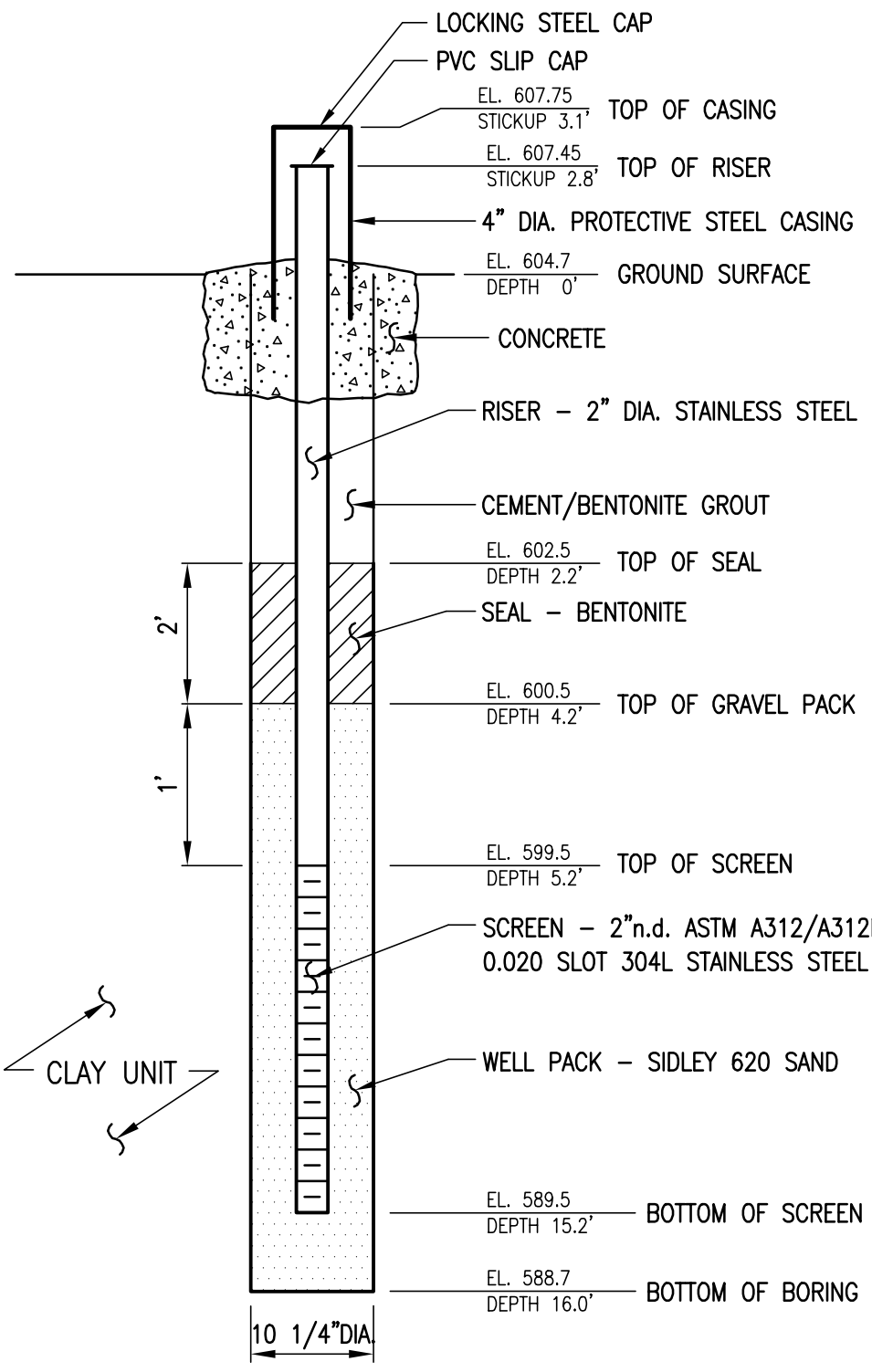


NOTE:

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–22

MW–23S



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	SHALLOW GROUNDWATER MONITORING WELL DETAIL		FIGURE # MW–23S

APPENDIX B

LABORATORY REPORT

September 19, 2017 Service Request No:R1708324

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

Laboratory Results for: Union Road

Dear Mr.Persico,

Enclosed are the results of the sample(s) submitted to our laboratory September 06, 2017
For your reference, these analyses have been assigned our service request number **R1708324.**

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
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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 Road/2011-100
Sample Matrix: Water

Service Request:R1708324
Date Received:9/6/17

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

Fourteen Water samples were received for analysis at ALS Environmental on 09/06/2017. 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 8260, 9/8/17: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Semi-Volatile Organic Analyses:

Method 8270D, 09/12/17: 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.

Metals Analyses:

No significant anomalies were noted with this analysis.

General Chemistry Analyses:

No significant anomalies were noted with this analysis.

Approved by _____ Date 9/19/2017

Sample Receipt Information

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:**R1708324
Project: Union Road/2011-100

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1708324-001	MW-10S	9/6/2017	1000
R1708324-002	MW-10M	9/6/2017	1015
R1708324-003	MW-10D	9/6/2017	1030
R1708324-004	MW-11S	9/6/2017	1115
R1708324-005	MW-11M	9/6/2017	1130
R1708324-006	MW-12S	9/6/2017	1145
R1708324-007	MW-12M	9/6/2017	1200
R1708324-008	MW-12D	9/6/2017	1215
R1708324-009	MW-13S	9/6/2017	1300
R1708324-010	MW-13M	9/6/2017	1315
R1708324-011	MW-14S	9/6/2017	1330
R1708324-012	TB-A	9/6/2017	
R1708324-013	TB-B	9/6/2017	
R1708324-014	TB-C	9/6/2017	

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

46735

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

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

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

PRESERVATIVE: 1 0 0 3

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 6010 As D Pb D (List in comments below)	METALS, DISSOLVED (List in comments below)	1664A/OG HEM
MW-10S		9/6/17	1000	GW		X	X			X		X	
MW-10M		9/6/17	1015	GW		X	X			X		X	
MW-10D		9/6/17	1030	GW		X	X			X		X	
MW-11S		9/6/17	1115	GW		X	X			X		X	
MW-11M		9/6/17	1130	GW		X	X			X		X	
MW-12S		9/6/17	1145	GW		X	X			X		X	
MW-12M		9/6/17	1200	GW		X	X			X		X	
MW-12D		9/6/17	1215	GW		X	X			X		X	
MW-13S		9/6/17	1300	GW		X	X			X		X	
MW-13M		9/6/17	1315	GW		X	X			X		X	
MW-14S		9/6/17	1330	GW		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 _____

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS
Metals Dissolved As, Pb ★Please Filter★

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

STATE WHERE SAMPLES WERE COLLECTED NY

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Gary Bohan	Signature:	Signature:	Signature:	Signature:	
Printed Name: Gary Bohan	Printed Name:	Printed Name:	Printed Name:	Printed Name:	
Firm: UMC	Firm:	Firm:	Firm:	Firm:	
Date/Time: 9/6/17 1535	Date/Time: 9/6/17 1535	Date/Time:	Date/Time:	Date/Time:	Date/Time:

R1708324 5
Unicorn Management Consultants
Union Road

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

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

46734

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

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

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

PRESERVATIVE: 1

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs (8260) ◦ 624 ◦ CLP	GC/MS SVOAs ◦ 8270 ◦ 625	GC VOAs ◦ 8021 ◦ 601/602	PESTICIDES ◦ 8081 ◦ 608	PCBs ◦ 8082 ◦ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)									REMARKS/ ALTERNATE DESCRIPTION
TB-A		LAB	LAB	AQ	3	X															
TB-B		LAB	LAB	AQ	3	X															
TB-C		LAB	LAB	AQ	3	X															

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

SPECIAL INSTRUCTIONS/COMMENTS

Metals TBA Cooler MW-10S, MW-10M MW-10D MW-11S+ MW-11M

TB-B Cooler MW-12S, MW-12M, MW-12D, MW-13S+ MW-13M

TBC Cooler 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 # 2011-100

BILL TO: Isabel Miller

imiller@unicornmgt.com

STATE WHERE SAMPLES WERE COLLECTED NY

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: Gary Bohan	Signature:	Signature	Signature	Signature	
Printed Name: Gary Bohan	Printed Name:	Printed Name	Printed Name	Printed Name	
Firm: UMC	Firm: AES	Firm	Firm	Firm	
Date/Time: 9/6/17 1535	Date/Time: 9/6/17 1535	Date/Time	Date/Time	Date/Time	Date/Time

R1708324 5
Unicorn Management Consultants
Union Road

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

R1708324 5
Unicorn Management Consultants
Union Road

Cooler Receipt and Preservation Check For

Project/Client Unicorn Folder Number .

Cooler received on 9/6/17 by: @

COURIER: ALS UPS FEDEX VELOCITY (CLIENT)

1	Were **Custody seals** on outside of cooler?	(Y) N
2	**Custody papers** properly completed (ink, signed)?	(Y) N
3	Did all bottles arrive in good **condition** (unbroken)?	(Y) N
4	Circle: **Wet Ice** **Dry Ice** **Gel packs** present?	(Y) N

5a	**Perchlorate** samples have required headspace?	Y N (NA)
5b	Did VOA vials, Alk,or Sulfide have sig* **bubbles**?	Y (N) NA
6	Where did the bottles originate?	(ALS/ROC) CLIENT
7	Soil VOA received as: Bulk Encore 5035set	(NA)

8. Temperature Readings Date: 9/6/17 Time: 1540 ID: IR#7 (IR#8) From: (Temp Blank) Sample Bottle

Observed Temp (°C)	3.9	4.7	5.0				
Correction Factor (°C)	-	+0.9	+0.4				
Corrected Temp (°C)	3.9	5.6	5.4				
Temp from:Type of bottle	-	cart bottle	VOA vial				
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-001 by @ on 9/6/17 at 1547
5035 samples placed in storage location: by on at

Cooler Breakdown: Date: 9/7/17 Time: 0646 by: @

9. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
10. Did all bottle labels and tags agree with custody papers? (YES) NO
11. Were correct containers used for the tests indicated? (YES) NO
12. Were 5035 vials acceptable (no extra labels, not leaking)? YES NO (N/A)
13. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4			183734	8/18				
<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	**	**	4115022	7/18				

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

Bottle lot numbers: 0603I7-2AAW, 6-195-001, 0603I7-1DK

Explain all Discrepancies/ Other Comments:

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

Labels secondary reviewed by: @
PC Secondary Review: JR

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

Miscellaneous Forms

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

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.

ACCREDITED IN ACCORDANCE WITH nelac

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:**	R1708324
Project:	Union Road/2011-100		

Sample Name:	MW-10S	**Date Collected:**	09/6/17
Lab Code:	R1708324-001	**Date Received:**	09/6/17
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
6010C	KMCLAEN	NMANSEN
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-10M	**Date Collected:**	09/6/17
Lab Code:	R1708324-002	**Date Received:**	09/6/17
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
6010C	KMCLAEN	NMANSEN
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-10D	**Date Collected:**	09/6/17
Lab Code:	R1708324-003	**Date Received:**	09/6/17
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
6010C	KMCLAEN	NMANSEN
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-11S	**Date Collected:**	09/6/17
Lab Code:	R1708324-004	**Date Received:**	09/6/17
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100		

Sample Name:	MW-11S	**Date Collected:**	09/6/17
Lab Code:	R1708324-004	**Date Received:**	09/6/17
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-11M	**Date Collected:**	09/6/17
Lab Code:	R1708324-005	**Date Received:**	09/6/17
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
6010C	KMCLAEN	NMANSEN
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-12S	**Date Collected:**	09/6/17
Lab Code:	R1708324-006	**Date Received:**	09/6/17
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
6010C	KMCLAEN	NMANSEN
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name:	MW-12M	**Date Collected:**	09/6/17
Lab Code:	R1708324-007	**Date Received:**	09/6/17
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
6010C	KMCLAEN	NMANSEN

Client: Unicorn Management Consultants **Service Request:** R1708324
Project: Union Road/2011-100

Sample Name: MW-12M **Date Collected:** 09/6/17
Lab Code: R1708324-007 **Date Received:** 09/6/17
Sample Matrix: Water

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

Sample Name: MW-12D **Date Collected:** 09/6/17
Lab Code: R1708324-008 **Date Received:** 09/6/17
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
6010C	KMCLAEN	NMANSEN
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name: MW-13S **Date Collected:** 09/6/17
Lab Code: R1708324-009 **Date Received:** 09/6/17
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
6010C	KMCLAEN	NMANSEN
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name: MW-13M **Date Collected:** 09/6/17
Lab Code: R1708324-010 **Date Received:** 09/6/17
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
6010C	KMCLAEN	NMANSEN
8260C		KRUEST

Client: Unicorn Management Consultants **Service Request:** R1708324
Project: Union Road/2011-100

Sample Name: MW-13M **Date Collected:** 09/6/17
Lab Code: R1708324-010 **Date Received:** 09/6/17
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8270D	DMURPHY	JMISIUREWICZ

Sample Name: MW-14S **Date Collected:** 09/6/17
Lab Code: R1708324-011 **Date Received:** 09/6/17
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
1664A		KMENGS
6010C	KMCLAEN	NMANSEN
8260C		KRUEST
8270D	DMURPHY	JMISIUREWICZ

Sample Name: TB-A **Date Collected:** 09/6/17
Lab Code: R1708324-012 **Date Received:** 09/6/17
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Sample Name: TB-B **Date Collected:** 09/6/17
Lab Code: R1708324-013 **Date Received:** 09/6/17
Sample Matrix: Water

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

Analyst Summary report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100		

Sample Name:	TB-C	**Date Collected:**	09/6/17
Lab Code:	R1708324-014	**Date Received:**	09/6/17
Sample Matrix:	Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		KRUEST

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:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10S	**Units:**	ug/L
Lab Code:	R1708324-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 15:06	
Benzene	ND U	5.0	1	09/08/17 15:06	
Bromodichloromethane	ND U	5.0	1	09/08/17 15:06	
Bromoform	ND U	5.0	1	09/08/17 15:06	
Bromomethane	ND U	5.0	1	09/08/17 15:06	
2-Butanone (MEK)	ND U	10	1	09/08/17 15:06	
Carbon Disulfide	ND U	10	1	09/08/17 15:06	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 15:06	
Chlorobenzene	ND U	5.0	1	09/08/17 15:06	
Chloroethane	ND U	5.0	1	09/08/17 15:06	
Chloroform	ND U	5.0	1	09/08/17 15:06	
Chloromethane	ND U	5.0	1	09/08/17 15:06	
Dibromochloromethane	ND U	5.0	1	09/08/17 15:06	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 15:06	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 15:06	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 15:06	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 15:06	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 15:06	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 15:06	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 15:06	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 15:06	
Ethylbenzene	ND U	5.0	1	09/08/17 15:06	
2-Hexanone	ND U	10	1	09/08/17 15:06	
Methylene Chloride	ND U	5.0	1	09/08/17 15:06	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 15:06	
Styrene	ND U	5.0	1	09/08/17 15:06	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 15:06	
Tetrachloroethene	ND U	5.0	1	09/08/17 15:06	
Toluene	ND U	5.0	1	09/08/17 15:06	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 15:06	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 15:06	
Trichloroethene	ND U	5.0	1	09/08/17 15:06	
Vinyl Chloride	ND U	5.0	1	09/08/17 15:06	
o-Xylene	ND U	5.0	1	09/08/17 15:06	
m,p-Xylenes	ND U	5.0	1	09/08/17 15:06	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10S	**Units:**	ug/L
Lab Code:	R1708324-001	**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	97	85 - 122	09/08/17 15:06	
Toluene-d8	98	87 - 121	09/08/17 15:06	
Dibromofluoromethane	96	89 - 119	09/08/17 15:06	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10M	**Units:**	ug/L
Lab Code:	R1708324-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 15:28	
Benzene	ND U	5.0	1	09/08/17 15:28	
Bromodichloromethane	ND U	5.0	1	09/08/17 15:28	
Bromoform	ND U	5.0	1	09/08/17 15:28	
Bromomethane	ND U	5.0	1	09/08/17 15:28	
2-Butanone (MEK)	ND U	10	1	09/08/17 15:28	
Carbon Disulfide	ND U	10	1	09/08/17 15:28	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 15:28	
Chlorobenzene	ND U	5.0	1	09/08/17 15:28	
Chloroethane	ND U	5.0	1	09/08/17 15:28	
Chloroform	ND U	5.0	1	09/08/17 15:28	
Chloromethane	ND U	5.0	1	09/08/17 15:28	
Dibromochloromethane	ND U	5.0	1	09/08/17 15:28	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 15:28	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 15:28	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 15:28	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 15:28	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 15:28	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 15:28	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 15:28	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 15:28	
Ethylbenzene	ND U	5.0	1	09/08/17 15:28	
2-Hexanone	ND U	10	1	09/08/17 15:28	
Methylene Chloride	ND U	5.0	1	09/08/17 15:28	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 15:28	
Styrene	ND U	5.0	1	09/08/17 15:28	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 15:28	
Tetrachloroethene	ND U	5.0	1	09/08/17 15:28	
Toluene	ND U	5.0	1	09/08/17 15:28	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 15:28	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 15:28	
Trichloroethene	ND U	5.0	1	09/08/17 15:28	
Vinyl Chloride	ND U	5.0	1	09/08/17 15:28	
o-Xylene	ND U	5.0	1	09/08/17 15:28	
m,p-Xylenes	ND U	5.0	1	09/08/17 15:28	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10M	**Units:**	ug/L
Lab Code:	R1708324-002	**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	95	85 - 122	09/08/17 15:28	
Toluene-d8	104	87 - 121	09/08/17 15:28	
Dibromofluoromethane	98	89 - 119	09/08/17 15:28	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10D	**Units:**	ug/L
Lab Code:	R1708324-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 15:50	
Benzene	ND U	5.0	1	09/08/17 15:50	
Bromodichloromethane	ND U	5.0	1	09/08/17 15:50	
Bromoform	ND U	5.0	1	09/08/17 15:50	
Bromomethane	ND U	5.0	1	09/08/17 15:50	
2-Butanone (MEK)	ND U	10	1	09/08/17 15:50	
Carbon Disulfide	ND U	10	1	09/08/17 15:50	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 15:50	
Chlorobenzene	ND U	5.0	1	09/08/17 15:50	
Chloroethane	ND U	5.0	1	09/08/17 15:50	
Chloroform	ND U	5.0	1	09/08/17 15:50	
Chloromethane	ND U	5.0	1	09/08/17 15:50	
Dibromochloromethane	ND U	5.0	1	09/08/17 15:50	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 15:50	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 15:50	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 15:50	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 15:50	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 15:50	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 15:50	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 15:50	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 15:50	
Ethylbenzene	ND U	5.0	1	09/08/17 15:50	
2-Hexanone	ND U	10	1	09/08/17 15:50	
Methylene Chloride	ND U	5.0	1	09/08/17 15:50	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 15:50	
Styrene	ND U	5.0	1	09/08/17 15:50	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 15:50	
Tetrachloroethene	ND U	5.0	1	09/08/17 15:50	
Toluene	ND U	5.0	1	09/08/17 15:50	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 15:50	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 15:50	
Trichloroethene	ND U	5.0	1	09/08/17 15:50	
Vinyl Chloride	ND U	5.0	1	09/08/17 15:50	
o-Xylene	ND U	5.0	1	09/08/17 15:50	
m,p-Xylenes	ND U	5.0	1	09/08/17 15:50	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10D	**Units:**	ug/L
Lab Code:	R1708324-003	**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	98	85 - 122	09/08/17 15:50	
Toluene-d8	100	87 - 121	09/08/17 15:50	
Dibromofluoromethane	99	89 - 119	09/08/17 15:50	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-11S	**Units:**	ug/L
Lab Code:	R1708324-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 16:11	
Benzene	ND U	5.0	1	09/08/17 16:11	
Bromodichloromethane	ND U	5.0	1	09/08/17 16:11	
Bromoform	ND U	5.0	1	09/08/17 16:11	
Bromomethane	ND U	5.0	1	09/08/17 16:11	
2-Butanone (MEK)	ND U	10	1	09/08/17 16:11	
Carbon Disulfide	ND U	10	1	09/08/17 16:11	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 16:11	
Chlorobenzene	ND U	5.0	1	09/08/17 16:11	
Chloroethane	ND U	5.0	1	09/08/17 16:11	
Chloroform	ND U	5.0	1	09/08/17 16:11	
Chloromethane	ND U	5.0	1	09/08/17 16:11	
Dibromochloromethane	ND U	5.0	1	09/08/17 16:11	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 16:11	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 16:11	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 16:11	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 16:11	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 16:11	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 16:11	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 16:11	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 16:11	
Ethylbenzene	ND U	5.0	1	09/08/17 16:11	
2-Hexanone	ND U	10	1	09/08/17 16:11	
Methylene Chloride	ND U	5.0	1	09/08/17 16:11	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 16:11	
Styrene	ND U	5.0	1	09/08/17 16:11	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 16:11	
Tetrachloroethene	ND U	5.0	1	09/08/17 16:11	
Toluene	ND U	5.0	1	09/08/17 16:11	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 16:11	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 16:11	
Trichloroethene	ND U	5.0	1	09/08/17 16:11	
Vinyl Chloride	ND U	5.0	1	09/08/17 16:11	
o-Xylene	ND U	5.0	1	09/08/17 16:11	
m,p-Xylenes	ND U	5.0	1	09/08/17 16:11	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-11S	**Units:**	ug/L
Lab Code:	R1708324-004	**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	97	85 - 122	09/08/17 16:11	
Toluene-d8	101	87 - 121	09/08/17 16:11	
Dibromofluoromethane	101	89 - 119	09/08/17 16:11	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-11M	**Units:**	ug/L
Lab Code:	R1708324-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 16:33	
Benzene	ND U	5.0	1	09/08/17 16:33	
Bromodichloromethane	ND U	5.0	1	09/08/17 16:33	
Bromoform	ND U	5.0	1	09/08/17 16:33	
Bromomethane	ND U	5.0	1	09/08/17 16:33	
2-Butanone (MEK)	ND U	10	1	09/08/17 16:33	
Carbon Disulfide	ND U	10	1	09/08/17 16:33	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 16:33	
Chlorobenzene	ND U	5.0	1	09/08/17 16:33	
Chloroethane	ND U	5.0	1	09/08/17 16:33	
Chloroform	ND U	5.0	1	09/08/17 16:33	
Chloromethane	ND U	5.0	1	09/08/17 16:33	
Dibromochloromethane	ND U	5.0	1	09/08/17 16:33	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 16:33	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 16:33	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 16:33	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 16:33	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 16:33	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 16:33	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 16:33	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 16:33	
Ethylbenzene	ND U	5.0	1	09/08/17 16:33	
2-Hexanone	ND U	10	1	09/08/17 16:33	
Methylene Chloride	ND U	5.0	1	09/08/17 16:33	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 16:33	
Styrene	ND U	5.0	1	09/08/17 16:33	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 16:33	
Tetrachloroethene	ND U	5.0	1	09/08/17 16:33	
Toluene	ND U	5.0	1	09/08/17 16:33	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 16:33	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 16:33	
Trichloroethene	ND U	5.0	1	09/08/17 16:33	
Vinyl Chloride	ND U	5.0	1	09/08/17 16:33	
o-Xylene	ND U	5.0	1	09/08/17 16:33	
m,p-Xylenes	ND U	5.0	1	09/08/17 16:33	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-11M	**Units:**	ug/L
Lab Code:	R1708324-005	**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	100	85 - 122	09/08/17 16:33	
Toluene-d8	102	87 - 121	09/08/17 16:33	
Dibromofluoromethane	98	89 - 119	09/08/17 16:33	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:45
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12S	**Units:**	ug/L
Lab Code:	R1708324-006	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 16:55	
Benzene	ND U	5.0	1	09/08/17 16:55	
Bromodichloromethane	ND U	5.0	1	09/08/17 16:55	
Bromoform	ND U	5.0	1	09/08/17 16:55	
Bromomethane	ND U	5.0	1	09/08/17 16:55	
2-Butanone (MEK)	ND U	10	1	09/08/17 16:55	
Carbon Disulfide	ND U	10	1	09/08/17 16:55	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 16:55	
Chlorobenzene	ND U	5.0	1	09/08/17 16:55	
Chloroethane	ND U	5.0	1	09/08/17 16:55	
Chloroform	ND U	5.0	1	09/08/17 16:55	
Chloromethane	ND U	5.0	1	09/08/17 16:55	
Dibromochloromethane	ND U	5.0	1	09/08/17 16:55	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 16:55	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 16:55	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 16:55	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 16:55	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 16:55	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 16:55	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 16:55	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 16:55	
Ethylbenzene	ND U	5.0	1	09/08/17 16:55	
2-Hexanone	ND U	10	1	09/08/17 16:55	
Methylene Chloride	ND U	5.0	1	09/08/17 16:55	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 16:55	
Styrene	ND U	5.0	1	09/08/17 16:55	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 16:55	
Tetrachloroethene	ND U	5.0	1	09/08/17 16:55	
Toluene	ND U	5.0	1	09/08/17 16:55	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 16:55	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 16:55	
Trichloroethene	ND U	5.0	1	09/08/17 16:55	
Vinyl Chloride	ND U	5.0	1	09/08/17 16:55	
o-Xylene	ND U	5.0	1	09/08/17 16:55	
m,p-Xylenes	ND U	5.0	1	09/08/17 16:55	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:45
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12S	**Units:**	ug/L
Lab Code:	R1708324-006	**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	102	85 - 122	09/08/17 16:55	
Toluene-d8	102	87 - 121	09/08/17 16:55	
Dibromofluoromethane	100	89 - 119	09/08/17 16:55	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 12:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12M	**Units:**	ug/L
Lab Code:	R1708324-007	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 17:17	
Benzene	ND U	5.0	1	09/08/17 17:17	
Bromodichloromethane	ND U	5.0	1	09/08/17 17:17	
Bromoform	ND U	5.0	1	09/08/17 17:17	
Bromomethane	ND U	5.0	1	09/08/17 17:17	
2-Butanone (MEK)	ND U	10	1	09/08/17 17:17	
Carbon Disulfide	ND U	10	1	09/08/17 17:17	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 17:17	
Chlorobenzene	ND U	5.0	1	09/08/17 17:17	
Chloroethane	ND U	5.0	1	09/08/17 17:17	
Chloroform	ND U	5.0	1	09/08/17 17:17	
Chloromethane	ND U	5.0	1	09/08/17 17:17	
Dibromochloromethane	ND U	5.0	1	09/08/17 17:17	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 17:17	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 17:17	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 17:17	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 17:17	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 17:17	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 17:17	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 17:17	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 17:17	
Ethylbenzene	ND U	5.0	1	09/08/17 17:17	
2-Hexanone	ND U	10	1	09/08/17 17:17	
Methylene Chloride	ND U	5.0	1	09/08/17 17:17	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 17:17	
Styrene	ND U	5.0	1	09/08/17 17:17	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 17:17	
Tetrachloroethene	ND U	5.0	1	09/08/17 17:17	
Toluene	ND U	5.0	1	09/08/17 17:17	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 17:17	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 17:17	
Trichloroethene	ND U	5.0	1	09/08/17 17:17	
Vinyl Chloride	ND U	5.0	1	09/08/17 17:17	
o-Xylene	ND U	5.0	1	09/08/17 17:17	
m,p-Xylenes	ND U	5.0	1	09/08/17 17:17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 12:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12M	**Units:**	ug/L
Lab Code:	R1708324-007	**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	102	85 - 122	09/08/17 17:17	
Toluene-d8	102	87 - 121	09/08/17 17:17	
Dibromofluoromethane	97	89 - 119	09/08/17 17:17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 12:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12D	**Units:**	ug/L
Lab Code:	R1708324-008	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 17:39	
Benzene	ND U	5.0	1	09/08/17 17:39	
Bromodichloromethane	ND U	5.0	1	09/08/17 17:39	
Bromoform	ND U	5.0	1	09/08/17 17:39	
Bromomethane	ND U	5.0	1	09/08/17 17:39	
2-Butanone (MEK)	ND U	10	1	09/08/17 17:39	
Carbon Disulfide	ND U	10	1	09/08/17 17:39	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 17:39	
Chlorobenzene	ND U	5.0	1	09/08/17 17:39	
Chloroethane	ND U	5.0	1	09/08/17 17:39	
Chloroform	ND U	5.0	1	09/08/17 17:39	
Chloromethane	ND U	5.0	1	09/08/17 17:39	
Dibromochloromethane	ND U	5.0	1	09/08/17 17:39	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 17:39	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 17:39	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 17:39	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 17:39	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 17:39	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 17:39	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 17:39	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 17:39	
Ethylbenzene	ND U	5.0	1	09/08/17 17:39	
2-Hexanone	ND U	10	1	09/08/17 17:39	
Methylene Chloride	ND U	5.0	1	09/08/17 17:39	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 17:39	
Styrene	ND U	5.0	1	09/08/17 17:39	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 17:39	
Tetrachloroethene	ND U	5.0	1	09/08/17 17:39	
Toluene	ND U	5.0	1	09/08/17 17:39	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 17:39	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 17:39	
Trichloroethene	ND U	5.0	1	09/08/17 17:39	
Vinyl Chloride	ND U	5.0	1	09/08/17 17:39	
o-Xylene	ND U	5.0	1	09/08/17 17:39	
m,p-Xylenes	ND U	5.0	1	09/08/17 17:39	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 12:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12D	**Units:**	ug/L
Lab Code:	R1708324-008	**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	101	85 - 122	09/08/17 17:39	
Toluene-d8	100	87 - 121	09/08/17 17:39	
Dibromofluoromethane	102	89 - 119	09/08/17 17:39	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-13S	**Units:**	ug/L
Lab Code:	R1708324-009	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 18:01	
Benzene	ND U	5.0	1	09/08/17 18:01	
Bromodichloromethane	ND U	5.0	1	09/08/17 18:01	
Bromoform	ND U	5.0	1	09/08/17 18:01	
Bromomethane	ND U	5.0	1	09/08/17 18:01	
2-Butanone (MEK)	ND U	10	1	09/08/17 18:01	
Carbon Disulfide	ND U	10	1	09/08/17 18:01	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 18:01	
Chlorobenzene	ND U	5.0	1	09/08/17 18:01	
Chloroethane	ND U	5.0	1	09/08/17 18:01	
Chloroform	ND U	5.0	1	09/08/17 18:01	
Chloromethane	ND U	5.0	1	09/08/17 18:01	
Dibromochloromethane	ND U	5.0	1	09/08/17 18:01	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 18:01	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 18:01	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 18:01	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 18:01	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 18:01	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 18:01	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 18:01	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 18:01	
Ethylbenzene	ND U	5.0	1	09/08/17 18:01	
2-Hexanone	ND U	10	1	09/08/17 18:01	
Methylene Chloride	ND U	5.0	1	09/08/17 18:01	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 18:01	
Styrene	ND U	5.0	1	09/08/17 18:01	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 18:01	
Tetrachloroethene	ND U	5.0	1	09/08/17 18:01	
Toluene	ND U	5.0	1	09/08/17 18:01	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 18:01	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 18:01	
Trichloroethene	ND U	5.0	1	09/08/17 18:01	
Vinyl Chloride	ND U	5.0	1	09/08/17 18:01	
o-Xylene	ND U	5.0	1	09/08/17 18:01	
m,p-Xylenes	ND U	5.0	1	09/08/17 18:01	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-13S	**Units:**	ug/L
Lab Code:	R1708324-009	**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	101	85 - 122	09/08/17 18:01	
Toluene-d8	101	87 - 121	09/08/17 18:01	
Dibromofluoromethane	103	89 - 119	09/08/17 18:01	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-13M	**Units:**	ug/L
Lab Code:	R1708324-010	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 18:22	
Benzene	ND U	5.0	1	09/08/17 18:22	
Bromodichloromethane	ND U	5.0	1	09/08/17 18:22	
Bromoform	ND U	5.0	1	09/08/17 18:22	
Bromomethane	ND U	5.0	1	09/08/17 18:22	
2-Butanone (MEK)	ND U	10	1	09/08/17 18:22	
Carbon Disulfide	ND U	10	1	09/08/17 18:22	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 18:22	
Chlorobenzene	ND U	5.0	1	09/08/17 18:22	
Chloroethane	ND U	5.0	1	09/08/17 18:22	
Chloroform	ND U	5.0	1	09/08/17 18:22	
Chloromethane	ND U	5.0	1	09/08/17 18:22	
Dibromochloromethane	ND U	5.0	1	09/08/17 18:22	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 18:22	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 18:22	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 18:22	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 18:22	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 18:22	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 18:22	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 18:22	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 18:22	
Ethylbenzene	ND U	5.0	1	09/08/17 18:22	
2-Hexanone	ND U	10	1	09/08/17 18:22	
Methylene Chloride	ND U	5.0	1	09/08/17 18:22	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 18:22	
Styrene	ND U	5.0	1	09/08/17 18:22	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 18:22	
Tetrachloroethene	ND U	5.0	1	09/08/17 18:22	
Toluene	ND U	5.0	1	09/08/17 18:22	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 18:22	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 18:22	
Trichloroethene	ND U	5.0	1	09/08/17 18:22	
Vinyl Chloride	ND U	5.0	1	09/08/17 18:22	
o-Xylene	ND U	5.0	1	09/08/17 18:22	
m,p-Xylenes	ND U	5.0	1	09/08/17 18:22	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-13M	**Units:**	ug/L
Lab Code:	R1708324-010	**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	102	85 - 122	09/08/17 18:22	
Toluene-d8	102	87 - 121	09/08/17 18:22	
Dibromofluoromethane	101	89 - 119	09/08/17 18:22	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-14S	**Units:**	ug/L
Lab Code:	R1708324-011	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 18:44	
Benzene	ND U	5.0	1	09/08/17 18:44	
Bromodichloromethane	ND U	5.0	1	09/08/17 18:44	
Bromoform	ND U	5.0	1	09/08/17 18:44	
Bromomethane	ND U	5.0	1	09/08/17 18:44	
2-Butanone (MEK)	ND U	10	1	09/08/17 18:44	
Carbon Disulfide	ND U	10	1	09/08/17 18:44	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 18:44	
Chlorobenzene	ND U	5.0	1	09/08/17 18:44	
Chloroethane	ND U	5.0	1	09/08/17 18:44	
Chloroform	ND U	5.0	1	09/08/17 18:44	
Chloromethane	ND U	5.0	1	09/08/17 18:44	
Dibromochloromethane	ND U	5.0	1	09/08/17 18:44	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 18:44	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 18:44	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 18:44	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 18:44	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 18:44	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 18:44	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 18:44	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 18:44	
Ethylbenzene	ND U	5.0	1	09/08/17 18:44	
2-Hexanone	ND U	10	1	09/08/17 18:44	
Methylene Chloride	ND U	5.0	1	09/08/17 18:44	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 18:44	
Styrene	ND U	5.0	1	09/08/17 18:44	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 18:44	
Tetrachloroethene	ND U	5.0	1	09/08/17 18:44	
Toluene	ND U	5.0	1	09/08/17 18:44	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 18:44	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 18:44	
Trichloroethene	ND U	5.0	1	09/08/17 18:44	
Vinyl Chloride	ND U	5.0	1	09/08/17 18:44	
o-Xylene	ND U	5.0	1	09/08/17 18:44	
m,p-Xylenes	ND U	5.0	1	09/08/17 18:44	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-14S	**Units:**	ug/L
Lab Code:	R1708324-011	**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	98	85 - 122	09/08/17 18:44	
Toluene-d8	99	87 - 121	09/08/17 18:44	
Dibromofluoromethane	96	89 - 119	09/08/17 18:44	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	TB-A	**Units:**	ug/L
Lab Code:	R1708324-012	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 14:00	
Benzene	ND U	5.0	1	09/08/17 14:00	
Bromodichloromethane	ND U	5.0	1	09/08/17 14:00	
Bromoform	ND U	5.0	1	09/08/17 14:00	
Bromomethane	ND U	5.0	1	09/08/17 14:00	
2-Butanone (MEK)	ND U	10	1	09/08/17 14:00	
Carbon Disulfide	ND U	10	1	09/08/17 14:00	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 14:00	
Chlorobenzene	ND U	5.0	1	09/08/17 14:00	
Chloroethane	ND U	5.0	1	09/08/17 14:00	
Chloroform	ND U	5.0	1	09/08/17 14:00	
Chloromethane	ND U	5.0	1	09/08/17 14:00	
Dibromochloromethane	ND U	5.0	1	09/08/17 14:00	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 14:00	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 14:00	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 14:00	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 14:00	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 14:00	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 14:00	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 14:00	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 14:00	
Ethylbenzene	ND U	5.0	1	09/08/17 14:00	
2-Hexanone	ND U	10	1	09/08/17 14:00	
Methylene Chloride	ND U	5.0	1	09/08/17 14:00	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 14:00	
Styrene	ND U	5.0	1	09/08/17 14:00	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 14:00	
Tetrachloroethene	ND U	5.0	1	09/08/17 14:00	
Toluene	ND U	5.0	1	09/08/17 14:00	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 14:00	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 14:00	
Trichloroethene	ND U	5.0	1	09/08/17 14:00	
Vinyl Chloride	ND U	5.0	1	09/08/17 14:00	
o-Xylene	ND U	5.0	1	09/08/17 14:00	
m,p-Xylenes	ND U	5.0	1	09/08/17 14:00	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	TB-A	**Units:**	ug/L
Lab Code:	R1708324-012	**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	102	85 - 122	09/08/17 14:00	
Toluene-d8	103	87 - 121	09/08/17 14:00	
Dibromofluoromethane	99	89 - 119	09/08/17 14:00	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	TB-B	**Units:**	ug/L
Lab Code:	R1708324-013	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 14:22	
Benzene	ND U	5.0	1	09/08/17 14:22	
Bromodichloromethane	ND U	5.0	1	09/08/17 14:22	
Bromoform	ND U	5.0	1	09/08/17 14:22	
Bromomethane	ND U	5.0	1	09/08/17 14:22	
2-Butanone (MEK)	ND U	10	1	09/08/17 14:22	
Carbon Disulfide	ND U	10	1	09/08/17 14:22	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 14:22	
Chlorobenzene	ND U	5.0	1	09/08/17 14:22	
Chloroethane	ND U	5.0	1	09/08/17 14:22	
Chloroform	ND U	5.0	1	09/08/17 14:22	
Chloromethane	ND U	5.0	1	09/08/17 14:22	
Dibromochloromethane	ND U	5.0	1	09/08/17 14:22	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 14:22	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 14:22	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 14:22	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 14:22	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 14:22	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 14:22	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 14:22	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 14:22	
Ethylbenzene	ND U	5.0	1	09/08/17 14:22	
2-Hexanone	ND U	10	1	09/08/17 14:22	
Methylene Chloride	ND U	5.0	1	09/08/17 14:22	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 14:22	
Styrene	ND U	5.0	1	09/08/17 14:22	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 14:22	
Tetrachloroethene	ND U	5.0	1	09/08/17 14:22	
Toluene	ND U	5.0	1	09/08/17 14:22	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 14:22	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 14:22	
Trichloroethene	ND U	5.0	1	09/08/17 14:22	
Vinyl Chloride	ND U	5.0	1	09/08/17 14:22	
o-Xylene	ND U	5.0	1	09/08/17 14:22	
m,p-Xylenes	ND U	5.0	1	09/08/17 14:22	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	TB-B	**Units:**	ug/L
Lab Code:	R1708324-013	**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	103	85 - 122	09/08/17 14:22	
Toluene-d8	102	87 - 121	09/08/17 14:22	
Dibromofluoromethane	99	89 - 119	09/08/17 14:22	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	TB-C	**Units:**	ug/L
Lab Code:	R1708324-014	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 14:44	
Benzene	ND U	5.0	1	09/08/17 14:44	
Bromodichloromethane	ND U	5.0	1	09/08/17 14:44	
Bromoform	ND U	5.0	1	09/08/17 14:44	
Bromomethane	ND U	5.0	1	09/08/17 14:44	
2-Butanone (MEK)	ND U	10	1	09/08/17 14:44	
Carbon Disulfide	ND U	10	1	09/08/17 14:44	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 14:44	
Chlorobenzene	ND U	5.0	1	09/08/17 14:44	
Chloroethane	ND U	5.0	1	09/08/17 14:44	
Chloroform	ND U	5.0	1	09/08/17 14:44	
Chloromethane	ND U	5.0	1	09/08/17 14:44	
Dibromochloromethane	ND U	5.0	1	09/08/17 14:44	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 14:44	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 14:44	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 14:44	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 14:44	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 14:44	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 14:44	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 14:44	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 14:44	
Ethylbenzene	ND U	5.0	1	09/08/17 14:44	
2-Hexanone	ND U	10	1	09/08/17 14:44	
Methylene Chloride	ND U	5.0	1	09/08/17 14:44	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 14:44	
Styrene	ND U	5.0	1	09/08/17 14:44	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 14:44	
Tetrachloroethene	ND U	5.0	1	09/08/17 14:44	
Toluene	ND U	5.0	1	09/08/17 14:44	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 14:44	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 14:44	
Trichloroethene	ND U	5.0	1	09/08/17 14:44	
Vinyl Chloride	ND U	5.0	1	09/08/17 14:44	
o-Xylene	ND U	5.0	1	09/08/17 14:44	
m,p-Xylenes	ND U	5.0	1	09/08/17 14:44	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	TB-C	**Units:**	ug/L
Lab Code:	R1708324-014	**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	101	85 - 122	09/08/17 14:44	
Toluene-d8	103	87 - 121	09/08/17 14:44	
Dibromofluoromethane	97	89 - 119	09/08/17 14:44	

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:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10S	**Units:**	ug/L
Lab Code:	R1708324-001	**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	ND U	9.4	1	09/11/17 16:38	9/8/17	
1,2-Dichlorobenzene	ND U	9.4	1	09/11/17 16:38	9/8/17	
1,3-Dichlorobenzene	ND U	9.4	1	09/11/17 16:38	9/8/17	
1,4-Dichlorobenzene	ND U	9.4	1	09/11/17 16:38	9/8/17	
2,4,5-Trichlorophenol	ND U	9.4	1	09/11/17 16:38	9/8/17	
2,4,6-Trichlorophenol	ND U	9.4	1	09/11/17 16:38	9/8/17	
2,4-Dichlorophenol	ND U	9.4	1	09/11/17 16:38	9/8/17	
2,4-Dimethylphenol	ND U	9.4	1	09/11/17 16:38	9/8/17	
2,4-Dinitrophenol	ND U	47	1	09/11/17 16:38	9/8/17	
2,4-Dinitrotoluene	ND U	9.4	1	09/11/17 16:38	9/8/17	
2,6-Dinitrotoluene	ND U	9.4	1	09/11/17 16:38	9/8/17	
2-Chloronaphthalene	ND U	9.4	1	09/11/17 16:38	9/8/17	
2-Chlorophenol	ND U	9.4	1	09/11/17 16:38	9/8/17	
2-Methylnaphthalene	ND U	9.4	1	09/11/17 16:38	9/8/17	
2-Methylphenol	ND U	9.4	1	09/11/17 16:38	9/8/17	
2-Nitroaniline	ND U	47	1	09/11/17 16:38	9/8/17	
2-Nitrophenol	ND U	9.4	1	09/11/17 16:38	9/8/17	
3,3'-Dichlorobenzidine	ND U	9.4	1	09/11/17 16:38	9/8/17	
3- and 4-Methylphenol Coelution	ND U	9.4	1	09/11/17 16:38	9/8/17	
3-Nitroaniline	ND U	47	1	09/11/17 16:38	9/8/17	
4,6-Dinitro-2-methylphenol	ND U	47	1	09/11/17 16:38	9/8/17	
4-Bromophenyl Phenyl Ether	ND U	9.4	1	09/11/17 16:38	9/8/17	
4-Chloro-3-methylphenol	ND U	9.4	1	09/11/17 16:38	9/8/17	
4-Chloroaniline	ND U	9.4	1	09/11/17 16:38	9/8/17	
4-Chlorophenyl Phenyl Ether	ND U	9.4	1	09/11/17 16:38	9/8/17	
4-Nitroaniline	ND U	47	1	09/11/17 16:38	9/8/17	
4-Nitrophenol	ND U	47	1	09/11/17 16:38	9/8/17	
Acenaphthene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Acenaphthylene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Anthracene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Benz(a)anthracene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Benzo(a)pyrene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Benzo(b)fluoranthene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Benzo(g,h,i)perylene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Benzo(k)fluoranthene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Benzyl Alcohol	ND U	9.4	1	09/11/17 16:38	9/8/17	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	1	09/11/17 16:38	9/8/17	
Bis(2-chloroethoxy)methane	ND U	9.4	1	09/11/17 16:38	9/8/17	
Bis(2-chloroethyl) Ether	ND U	9.4	1	09/11/17 16:38	9/8/17	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	1	09/11/17 16:38	9/8/17	
Butyl Benzyl Phthalate	ND U	9.4	1	09/11/17 16:38	9/8/17	
Carbazole	ND U	9.4	1	09/11/17 16:38	9/8/17	
Chrysene	ND U	9.4	1	09/11/17 16:38	9/8/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10S	**Units:**	ug/L
Lab Code:	R1708324-001	**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	ND U	9.4	1	09/11/17 16:38	9/8/17	
Di-n-octyl Phthalate	ND U	9.4	1	09/11/17 16:38	9/8/17	
Dibenz(a,h)anthracene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Dibenzofuran	ND U	9.4	1	09/11/17 16:38	9/8/17	
Diethyl Phthalate	ND U	9.4	1	09/11/17 16:38	9/8/17	
Dimethyl Phthalate	ND U	9.4	1	09/11/17 16:38	9/8/17	
Fluoranthene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Fluorene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Hexachlorobenzene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Hexachlorobutadiene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Hexachlorocyclopentadiene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Hexachloroethane	ND U	9.4	1	09/11/17 16:38	9/8/17	
Indeno(1,2,3-cd)pyrene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Isophorone	ND U	9.4	1	09/11/17 16:38	9/8/17	
N-Nitrosodi-n-propylamine	ND U	9.4	1	09/11/17 16:38	9/8/17	
N-Nitrosodimethylamine	ND U	9.4	1	09/11/17 16:38	9/8/17	
N-Nitrosodiphenylamine	ND U	9.4	1	09/11/17 16:38	9/8/17	
Naphthalene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Nitrobenzene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Pentachlorophenol (PCP)	ND U	47	1	09/11/17 16:38	9/8/17	
Phenanthrene	ND U	9.4	1	09/11/17 16:38	9/8/17	
Phenol	ND U	9.4	1	09/11/17 16:38	9/8/17	
Pyrene	ND U	9.4	1	09/11/17 16:38	9/8/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	84	35 - 141	09/11/17 16:38	
2-Fluorobiphenyl	77	31 - 118	09/11/17 16:38	
2-Fluorophenol	36	10 - 105	09/11/17 16:38	
Nitrobenzene-d5	80	31 - 110	09/11/17 16:38	
Phenol-d6	31	10 - 107	09/11/17 16:38	
p-Terphenyl-d14	91	30 - 133	09/11/17 16:38	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10M	**Units:**	ug/L
Lab Code:	R1708324-002	**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	ND U	9.4	1	09/11/17 17:06	9/8/17	
1,2-Dichlorobenzene	ND U	9.4	1	09/11/17 17:06	9/8/17	
1,3-Dichlorobenzene	ND U	9.4	1	09/11/17 17:06	9/8/17	
1,4-Dichlorobenzene	ND U	9.4	1	09/11/17 17:06	9/8/17	
2,4,5-Trichlorophenol	ND U	9.4	1	09/11/17 17:06	9/8/17	
2,4,6-Trichlorophenol	ND U	9.4	1	09/11/17 17:06	9/8/17	
2,4-Dichlorophenol	ND U	9.4	1	09/11/17 17:06	9/8/17	
2,4-Dimethylphenol	ND U	9.4	1	09/11/17 17:06	9/8/17	
2,4-Dinitrophenol	ND U	47	1	09/11/17 17:06	9/8/17	
2,4-Dinitrotoluene	ND U	9.4	1	09/11/17 17:06	9/8/17	
2,6-Dinitrotoluene	ND U	9.4	1	09/11/17 17:06	9/8/17	
2-Chloronaphthalene	ND U	9.4	1	09/11/17 17:06	9/8/17	
2-Chlorophenol	ND U	9.4	1	09/11/17 17:06	9/8/17	
2-Methylnaphthalene	ND U	9.4	1	09/11/17 17:06	9/8/17	
2-Methylphenol	ND U	9.4	1	09/11/17 17:06	9/8/17	
2-Nitroaniline	ND U	47	1	09/11/17 17:06	9/8/17	
2-Nitrophenol	ND U	9.4	1	09/11/17 17:06	9/8/17	
3,3'-Dichlorobenzidine	ND U	9.4	1	09/11/17 17:06	9/8/17	
3- and 4-Methylphenol Coelution	ND U	9.4	1	09/11/17 17:06	9/8/17	
3-Nitroaniline	ND U	47	1	09/11/17 17:06	9/8/17	
4,6-Dinitro-2-methylphenol	ND U	47	1	09/11/17 17:06	9/8/17	
4-Bromophenyl Phenyl Ether	ND U	9.4	1	09/11/17 17:06	9/8/17	
4-Chloro-3-methylphenol	ND U	9.4	1	09/11/17 17:06	9/8/17	
4-Chloroaniline	ND U	9.4	1	09/11/17 17:06	9/8/17	
4-Chlorophenyl Phenyl Ether	ND U	9.4	1	09/11/17 17:06	9/8/17	
4-Nitroaniline	ND U	47	1	09/11/17 17:06	9/8/17	
4-Nitrophenol	ND U	47	1	09/11/17 17:06	9/8/17	
Acenaphthene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Acenaphthylene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Anthracene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Benz(a)anthracene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Benzo(a)pyrene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Benzo(b)fluoranthene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Benzo(g,h,i)perylene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Benzo(k)fluoranthene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Benzyl Alcohol	ND U	9.4	1	09/11/17 17:06	9/8/17	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	1	09/11/17 17:06	9/8/17	
Bis(2-chloroethoxy)methane	ND U	9.4	1	09/11/17 17:06	9/8/17	
Bis(2-chloroethyl) Ether	ND U	9.4	1	09/11/17 17:06	9/8/17	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	1	09/11/17 17:06	9/8/17	
Butyl Benzyl Phthalate	ND U	9.4	1	09/11/17 17:06	9/8/17	
Carbazole	ND U	9.4	1	09/11/17 17:06	9/8/17	
Chrysene	ND U	9.4	1	09/11/17 17:06	9/8/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10M	**Units:**	ug/L
Lab Code:	R1708324-002	**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	ND U	9.4	1	09/11/17 17:06	9/8/17	
Di-n-octyl Phthalate	ND U	9.4	1	09/11/17 17:06	9/8/17	
Dibenz(a,h)anthracene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Dibenzofuran	ND U	9.4	1	09/11/17 17:06	9/8/17	
Diethyl Phthalate	ND U	9.4	1	09/11/17 17:06	9/8/17	
Dimethyl Phthalate	ND U	9.4	1	09/11/17 17:06	9/8/17	
Fluoranthene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Fluorene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Hexachlorobenzene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Hexachlorobutadiene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Hexachlorocyclopentadiene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Hexachloroethane	ND U	9.4	1	09/11/17 17:06	9/8/17	
Indeno(1,2,3-cd)pyrene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Isophorone	ND U	9.4	1	09/11/17 17:06	9/8/17	
N-Nitrosodi-n-propylamine	ND U	9.4	1	09/11/17 17:06	9/8/17	
N-Nitrosodimethylamine	ND U	9.4	1	09/11/17 17:06	9/8/17	
N-Nitrosodiphenylamine	ND U	9.4	1	09/11/17 17:06	9/8/17	
Naphthalene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Nitrobenzene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Pentachlorophenol (PCP)	ND U	47	1	09/11/17 17:06	9/8/17	
Phenanthrene	ND U	9.4	1	09/11/17 17:06	9/8/17	
Phenol	ND U	9.4	1	09/11/17 17:06	9/8/17	
Pyrene	ND U	9.4	1	09/11/17 17:06	9/8/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	83	35 - 141	09/11/17 17:06	
2-Fluorobiphenyl	77	31 - 118	09/11/17 17:06	
2-Fluorophenol	36	10 - 105	09/11/17 17:06	
Nitrobenzene-d5	80	31 - 110	09/11/17 17:06	
Phenol-d6	30	10 - 107	09/11/17 17:06	
p-Terphenyl-d14	90	30 - 133	09/11/17 17:06	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10D	**Units:**	ug/L
Lab Code:	R1708324-003	**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	ND U	9.4	1	09/11/17 17:35	9/8/17	
1,2-Dichlorobenzene	ND U	9.4	1	09/11/17 17:35	9/8/17	
1,3-Dichlorobenzene	ND U	9.4	1	09/11/17 17:35	9/8/17	
1,4-Dichlorobenzene	ND U	9.4	1	09/11/17 17:35	9/8/17	
2,4,5-Trichlorophenol	ND U	9.4	1	09/11/17 17:35	9/8/17	
2,4,6-Trichlorophenol	ND U	9.4	1	09/11/17 17:35	9/8/17	
2,4-Dichlorophenol	ND U	9.4	1	09/11/17 17:35	9/8/17	
2,4-Dimethylphenol	ND U	9.4	1	09/11/17 17:35	9/8/17	
2,4-Dinitrophenol	ND U	47	1	09/11/17 17:35	9/8/17	
2,4-Dinitrotoluene	ND U	9.4	1	09/11/17 17:35	9/8/17	
2,6-Dinitrotoluene	ND U	9.4	1	09/11/17 17:35	9/8/17	
2-Chloronaphthalene	ND U	9.4	1	09/11/17 17:35	9/8/17	
2-Chlorophenol	ND U	9.4	1	09/11/17 17:35	9/8/17	
2-Methylnaphthalene	ND U	9.4	1	09/11/17 17:35	9/8/17	
2-Methylphenol	ND U	9.4	1	09/11/17 17:35	9/8/17	
2-Nitroaniline	ND U	47	1	09/11/17 17:35	9/8/17	
2-Nitrophenol	ND U	9.4	1	09/11/17 17:35	9/8/17	
3,3'-Dichlorobenzidine	ND U	9.4	1	09/11/17 17:35	9/8/17	
3- and 4-Methylphenol Coelution	ND U	9.4	1	09/11/17 17:35	9/8/17	
3-Nitroaniline	ND U	47	1	09/11/17 17:35	9/8/17	
4,6-Dinitro-2-methylphenol	ND U	47	1	09/11/17 17:35	9/8/17	
4-Bromophenyl Phenyl Ether	ND U	9.4	1	09/11/17 17:35	9/8/17	
4-Chloro-3-methylphenol	ND U	9.4	1	09/11/17 17:35	9/8/17	
4-Chloroaniline	ND U	9.4	1	09/11/17 17:35	9/8/17	
4-Chlorophenyl Phenyl Ether	ND U	9.4	1	09/11/17 17:35	9/8/17	
4-Nitroaniline	ND U	47	1	09/11/17 17:35	9/8/17	
4-Nitrophenol	ND U	47	1	09/11/17 17:35	9/8/17	
Acenaphthene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Acenaphthylene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Anthracene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Benz(a)anthracene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Benzo(a)pyrene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Benzo(b)fluoranthene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Benzo(g,h,i)perylene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Benzo(k)fluoranthene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Benzyl Alcohol	ND U	9.4	1	09/11/17 17:35	9/8/17	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	1	09/11/17 17:35	9/8/17	
Bis(2-chloroethoxy)methane	ND U	9.4	1	09/11/17 17:35	9/8/17	
Bis(2-chloroethyl) Ether	ND U	9.4	1	09/11/17 17:35	9/8/17	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	1	09/11/17 17:35	9/8/17	
Butyl Benzyl Phthalate	ND U	9.4	1	09/11/17 17:35	9/8/17	
Carbazole	ND U	9.4	1	09/11/17 17:35	9/8/17	
Chrysene	ND U	9.4	1	09/11/17 17:35	9/8/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10D	**Units:**	ug/L
Lab Code:	R1708324-003	**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	ND U	9.4	1	09/11/17 17:35	9/8/17	
Di-n-octyl Phthalate	ND U	9.4	1	09/11/17 17:35	9/8/17	
Dibenz(a,h)anthracene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Dibenzofuran	ND U	9.4	1	09/11/17 17:35	9/8/17	
Diethyl Phthalate	ND U	9.4	1	09/11/17 17:35	9/8/17	
Dimethyl Phthalate	ND U	9.4	1	09/11/17 17:35	9/8/17	
Fluoranthene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Fluorene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Hexachlorobenzene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Hexachlorobutadiene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Hexachlorocyclopentadiene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Hexachloroethane	ND U	9.4	1	09/11/17 17:35	9/8/17	
Indeno(1,2,3-cd)pyrene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Isophorone	ND U	9.4	1	09/11/17 17:35	9/8/17	
N-Nitrosodi-n-propylamine	ND U	9.4	1	09/11/17 17:35	9/8/17	
N-Nitrosodimethylamine	ND U	9.4	1	09/11/17 17:35	9/8/17	
N-Nitrosodiphenylamine	ND U	9.4	1	09/11/17 17:35	9/8/17	
Naphthalene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Nitrobenzene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Pentachlorophenol (PCP)	ND U	47	1	09/11/17 17:35	9/8/17	
Phenanthrene	ND U	9.4	1	09/11/17 17:35	9/8/17	
Phenol	ND U	9.4	1	09/11/17 17:35	9/8/17	
Pyrene	ND U	9.4	1	09/11/17 17:35	9/8/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	80	35 - 141	09/11/17 17:35	
2-Fluorobiphenyl	77	31 - 118	09/11/17 17:35	
2-Fluorophenol	37	10 - 105	09/11/17 17:35	
Nitrobenzene-d5	85	31 - 110	09/11/17 17:35	
Phenol-d6	31	10 - 107	09/11/17 17:35	
p-Terphenyl-d14	96	30 - 133	09/11/17 17:35	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-11S	**Units:**	ug/L
Lab Code:	R1708324-004	**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	ND U	9.4	1	09/11/17 18:03	9/8/17	
1,2-Dichlorobenzene	ND U	9.4	1	09/11/17 18:03	9/8/17	
1,3-Dichlorobenzene	ND U	9.4	1	09/11/17 18:03	9/8/17	
1,4-Dichlorobenzene	ND U	9.4	1	09/11/17 18:03	9/8/17	
2,4,5-Trichlorophenol	ND U	9.4	1	09/11/17 18:03	9/8/17	
2,4,6-Trichlorophenol	ND U	9.4	1	09/11/17 18:03	9/8/17	
2,4-Dichlorophenol	ND U	9.4	1	09/11/17 18:03	9/8/17	
2,4-Dimethylphenol	ND U	9.4	1	09/11/17 18:03	9/8/17	
2,4-Dinitrophenol	ND U	47	1	09/11/17 18:03	9/8/17	
2,4-Dinitrotoluene	ND U	9.4	1	09/11/17 18:03	9/8/17	
2,6-Dinitrotoluene	ND U	9.4	1	09/11/17 18:03	9/8/17	
2-Chloronaphthalene	ND U	9.4	1	09/11/17 18:03	9/8/17	
2-Chlorophenol	ND U	9.4	1	09/11/17 18:03	9/8/17	
2-Methylnaphthalene	ND U	9.4	1	09/11/17 18:03	9/8/17	
2-Methylphenol	ND U	9.4	1	09/11/17 18:03	9/8/17	
2-Nitroaniline	ND U	47	1	09/11/17 18:03	9/8/17	
2-Nitrophenol	ND U	9.4	1	09/11/17 18:03	9/8/17	
3,3'-Dichlorobenzidine	ND U	9.4	1	09/11/17 18:03	9/8/17	
3- and 4-Methylphenol Coelution	ND U	9.4	1	09/11/17 18:03	9/8/17	
3-Nitroaniline	ND U	47	1	09/11/17 18:03	9/8/17	
4,6-Dinitro-2-methylphenol	ND U	47	1	09/11/17 18:03	9/8/17	
4-Bromophenyl Phenyl Ether	ND U	9.4	1	09/11/17 18:03	9/8/17	
4-Chloro-3-methylphenol	ND U	9.4	1	09/11/17 18:03	9/8/17	
4-Chloroaniline	ND U	9.4	1	09/11/17 18:03	9/8/17	
4-Chlorophenyl Phenyl Ether	ND U	9.4	1	09/11/17 18:03	9/8/17	
4-Nitroaniline	ND U	47	1	09/11/17 18:03	9/8/17	
4-Nitrophenol	ND U	47	1	09/11/17 18:03	9/8/17	
Acenaphthene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Acenaphthylene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Anthracene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Benz(a)anthracene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Benzo(a)pyrene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Benzo(b)fluoranthene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Benzo(g,h,i)perylene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Benzo(k)fluoranthene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Benzyl Alcohol	ND U	9.4	1	09/11/17 18:03	9/8/17	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	1	09/11/17 18:03	9/8/17	
Bis(2-chloroethoxy)methane	ND U	9.4	1	09/11/17 18:03	9/8/17	
Bis(2-chloroethyl) Ether	ND U	9.4	1	09/11/17 18:03	9/8/17	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	1	09/11/17 18:03	9/8/17	
Butyl Benzyl Phthalate	ND U	9.4	1	09/11/17 18:03	9/8/17	
Carbazole	ND U	9.4	1	09/11/17 18:03	9/8/17	
Chrysene	ND U	9.4	1	09/11/17 18:03	9/8/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-11S	**Units:**	ug/L
Lab Code:	R1708324-004	**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	ND U	9.4	1	09/11/17 18:03	9/8/17	
Di-n-octyl Phthalate	ND U	9.4	1	09/11/17 18:03	9/8/17	
Dibenz(a,h)anthracene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Dibenzofuran	ND U	9.4	1	09/11/17 18:03	9/8/17	
Diethyl Phthalate	ND U	9.4	1	09/11/17 18:03	9/8/17	
Dimethyl Phthalate	ND U	9.4	1	09/11/17 18:03	9/8/17	
Fluoranthene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Fluorene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Hexachlorobenzene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Hexachlorobutadiene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Hexachlorocyclopentadiene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Hexachloroethane	ND U	9.4	1	09/11/17 18:03	9/8/17	
Indeno(1,2,3-cd)pyrene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Isophorone	ND U	9.4	1	09/11/17 18:03	9/8/17	
N-Nitrosodi-n-propylamine	ND U	9.4	1	09/11/17 18:03	9/8/17	
N-Nitrosodimethylamine	ND U	9.4	1	09/11/17 18:03	9/8/17	
N-Nitrosodiphenylamine	ND U	9.4	1	09/11/17 18:03	9/8/17	
Naphthalene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Nitrobenzene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Pentachlorophenol (PCP)	ND U	47	1	09/11/17 18:03	9/8/17	
Phenanthrene	ND U	9.4	1	09/11/17 18:03	9/8/17	
Phenol	ND U	9.4	1	09/11/17 18:03	9/8/17	
Pyrene	ND U	9.4	1	09/11/17 18:03	9/8/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	71	35 - 141	09/11/17 18:03	
2-Fluorobiphenyl	70	31 - 118	09/11/17 18:03	
2-Fluorophenol	33	10 - 105	09/11/17 18:03	
Nitrobenzene-d5	73	31 - 110	09/11/17 18:03	
Phenol-d6	29	10 - 107	09/11/17 18:03	
p-Terphenyl-d14	80	30 - 133	09/11/17 18:03	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-11M	**Units:**	ug/L
Lab Code:	R1708324-005	**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	ND U	9.4	1	09/11/17 18:31	9/8/17	
1,2-Dichlorobenzene	ND U	9.4	1	09/11/17 18:31	9/8/17	
1,3-Dichlorobenzene	ND U	9.4	1	09/11/17 18:31	9/8/17	
1,4-Dichlorobenzene	ND U	9.4	1	09/11/17 18:31	9/8/17	
2,4,5-Trichlorophenol	ND U	9.4	1	09/11/17 18:31	9/8/17	
2,4,6-Trichlorophenol	ND U	9.4	1	09/11/17 18:31	9/8/17	
2,4-Dichlorophenol	ND U	9.4	1	09/11/17 18:31	9/8/17	
2,4-Dimethylphenol	ND U	9.4	1	09/11/17 18:31	9/8/17	
2,4-Dinitrophenol	ND U	47	1	09/11/17 18:31	9/8/17	
2,4-Dinitrotoluene	ND U	9.4	1	09/11/17 18:31	9/8/17	
2,6-Dinitrotoluene	ND U	9.4	1	09/11/17 18:31	9/8/17	
2-Chloronaphthalene	ND U	9.4	1	09/11/17 18:31	9/8/17	
2-Chlorophenol	ND U	9.4	1	09/11/17 18:31	9/8/17	
2-Methylnaphthalene	ND U	9.4	1	09/11/17 18:31	9/8/17	
2-Methylphenol	ND U	9.4	1	09/11/17 18:31	9/8/17	
2-Nitroaniline	ND U	47	1	09/11/17 18:31	9/8/17	
2-Nitrophenol	ND U	9.4	1	09/11/17 18:31	9/8/17	
3,3'-Dichlorobenzidine	ND U	9.4	1	09/11/17 18:31	9/8/17	
3- and 4-Methylphenol Coelution	ND U	9.4	1	09/11/17 18:31	9/8/17	
3-Nitroaniline	ND U	47	1	09/11/17 18:31	9/8/17	
4,6-Dinitro-2-methylphenol	ND U	47	1	09/11/17 18:31	9/8/17	
4-Bromophenyl Phenyl Ether	ND U	9.4	1	09/11/17 18:31	9/8/17	
4-Chloro-3-methylphenol	ND U	9.4	1	09/11/17 18:31	9/8/17	
4-Chloroaniline	ND U	9.4	1	09/11/17 18:31	9/8/17	
4-Chlorophenyl Phenyl Ether	ND U	9.4	1	09/11/17 18:31	9/8/17	
4-Nitroaniline	ND U	47	1	09/11/17 18:31	9/8/17	
4-Nitrophenol	ND U	47	1	09/11/17 18:31	9/8/17	
Acenaphthene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Acenaphthylene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Anthracene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Benz(a)anthracene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Benzo(a)pyrene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Benzo(b)fluoranthene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Benzo(g,h,i)perylene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Benzo(k)fluoranthene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Benzyl Alcohol	ND U	9.4	1	09/11/17 18:31	9/8/17	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	1	09/11/17 18:31	9/8/17	
Bis(2-chloroethoxy)methane	ND U	9.4	1	09/11/17 18:31	9/8/17	
Bis(2-chloroethyl) Ether	ND U	9.4	1	09/11/17 18:31	9/8/17	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	1	09/11/17 18:31	9/8/17	
Butyl Benzyl Phthalate	ND U	9.4	1	09/11/17 18:31	9/8/17	
Carbazole	ND U	9.4	1	09/11/17 18:31	9/8/17	
Chrysene	ND U	9.4	1	09/11/17 18:31	9/8/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-11M	**Units:**	ug/L
Lab Code:	R1708324-005	**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	ND U	9.4	1	09/11/17 18:31	9/8/17	
Di-n-octyl Phthalate	ND U	9.4	1	09/11/17 18:31	9/8/17	
Dibenz(a,h)anthracene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Dibenzofuran	ND U	9.4	1	09/11/17 18:31	9/8/17	
Diethyl Phthalate	ND U	9.4	1	09/11/17 18:31	9/8/17	
Dimethyl Phthalate	ND U	9.4	1	09/11/17 18:31	9/8/17	
Fluoranthene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Fluorene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Hexachlorobenzene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Hexachlorobutadiene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Hexachlorocyclopentadiene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Hexachloroethane	ND U	9.4	1	09/11/17 18:31	9/8/17	
Indeno(1,2,3-cd)pyrene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Isophorone	ND U	9.4	1	09/11/17 18:31	9/8/17	
N-Nitrosodi-n-propylamine	ND U	9.4	1	09/11/17 18:31	9/8/17	
N-Nitrosodimethylamine	ND U	9.4	1	09/11/17 18:31	9/8/17	
N-Nitrosodiphenylamine	ND U	9.4	1	09/11/17 18:31	9/8/17	
Naphthalene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Nitrobenzene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Pentachlorophenol (PCP)	ND U	47	1	09/11/17 18:31	9/8/17	
Phenanthrene	ND U	9.4	1	09/11/17 18:31	9/8/17	
Phenol	ND U	9.4	1	09/11/17 18:31	9/8/17	
Pyrene	ND U	9.4	1	09/11/17 18:31	9/8/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	76	35 - 141	09/11/17 18:31	
2-Fluorobiphenyl	69	31 - 118	09/11/17 18:31	
2-Fluorophenol	37	10 - 105	09/11/17 18:31	
Nitrobenzene-d5	69	31 - 110	09/11/17 18:31	
Phenol-d6	32	10 - 107	09/11/17 18:31	
p-Terphenyl-d14	91	30 - 133	09/11/17 18:31	

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:45
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12S	**Units:**	ug/L
Lab Code:	R1708324-006	**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	ND U	9.4	1	09/11/17 18:59	9/8/17	
1,2-Dichlorobenzene	ND U	9.4	1	09/11/17 18:59	9/8/17	
1,3-Dichlorobenzene	ND U	9.4	1	09/11/17 18:59	9/8/17	
1,4-Dichlorobenzene	ND U	9.4	1	09/11/17 18:59	9/8/17	
2,4,5-Trichlorophenol	ND U	9.4	1	09/11/17 18:59	9/8/17	
2,4,6-Trichlorophenol	ND U	9.4	1	09/11/17 18:59	9/8/17	
2,4-Dichlorophenol	ND U	9.4	1	09/11/17 18:59	9/8/17	
2,4-Dimethylphenol	ND U	9.4	1	09/11/17 18:59	9/8/17	
2,4-Dinitrophenol	ND U	47	1	09/11/17 18:59	9/8/17	
2,4-Dinitrotoluene	ND U	9.4	1	09/11/17 18:59	9/8/17	
2,6-Dinitrotoluene	ND U	9.4	1	09/11/17 18:59	9/8/17	
2-Chloronaphthalene	ND U	9.4	1	09/11/17 18:59	9/8/17	
2-Chlorophenol	ND U	9.4	1	09/11/17 18:59	9/8/17	
2-Methylnaphthalene	ND U	9.4	1	09/11/17 18:59	9/8/17	
2-Methylphenol	ND U	9.4	1	09/11/17 18:59	9/8/17	
2-Nitroaniline	ND U	47	1	09/11/17 18:59	9/8/17	
2-Nitrophenol	ND U	9.4	1	09/11/17 18:59	9/8/17	
3,3'-Dichlorobenzidine	ND U	9.4	1	09/11/17 18:59	9/8/17	
3- and 4-Methylphenol Coelution	ND U	9.4	1	09/11/17 18:59	9/8/17	
3-Nitroaniline	ND U	47	1	09/11/17 18:59	9/8/17	
4,6-Dinitro-2-methylphenol	ND U	47	1	09/11/17 18:59	9/8/17	
4-Bromophenyl Phenyl Ether	ND U	9.4	1	09/11/17 18:59	9/8/17	
4-Chloro-3-methylphenol	ND U	9.4	1	09/11/17 18:59	9/8/17	
4-Chloroaniline	ND U	9.4	1	09/11/17 18:59	9/8/17	
4-Chlorophenyl Phenyl Ether	ND U	9.4	1	09/11/17 18:59	9/8/17	
4-Nitroaniline	ND U	47	1	09/11/17 18:59	9/8/17	
4-Nitrophenol	ND U	47	1	09/11/17 18:59	9/8/17	
Acenaphthene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Acenaphthylene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Anthracene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Benz(a)anthracene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Benzo(a)pyrene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Benzo(b)fluoranthene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Benzo(g,h,i)perylene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Benzo(k)fluoranthene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Benzyl Alcohol	ND U	9.4	1	09/11/17 18:59	9/8/17	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	1	09/11/17 18:59	9/8/17	
Bis(2-chloroethoxy)methane	ND U	9.4	1	09/11/17 18:59	9/8/17	
Bis(2-chloroethyl) Ether	ND U	9.4	1	09/11/17 18:59	9/8/17	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	1	09/11/17 18:59	9/8/17	
Butyl Benzyl Phthalate	ND U	9.4	1	09/11/17 18:59	9/8/17	
Carbazole	ND U	9.4	1	09/11/17 18:59	9/8/17	
Chrysene	ND U	9.4	1	09/11/17 18:59	9/8/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:45
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12S	**Units:**	ug/L
Lab Code:	R1708324-006	**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	ND U	9.4	1	09/11/17 18:59	9/8/17	
Di-n-octyl Phthalate	ND U	9.4	1	09/11/17 18:59	9/8/17	
Dibenz(a,h)anthracene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Dibenzofuran	ND U	9.4	1	09/11/17 18:59	9/8/17	
Diethyl Phthalate	ND U	9.4	1	09/11/17 18:59	9/8/17	
Dimethyl Phthalate	ND U	9.4	1	09/11/17 18:59	9/8/17	
Fluoranthene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Fluorene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Hexachlorobenzene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Hexachlorobutadiene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Hexachlorocyclopentadiene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Hexachloroethane	ND U	9.4	1	09/11/17 18:59	9/8/17	
Indeno(1,2,3-cd)pyrene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Isophorone	ND U	9.4	1	09/11/17 18:59	9/8/17	
N-Nitrosodi-n-propylamine	ND U	9.4	1	09/11/17 18:59	9/8/17	
N-Nitrosodimethylamine	ND U	9.4	1	09/11/17 18:59	9/8/17	
N-Nitrosodiphenylamine	ND U	9.4	1	09/11/17 18:59	9/8/17	
Naphthalene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Nitrobenzene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Pentachlorophenol (PCP)	ND U	47	1	09/11/17 18:59	9/8/17	
Phenanthrene	ND U	9.4	1	09/11/17 18:59	9/8/17	
Phenol	ND U	9.4	1	09/11/17 18:59	9/8/17	
Pyrene	ND U	9.4	1	09/11/17 18:59	9/8/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	67	35 - 141	09/11/17 18:59	
2-Fluorobiphenyl	64	31 - 118	09/11/17 18:59	
2-Fluorophenol	33	10 - 105	09/11/17 18:59	
Nitrobenzene-d5	69	31 - 110	09/11/17 18:59	
Phenol-d6	29	10 - 107	09/11/17 18:59	
p-Terphenyl-d14	83	30 - 133	09/11/17 18:59	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 12:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12M	**Units:**	ug/L
Lab Code:	R1708324-007	**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	ND U	9.4	1	09/11/17 19:27	9/8/17	
1,2-Dichlorobenzene	ND U	9.4	1	09/11/17 19:27	9/8/17	
1,3-Dichlorobenzene	ND U	9.4	1	09/11/17 19:27	9/8/17	
1,4-Dichlorobenzene	ND U	9.4	1	09/11/17 19:27	9/8/17	
2,4,5-Trichlorophenol	ND U	9.4	1	09/11/17 19:27	9/8/17	
2,4,6-Trichlorophenol	ND U	9.4	1	09/11/17 19:27	9/8/17	
2,4-Dichlorophenol	ND U	9.4	1	09/11/17 19:27	9/8/17	
2,4-Dimethylphenol	ND U	9.4	1	09/11/17 19:27	9/8/17	
2,4-Dinitrophenol	ND U	47	1	09/11/17 19:27	9/8/17	
2,4-Dinitrotoluene	ND U	9.4	1	09/11/17 19:27	9/8/17	
2,6-Dinitrotoluene	ND U	9.4	1	09/11/17 19:27	9/8/17	
2-Chloronaphthalene	ND U	9.4	1	09/11/17 19:27	9/8/17	
2-Chlorophenol	ND U	9.4	1	09/11/17 19:27	9/8/17	
2-Methylnaphthalene	ND U	9.4	1	09/11/17 19:27	9/8/17	
2-Methylphenol	ND U	9.4	1	09/11/17 19:27	9/8/17	
2-Nitroaniline	ND U	47	1	09/11/17 19:27	9/8/17	
2-Nitrophenol	ND U	9.4	1	09/11/17 19:27	9/8/17	
3,3'-Dichlorobenzidine	ND U	9.4	1	09/11/17 19:27	9/8/17	
3- and 4-Methylphenol Coelution	ND U	9.4	1	09/11/17 19:27	9/8/17	
3-Nitroaniline	ND U	47	1	09/11/17 19:27	9/8/17	
4,6-Dinitro-2-methylphenol	ND U	47	1	09/11/17 19:27	9/8/17	
4-Bromophenyl Phenyl Ether	ND U	9.4	1	09/11/17 19:27	9/8/17	
4-Chloro-3-methylphenol	ND U	9.4	1	09/11/17 19:27	9/8/17	
4-Chloroaniline	ND U	9.4	1	09/11/17 19:27	9/8/17	
4-Chlorophenyl Phenyl Ether	ND U	9.4	1	09/11/17 19:27	9/8/17	
4-Nitroaniline	ND U	47	1	09/11/17 19:27	9/8/17	
4-Nitrophenol	ND U	47	1	09/11/17 19:27	9/8/17	
Acenaphthene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Acenaphthylene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Anthracene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Benz(a)anthracene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Benzo(a)pyrene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Benzo(b)fluoranthene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Benzo(g,h,i)perylene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Benzo(k)fluoranthene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Benzyl Alcohol	ND U	9.4	1	09/11/17 19:27	9/8/17	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	1	09/11/17 19:27	9/8/17	
Bis(2-chloroethoxy)methane	ND U	9.4	1	09/11/17 19:27	9/8/17	
Bis(2-chloroethyl) Ether	ND U	9.4	1	09/11/17 19:27	9/8/17	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	1	09/11/17 19:27	9/8/17	
Butyl Benzyl Phthalate	ND U	9.4	1	09/11/17 19:27	9/8/17	
Carbazole	ND U	9.4	1	09/11/17 19:27	9/8/17	
Chrysene	ND U	9.4	1	09/11/17 19:27	9/8/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 12:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12M	**Units:**	ug/L
Lab Code:	R1708324-007	**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	ND U	9.4	1	09/11/17 19:27	9/8/17	
Di-n-octyl Phthalate	ND U	9.4	1	09/11/17 19:27	9/8/17	
Dibenz(a,h)anthracene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Dibenzofuran	ND U	9.4	1	09/11/17 19:27	9/8/17	
Diethyl Phthalate	ND U	9.4	1	09/11/17 19:27	9/8/17	
Dimethyl Phthalate	ND U	9.4	1	09/11/17 19:27	9/8/17	
Fluoranthene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Fluorene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Hexachlorobenzene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Hexachlorobutadiene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Hexachlorocyclopentadiene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Hexachloroethane	ND U	9.4	1	09/11/17 19:27	9/8/17	
Indeno(1,2,3-cd)pyrene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Isophorone	ND U	9.4	1	09/11/17 19:27	9/8/17	
N-Nitrosodi-n-propylamine	ND U	9.4	1	09/11/17 19:27	9/8/17	
N-Nitrosodimethylamine	ND U	9.4	1	09/11/17 19:27	9/8/17	
N-Nitrosodiphenylamine	ND U	9.4	1	09/11/17 19:27	9/8/17	
Naphthalene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Nitrobenzene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Pentachlorophenol (PCP)	ND U	47	1	09/11/17 19:27	9/8/17	
Phenanthrene	ND U	9.4	1	09/11/17 19:27	9/8/17	
Phenol	ND U	9.4	1	09/11/17 19:27	9/8/17	
Pyrene	ND U	9.4	1	09/11/17 19:27	9/8/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	85	35 - 141	09/11/17 19:27	
2-Fluorobiphenyl	75	31 - 118	09/11/17 19:27	
2-Fluorophenol	38	10 - 105	09/11/17 19:27	
Nitrobenzene-d5	77	31 - 110	09/11/17 19:27	
Phenol-d6	33	10 - 107	09/11/17 19:27	
p-Terphenyl-d14	102	30 - 133	09/11/17 19:27	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 12:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12D	**Units:**	ug/L
Lab Code:	R1708324-008	**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	ND U	9.4	1	09/11/17 19:55	9/8/17	
1,2-Dichlorobenzene	ND U	9.4	1	09/11/17 19:55	9/8/17	
1,3-Dichlorobenzene	ND U	9.4	1	09/11/17 19:55	9/8/17	
1,4-Dichlorobenzene	ND U	9.4	1	09/11/17 19:55	9/8/17	
2,4,5-Trichlorophenol	ND U	9.4	1	09/11/17 19:55	9/8/17	
2,4,6-Trichlorophenol	ND U	9.4	1	09/11/17 19:55	9/8/17	
2,4-Dichlorophenol	ND U	9.4	1	09/11/17 19:55	9/8/17	
2,4-Dimethylphenol	ND U	9.4	1	09/11/17 19:55	9/8/17	
2,4-Dinitrophenol	ND U	47	1	09/11/17 19:55	9/8/17	
2,4-Dinitrotoluene	ND U	9.4	1	09/11/17 19:55	9/8/17	
2,6-Dinitrotoluene	ND U	9.4	1	09/11/17 19:55	9/8/17	
2-Chloronaphthalene	ND U	9.4	1	09/11/17 19:55	9/8/17	
2-Chlorophenol	ND U	9.4	1	09/11/17 19:55	9/8/17	
2-Methylnaphthalene	ND U	9.4	1	09/11/17 19:55	9/8/17	
2-Methylphenol	ND U	9.4	1	09/11/17 19:55	9/8/17	
2-Nitroaniline	ND U	47	1	09/11/17 19:55	9/8/17	
2-Nitrophenol	ND U	9.4	1	09/11/17 19:55	9/8/17	
3,3'-Dichlorobenzidine	ND U	9.4	1	09/11/17 19:55	9/8/17	
3- and 4-Methylphenol Coelution	ND U	9.4	1	09/11/17 19:55	9/8/17	
3-Nitroaniline	ND U	47	1	09/11/17 19:55	9/8/17	
4,6-Dinitro-2-methylphenol	ND U	47	1	09/11/17 19:55	9/8/17	
4-Bromophenyl Phenyl Ether	ND U	9.4	1	09/11/17 19:55	9/8/17	
4-Chloro-3-methylphenol	ND U	9.4	1	09/11/17 19:55	9/8/17	
4-Chloroaniline	ND U	9.4	1	09/11/17 19:55	9/8/17	
4-Chlorophenyl Phenyl Ether	ND U	9.4	1	09/11/17 19:55	9/8/17	
4-Nitroaniline	ND U	47	1	09/11/17 19:55	9/8/17	
4-Nitrophenol	ND U	47	1	09/11/17 19:55	9/8/17	
Acenaphthene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Acenaphthylene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Anthracene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Benz(a)anthracene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Benzo(a)pyrene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Benzo(b)fluoranthene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Benzo(g,h,i)perylene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Benzo(k)fluoranthene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Benzyl Alcohol	ND U	9.4	1	09/11/17 19:55	9/8/17	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	1	09/11/17 19:55	9/8/17	
Bis(2-chloroethoxy)methane	ND U	9.4	1	09/11/17 19:55	9/8/17	
Bis(2-chloroethyl) Ether	ND U	9.4	1	09/11/17 19:55	9/8/17	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	1	09/11/17 19:55	9/8/17	
Butyl Benzyl Phthalate	ND U	9.4	1	09/11/17 19:55	9/8/17	
Carbazole	ND U	9.4	1	09/11/17 19:55	9/8/17	
Chrysene	ND U	9.4	1	09/11/17 19:55	9/8/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 12:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12D	**Units:**	ug/L
Lab Code:	R1708324-008	**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	ND U	9.4	1	09/11/17 19:55	9/8/17	
Di-n-octyl Phthalate	ND U	9.4	1	09/11/17 19:55	9/8/17	
Dibenz(a,h)anthracene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Dibenzofuran	ND U	9.4	1	09/11/17 19:55	9/8/17	
Diethyl Phthalate	ND U	9.4	1	09/11/17 19:55	9/8/17	
Dimethyl Phthalate	ND U	9.4	1	09/11/17 19:55	9/8/17	
Fluoranthene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Fluorene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Hexachlorobenzene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Hexachlorobutadiene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Hexachlorocyclopentadiene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Hexachloroethane	ND U	9.4	1	09/11/17 19:55	9/8/17	
Indeno(1,2,3-cd)pyrene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Isophorone	ND U	9.4	1	09/11/17 19:55	9/8/17	
N-Nitrosodi-n-propylamine	ND U	9.4	1	09/11/17 19:55	9/8/17	
N-Nitrosodimethylamine	ND U	9.4	1	09/11/17 19:55	9/8/17	
N-Nitrosodiphenylamine	ND U	9.4	1	09/11/17 19:55	9/8/17	
Naphthalene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Nitrobenzene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Pentachlorophenol (PCP)	ND U	47	1	09/11/17 19:55	9/8/17	
Phenanthrene	ND U	9.4	1	09/11/17 19:55	9/8/17	
Phenol	ND U	9.4	1	09/11/17 19:55	9/8/17	
Pyrene	ND U	9.4	1	09/11/17 19:55	9/8/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	79	35 - 141	09/11/17 19:55	
2-Fluorobiphenyl	69	31 - 118	09/11/17 19:55	
2-Fluorophenol	35	10 - 105	09/11/17 19:55	
Nitrobenzene-d5	71	31 - 110	09/11/17 19:55	
Phenol-d6	31	10 - 107	09/11/17 19:55	
p-Terphenyl-d14	94	30 - 133	09/11/17 19:55	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-13S	**Units:**	ug/L
Lab Code:	R1708324-009	**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	ND U	9.4	1	09/11/17 20:23	9/8/17	
1,2-Dichlorobenzene	ND U	9.4	1	09/11/17 20:23	9/8/17	
1,3-Dichlorobenzene	ND U	9.4	1	09/11/17 20:23	9/8/17	
1,4-Dichlorobenzene	ND U	9.4	1	09/11/17 20:23	9/8/17	
2,4,5-Trichlorophenol	ND U	9.4	1	09/11/17 20:23	9/8/17	
2,4,6-Trichlorophenol	ND U	9.4	1	09/11/17 20:23	9/8/17	
2,4-Dichlorophenol	ND U	9.4	1	09/11/17 20:23	9/8/17	
2,4-Dimethylphenol	ND U	9.4	1	09/11/17 20:23	9/8/17	
2,4-Dinitrophenol	ND U	47	1	09/11/17 20:23	9/8/17	
2,4-Dinitrotoluene	ND U	9.4	1	09/11/17 20:23	9/8/17	
2,6-Dinitrotoluene	ND U	9.4	1	09/11/17 20:23	9/8/17	
2-Chloronaphthalene	ND U	9.4	1	09/11/17 20:23	9/8/17	
2-Chlorophenol	ND U	9.4	1	09/11/17 20:23	9/8/17	
2-Methylnaphthalene	ND U	9.4	1	09/11/17 20:23	9/8/17	
2-Methylphenol	ND U	9.4	1	09/11/17 20:23	9/8/17	
2-Nitroaniline	ND U	47	1	09/11/17 20:23	9/8/17	
2-Nitrophenol	ND U	9.4	1	09/11/17 20:23	9/8/17	
3,3'-Dichlorobenzidine	ND U	9.4	1	09/11/17 20:23	9/8/17	
3- and 4-Methylphenol Coelution	ND U	9.4	1	09/11/17 20:23	9/8/17	
3-Nitroaniline	ND U	47	1	09/11/17 20:23	9/8/17	
4,6-Dinitro-2-methylphenol	ND U	47	1	09/11/17 20:23	9/8/17	
4-Bromophenyl Phenyl Ether	ND U	9.4	1	09/11/17 20:23	9/8/17	
4-Chloro-3-methylphenol	ND U	9.4	1	09/11/17 20:23	9/8/17	
4-Chloroaniline	ND U	9.4	1	09/11/17 20:23	9/8/17	
4-Chlorophenyl Phenyl Ether	ND U	9.4	1	09/11/17 20:23	9/8/17	
4-Nitroaniline	ND U	47	1	09/11/17 20:23	9/8/17	
4-Nitrophenol	ND U	47	1	09/11/17 20:23	9/8/17	
Acenaphthene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Acenaphthylene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Anthracene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Benz(a)anthracene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Benzo(a)pyrene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Benzo(b)fluoranthene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Benzo(g,h,i)perylene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Benzo(k)fluoranthene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Benzyl Alcohol	ND U	9.4	1	09/11/17 20:23	9/8/17	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	1	09/11/17 20:23	9/8/17	
Bis(2-chloroethoxy)methane	ND U	9.4	1	09/11/17 20:23	9/8/17	
Bis(2-chloroethyl) Ether	ND U	9.4	1	09/11/17 20:23	9/8/17	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	1	09/11/17 20:23	9/8/17	
Butyl Benzyl Phthalate	ND U	9.4	1	09/11/17 20:23	9/8/17	
Carbazole	ND U	9.4	1	09/11/17 20:23	9/8/17	
Chrysene	ND U	9.4	1	09/11/17 20:23	9/8/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-13S	**Units:**	ug/L
Lab Code:	R1708324-009	**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	ND U	9.4	1	09/11/17 20:23	9/8/17	
Di-n-octyl Phthalate	ND U	9.4	1	09/11/17 20:23	9/8/17	
Dibenz(a,h)anthracene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Dibenzofuran	ND U	9.4	1	09/11/17 20:23	9/8/17	
Diethyl Phthalate	ND U	9.4	1	09/11/17 20:23	9/8/17	
Dimethyl Phthalate	ND U	9.4	1	09/11/17 20:23	9/8/17	
Fluoranthene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Fluorene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Hexachlorobenzene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Hexachlorobutadiene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Hexachlorocyclopentadiene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Hexachloroethane	ND U	9.4	1	09/11/17 20:23	9/8/17	
Indeno(1,2,3-cd)pyrene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Isophorone	ND U	9.4	1	09/11/17 20:23	9/8/17	
N-Nitrosodi-n-propylamine	ND U	9.4	1	09/11/17 20:23	9/8/17	
N-Nitrosodimethylamine	ND U	9.4	1	09/11/17 20:23	9/8/17	
N-Nitrosodiphenylamine	ND U	9.4	1	09/11/17 20:23	9/8/17	
Naphthalene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Nitrobenzene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Pentachlorophenol (PCP)	ND U	47	1	09/11/17 20:23	9/8/17	
Phenanthrene	ND U	9.4	1	09/11/17 20:23	9/8/17	
Phenol	ND U	9.4	1	09/11/17 20:23	9/8/17	
Pyrene	ND U	9.4	1	09/11/17 20:23	9/8/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	83	35 - 141	09/11/17 20:23	
2-Fluorobiphenyl	71	31 - 118	09/11/17 20:23	
2-Fluorophenol	36	10 - 105	09/11/17 20:23	
Nitrobenzene-d5	75	31 - 110	09/11/17 20:23	
Phenol-d6	30	10 - 107	09/11/17 20:23	
p-Terphenyl-d14	91	30 - 133	09/11/17 20:23	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-13M	**Units:**	ug/L
Lab Code:	R1708324-010	**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	ND U	9.4	1	09/11/17 20:51	9/8/17	
1,2-Dichlorobenzene	ND U	9.4	1	09/11/17 20:51	9/8/17	
1,3-Dichlorobenzene	ND U	9.4	1	09/11/17 20:51	9/8/17	
1,4-Dichlorobenzene	ND U	9.4	1	09/11/17 20:51	9/8/17	
2,4,5-Trichlorophenol	ND U	9.4	1	09/11/17 20:51	9/8/17	
2,4,6-Trichlorophenol	ND U	9.4	1	09/11/17 20:51	9/8/17	
2,4-Dichlorophenol	ND U	9.4	1	09/11/17 20:51	9/8/17	
2,4-Dimethylphenol	ND U	9.4	1	09/11/17 20:51	9/8/17	
2,4-Dinitrophenol	ND U	47	1	09/11/17 20:51	9/8/17	
2,4-Dinitrotoluene	ND U	9.4	1	09/11/17 20:51	9/8/17	
2,6-Dinitrotoluene	ND U	9.4	1	09/11/17 20:51	9/8/17	
2-Chloronaphthalene	ND U	9.4	1	09/11/17 20:51	9/8/17	
2-Chlorophenol	ND U	9.4	1	09/11/17 20:51	9/8/17	
2-Methylnaphthalene	ND U	9.4	1	09/11/17 20:51	9/8/17	
2-Methylphenol	ND U	9.4	1	09/11/17 20:51	9/8/17	
2-Nitroaniline	ND U	47	1	09/11/17 20:51	9/8/17	
2-Nitrophenol	ND U	9.4	1	09/11/17 20:51	9/8/17	
3,3'-Dichlorobenzidine	ND U	9.4	1	09/11/17 20:51	9/8/17	
3- and 4-Methylphenol Coelution	ND U	9.4	1	09/11/17 20:51	9/8/17	
3-Nitroaniline	ND U	47	1	09/11/17 20:51	9/8/17	
4,6-Dinitro-2-methylphenol	ND U	47	1	09/11/17 20:51	9/8/17	
4-Bromophenyl Phenyl Ether	ND U	9.4	1	09/11/17 20:51	9/8/17	
4-Chloro-3-methylphenol	ND U	9.4	1	09/11/17 20:51	9/8/17	
4-Chloroaniline	ND U	9.4	1	09/11/17 20:51	9/8/17	
4-Chlorophenyl Phenyl Ether	ND U	9.4	1	09/11/17 20:51	9/8/17	
4-Nitroaniline	ND U	47	1	09/11/17 20:51	9/8/17	
4-Nitrophenol	ND U	47	1	09/11/17 20:51	9/8/17	
Acenaphthene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Acenaphthylene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Anthracene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Benz(a)anthracene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Benzo(a)pyrene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Benzo(b)fluoranthene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Benzo(g,h,i)perylene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Benzo(k)fluoranthene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Benzyl Alcohol	ND U	9.4	1	09/11/17 20:51	9/8/17	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	1	09/11/17 20:51	9/8/17	
Bis(2-chloroethoxy)methane	ND U	9.4	1	09/11/17 20:51	9/8/17	
Bis(2-chloroethyl) Ether	ND U	9.4	1	09/11/17 20:51	9/8/17	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	1	09/11/17 20:51	9/8/17	
Butyl Benzyl Phthalate	ND U	9.4	1	09/11/17 20:51	9/8/17	
Carbazole	ND U	9.4	1	09/11/17 20:51	9/8/17	
Chrysene	ND U	9.4	1	09/11/17 20:51	9/8/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-13M	**Units:**	ug/L
Lab Code:	R1708324-010	**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	ND U	9.4	1	09/11/17 20:51	9/8/17	
Di-n-octyl Phthalate	ND U	9.4	1	09/11/17 20:51	9/8/17	
Dibenz(a,h)anthracene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Dibenzofuran	ND U	9.4	1	09/11/17 20:51	9/8/17	
Diethyl Phthalate	ND U	9.4	1	09/11/17 20:51	9/8/17	
Dimethyl Phthalate	ND U	9.4	1	09/11/17 20:51	9/8/17	
Fluoranthene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Fluorene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Hexachlorobenzene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Hexachlorobutadiene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Hexachlorocyclopentadiene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Hexachloroethane	ND U	9.4	1	09/11/17 20:51	9/8/17	
Indeno(1,2,3-cd)pyrene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Isophorone	ND U	9.4	1	09/11/17 20:51	9/8/17	
N-Nitrosodi-n-propylamine	ND U	9.4	1	09/11/17 20:51	9/8/17	
N-Nitrosodimethylamine	ND U	9.4	1	09/11/17 20:51	9/8/17	
N-Nitrosodiphenylamine	ND U	9.4	1	09/11/17 20:51	9/8/17	
Naphthalene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Nitrobenzene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Pentachlorophenol (PCP)	ND U	47	1	09/11/17 20:51	9/8/17	
Phenanthrene	ND U	9.4	1	09/11/17 20:51	9/8/17	
Phenol	ND U	9.4	1	09/11/17 20:51	9/8/17	
Pyrene	ND U	9.4	1	09/11/17 20:51	9/8/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	82	35 - 141	09/11/17 20:51	
2-Fluorobiphenyl	70	31 - 118	09/11/17 20:51	
2-Fluorophenol	37	10 - 105	09/11/17 20:51	
Nitrobenzene-d5	70	31 - 110	09/11/17 20:51	
Phenol-d6	31	10 - 107	09/11/17 20:51	
p-Terphenyl-d14	97	30 - 133	09/11/17 20:51	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-14S	**Units:**	ug/L
Lab Code:	R1708324-011	**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	ND U	9.4	1	09/11/17 21:20	9/8/17	
1,2-Dichlorobenzene	ND U	9.4	1	09/11/17 21:20	9/8/17	
1,3-Dichlorobenzene	ND U	9.4	1	09/11/17 21:20	9/8/17	
1,4-Dichlorobenzene	ND U	9.4	1	09/11/17 21:20	9/8/17	
2,4,5-Trichlorophenol	ND U	9.4	1	09/11/17 21:20	9/8/17	
2,4,6-Trichlorophenol	ND U	9.4	1	09/11/17 21:20	9/8/17	
2,4-Dichlorophenol	ND U	9.4	1	09/11/17 21:20	9/8/17	
2,4-Dimethylphenol	ND U	9.4	1	09/11/17 21:20	9/8/17	
2,4-Dinitrophenol	ND U	47	1	09/11/17 21:20	9/8/17	
2,4-Dinitrotoluene	ND U	9.4	1	09/11/17 21:20	9/8/17	
2,6-Dinitrotoluene	ND U	9.4	1	09/11/17 21:20	9/8/17	
2-Chloronaphthalene	ND U	9.4	1	09/11/17 21:20	9/8/17	
2-Chlorophenol	ND U	9.4	1	09/11/17 21:20	9/8/17	
2-Methylnaphthalene	ND U	9.4	1	09/11/17 21:20	9/8/17	
2-Methylphenol	ND U	9.4	1	09/11/17 21:20	9/8/17	
2-Nitroaniline	ND U	47	1	09/11/17 21:20	9/8/17	
2-Nitrophenol	ND U	9.4	1	09/11/17 21:20	9/8/17	
3,3'-Dichlorobenzidine	ND U	9.4	1	09/11/17 21:20	9/8/17	
3- and 4-Methylphenol Coelution	ND U	9.4	1	09/11/17 21:20	9/8/17	
3-Nitroaniline	ND U	47	1	09/11/17 21:20	9/8/17	
4,6-Dinitro-2-methylphenol	ND U	47	1	09/11/17 21:20	9/8/17	
4-Bromophenyl Phenyl Ether	ND U	9.4	1	09/11/17 21:20	9/8/17	
4-Chloro-3-methylphenol	ND U	9.4	1	09/11/17 21:20	9/8/17	
4-Chloroaniline	ND U	9.4	1	09/11/17 21:20	9/8/17	
4-Chlorophenyl Phenyl Ether	ND U	9.4	1	09/11/17 21:20	9/8/17	
4-Nitroaniline	ND U	47	1	09/11/17 21:20	9/8/17	
4-Nitrophenol	ND U	47	1	09/11/17 21:20	9/8/17	
Acenaphthene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Acenaphthylene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Anthracene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Benz(a)anthracene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Benzo(a)pyrene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Benzo(b)fluoranthene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Benzo(g,h,i)perylene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Benzo(k)fluoranthene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Benzyl Alcohol	ND U	9.4	1	09/11/17 21:20	9/8/17	
2,2'-Oxybis(1-chloropropane)	ND U	9.4	1	09/11/17 21:20	9/8/17	
Bis(2-chloroethoxy)methane	ND U	9.4	1	09/11/17 21:20	9/8/17	
Bis(2-chloroethyl) Ether	ND U	9.4	1	09/11/17 21:20	9/8/17	
Bis(2-ethylhexyl) Phthalate	ND U	9.4	1	09/11/17 21:20	9/8/17	
Butyl Benzyl Phthalate	ND U	9.4	1	09/11/17 21:20	9/8/17	
Carbazole	ND U	9.4	1	09/11/17 21:20	9/8/17	
Chrysene	ND U	9.4	1	09/11/17 21:20	9/8/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-14S	**Units:**	ug/L
Lab Code:	R1708324-011	**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	ND U	9.4	1	09/11/17 21:20	9/8/17	
Di-n-octyl Phthalate	ND U	9.4	1	09/11/17 21:20	9/8/17	
Dibenz(a,h)anthracene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Dibenzofuran	ND U	9.4	1	09/11/17 21:20	9/8/17	
Diethyl Phthalate	ND U	9.4	1	09/11/17 21:20	9/8/17	
Dimethyl Phthalate	ND U	9.4	1	09/11/17 21:20	9/8/17	
Fluoranthene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Fluorene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Hexachlorobenzene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Hexachlorobutadiene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Hexachlorocyclopentadiene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Hexachloroethane	ND U	9.4	1	09/11/17 21:20	9/8/17	
Indeno(1,2,3-cd)pyrene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Isophorone	ND U	9.4	1	09/11/17 21:20	9/8/17	
N-Nitrosodi-n-propylamine	ND U	9.4	1	09/11/17 21:20	9/8/17	
N-Nitrosodimethylamine	ND U	9.4	1	09/11/17 21:20	9/8/17	
N-Nitrosodiphenylamine	ND U	9.4	1	09/11/17 21:20	9/8/17	
Naphthalene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Nitrobenzene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Pentachlorophenol (PCP)	ND U	47	1	09/11/17 21:20	9/8/17	
Phenanthrene	ND U	9.4	1	09/11/17 21:20	9/8/17	
Phenol	ND U	9.4	1	09/11/17 21:20	9/8/17	
Pyrene	ND U	9.4	1	09/11/17 21:20	9/8/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	78	35 - 141	09/11/17 21:20	
2-Fluorobiphenyl	66	31 - 118	09/11/17 21:20	
2-Fluorophenol	35	10 - 105	09/11/17 21:20	
Nitrobenzene-d5	69	31 - 110	09/11/17 21:20	
Phenol-d6	30	10 - 107	09/11/17 21:20	
p-Terphenyl-d14	84	30 - 133	09/11/17 21:20	

Metals

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10S	**Basis:**	NA
Lab Code:	R1708324-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	09/13/17 04:35	09/11/17	
Lead, Dissolved	6010C	ND U	ug/L	50	1	09/13/17 04:35	09/11/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10M	**Basis:**	NA
Lab Code:	R1708324-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	09/13/17 04:38	09/11/17	
Lead, Dissolved	6010C	ND U	ug/L	50	1	09/13/17 04:38	09/11/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10D	**Basis:**	NA
Lab Code:	R1708324-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	09/13/17 04:42	09/11/17	
Lead, Dissolved	6010C	ND U	ug/L	50	1	09/13/17 04:42	09/11/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-11S	**Basis:**	NA
Lab Code:	R1708324-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	09/13/17 04:45	09/11/17	
Lead, Dissolved	6010C	ND U	ug/L	50	1	09/13/17 04:45	09/11/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-11M	**Basis:**	NA
Lab Code:	R1708324-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	09/13/17 04:48	09/11/17	
Lead, Dissolved	6010C	ND U	ug/L	50	1	09/13/17 04:48	09/11/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:45
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12S	**Basis:**	NA
Lab Code:	R1708324-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	09/13/17 04:52	09/11/17	
Lead, Dissolved	6010C	ND U	ug/L	50	1	09/13/17 04:52	09/11/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 12:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12M	**Basis:**	NA
Lab Code:	R1708324-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	09/13/17 04:55	09/11/17	
Lead, Dissolved	6010C	ND U	ug/L	50	1	09/13/17 04:55	09/11/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 12:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12D	**Basis:**	NA
Lab Code:	R1708324-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	09/13/17 04:58	09/11/17	
Lead, Dissolved	6010C	ND U	ug/L	50	1	09/13/17 04:58	09/11/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-13S	**Basis:**	NA
Lab Code:	R1708324-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	09/13/17 05:08	09/11/17	
Lead, Dissolved	6010C	ND U	ug/L	50	1	09/13/17 05:08	09/11/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-13M	**Basis:**	NA
Lab Code:	R1708324-010		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	09/13/17 05:12	09/11/17	
Lead, Dissolved	6010C	ND U	ug/L	50	1	09/13/17 05:12	09/11/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-14S	**Basis:**	NA
Lab Code:	R1708324-011		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	09/13/17 05:15	09/11/17	
Lead, Dissolved	6010C	ND U	ug/L	50	1	09/13/17 05:15	09/11/17	

General Chemistry

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Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10S	**Basis:**	NA
Lab Code:	R1708324-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Total (HEM)	1664A	ND U	mg/L	4.7	1	09/15/17 09:30	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10M	**Basis:**	NA
Lab Code:	R1708324-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Total (HEM)	1664A	ND U	mg/L	4.7	1	09/15/17 09:30	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 10:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-10D	**Basis:**	NA
Lab Code:	R1708324-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Total (HEM)	1664A	ND U	mg/L	4.7	1	09/15/17 09:30	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-11S	**Basis:**	NA
Lab Code:	R1708324-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Total (HEM)	1664A	ND U	mg/L	4.7	1	09/15/17 09:30	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-11M	**Basis:**	NA
Lab Code:	R1708324-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Total (HEM)	1664A	ND U	mg/L	4.7	1	09/15/17 09:30	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 11:45
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12S	**Basis:**	NA
Lab Code:	R1708324-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Total (HEM)	1664A	ND U	mg/L	4.7	1	09/15/17 09:30	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 12:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12M	**Basis:**	NA
Lab Code:	R1708324-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Total (HEM)	1664A	ND U	mg/L	4.7	1	09/15/17 09:30	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 12:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-12D	**Basis:**	NA
Lab Code:	R1708324-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Total (HEM)	1664A	ND U	mg/L	4.7	1	09/15/17 09:30	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:00
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-13S	**Basis:**	NA
Lab Code:	R1708324-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Total (HEM)	1664A	ND U	mg/L	4.8	1	09/15/17 09:30	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:15
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-13M	**Basis:**	NA
Lab Code:	R1708324-010		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Total (HEM)	1664A	ND U	mg/L	4.7	1	09/15/17 09:30	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	09/06/17 13:30
Sample Matrix:	Water	**Date Received:**	09/06/17 15:35
Sample Name:	MW-14S	**Basis:**	NA
Lab Code:	R1708324-011		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Total (HEM)	1664A	ND U	mg/L	4.7	1	09/15/17 09:30	

QC Summary Forms

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Volatile Organic Compounds by GC/MS

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Client: Unicorn Management Consultants **Service Request:** R1708324
Project: Union Road/2011-100
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 85 - 122	Dibromofluoromethane 89 - 119	Toluene-d8 87 - 121
MW-10S	R1708324-001	97	96	98
MW-10M	R1708324-002	95	98	104
MW-10D	R1708324-003	98	99	100
MW-11S	R1708324-004	97	101	101
MW-11M	R1708324-005	100	98	102
MW-12S	R1708324-006	102	100	102
MW-12M	R1708324-007	102	97	102
MW-12D	R1708324-008	101	102	100
MW-13S	R1708324-009	101	103	101
MW-13M	R1708324-010	102	101	102
MW-14S	R1708324-011	98	96	99
TB-A	R1708324-012	102	99	103
TB-B	R1708324-013	103	99	102
TB-C	R1708324-014	101	97	103
Lab Control Sample	RQ1709023-03	102	103	100
Method Blank	RQ1709023-04	100	100	101

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1709023-04	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Acetone	ND U	10	1	09/08/17 12:04	
Benzene	ND U	5.0	1	09/08/17 12:04	
Bromodichloromethane	ND U	5.0	1	09/08/17 12:04	
Bromoform	ND U	5.0	1	09/08/17 12:04	
Bromomethane	ND U	5.0	1	09/08/17 12:04	
2-Butanone (MEK)	ND U	10	1	09/08/17 12:04	
Carbon Disulfide	ND U	10	1	09/08/17 12:04	
Carbon Tetrachloride	ND U	5.0	1	09/08/17 12:04	
Chlorobenzene	ND U	5.0	1	09/08/17 12:04	
Chloroethane	ND U	5.0	1	09/08/17 12:04	
Chloroform	ND U	5.0	1	09/08/17 12:04	
Chloromethane	ND U	5.0	1	09/08/17 12:04	
Dibromochloromethane	ND U	5.0	1	09/08/17 12:04	
1,1-Dichloroethane	ND U	5.0	1	09/08/17 12:04	
1,2-Dichloroethane	ND U	5.0	1	09/08/17 12:04	
1,1-Dichloroethene	ND U	5.0	1	09/08/17 12:04	
cis-1,2-Dichloroethene	ND U	5.0	1	09/08/17 12:04	
trans-1,2-Dichloroethene	ND U	5.0	1	09/08/17 12:04	
1,2-Dichloropropane	ND U	5.0	1	09/08/17 12:04	
cis-1,3-Dichloropropene	ND U	5.0	1	09/08/17 12:04	
trans-1,3-Dichloropropene	ND U	5.0	1	09/08/17 12:04	
Ethylbenzene	ND U	5.0	1	09/08/17 12:04	
2-Hexanone	ND U	10	1	09/08/17 12:04	
Methylene Chloride	ND U	5.0	1	09/08/17 12:04	
4-Methyl-2-pentanone (MIBK)	ND U	10	1	09/08/17 12:04	
Styrene	ND U	5.0	1	09/08/17 12:04	
1,1,2,2-Tetrachloroethane	ND U	5.0	1	09/08/17 12:04	
Tetrachloroethene	ND U	5.0	1	09/08/17 12:04	
Toluene	ND U	5.0	1	09/08/17 12:04	
1,1,1-Trichloroethane	ND U	5.0	1	09/08/17 12:04	
1,1,2-Trichloroethane	ND U	5.0	1	09/08/17 12:04	
Trichloroethene	ND U	5.0	1	09/08/17 12:04	
Vinyl Chloride	ND U	5.0	1	09/08/17 12:04	
o-Xylene	ND U	5.0	1	09/08/17 12:04	
m,p-Xylenes	ND U	5.0	1	09/08/17 12:04	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1709023-04	**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	100	85 - 122	09/08/17 12:04	
Toluene-d8	101	87 - 121	09/08/17 12:04	
Dibromofluoromethane	100	89 - 119	09/08/17 12:04	

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

Service Request: R1708324
Date Analyzed: 09/08/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1709023-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Acetone	8260C	16.8	20.0	84	40-161
Benzene	8260C	18.7	20.0	94	76-118
Bromodichloromethane	8260C	19.8	20.0	99	78-126
Bromoform	8260C	19.6	20.0	98	71-136
Bromomethane	8260C	13.7	20.0	68	42-166
2-Butanone (MEK)	8260C	17.4	20.0	87	61-137
Carbon Disulfide	8260C	20.4	20.0	102	65-127
Carbon Tetrachloride	8260C	19.0	20.0	95	68-125
Chlorobenzene	8260C	19.0	20.0	95	80-121
Chloroethane	8260C	21.6	20.0	108	70-127
Chloroform	8260C	19.6	20.0	98	76-120
Chloromethane	8260C	18.4	20.0	92	69-145
Dibromochloromethane	8260C	18.0	20.0	90	77-128
1,1-Dichloroethane	8260C	20.0	20.0	100	78-117
1,2-Dichloroethane	8260C	18.3	20.0	92	71-127
1,1-Dichloroethene	8260C	18.0	20.0	90	74-135
cis-1,2-Dichloroethene	8260C	18.5	20.0	93	80-121
trans-1,2-Dichloroethene	8260C	19.0	20.0	95	80-120
1,2-Dichloropropane	8260C	18.0	20.0	90	80-119
cis-1,3-Dichloropropene	8260C	19.7	20.0	98	74-126
trans-1,3-Dichloropropene	8260C	19.4	20.0	97	67-135
Ethylbenzene	8260C	20.2	20.0	101	76-120
2-Hexanone	8260C	16.9	20.0	84	63-124
Methylene Chloride	8260C	19.3	20.0	97	73-122
4-Methyl-2-pentanone (MIBK)	8260C	16.6	20.0	83	66-124
Styrene	8260C	21.2	20.0	106	80-124
1,1,2,2-Tetrachloroethane	8260C	19.0	20.0	95	78-122
Tetrachloroethene	8260C	19.3	20.0	97	78-124
Toluene	8260C	19.8	20.0	99	77-120
1,1,1-Trichloroethane	8260C	19.7	20.0	98	74-120
1,1,2-Trichloroethane	8260C	17.9	20.0	90	82-118
Trichloroethene	8260C	18.3	20.0	91	78-123
Vinyl Chloride	8260C	23.2	20.0	116	69-133

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QA/QC Report

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

Service Request: R1708324
Date Analyzed: 09/08/17

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Units:ug/L
Basis:NA

Lab Control Sample
RQ1709023-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
o-Xylene	8260C	19.3	20.0	96	80-120
m,p-Xylenes	8260C	40.0	40.0	100	78-123

Semivolatile Organic Compounds by GC/MS

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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: Unicorn Management Consultants **Service Request:** R1708324
Project: Union Road/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	R1708324-001	84	77	36
MW-10M	R1708324-002	83	77	36
MW-10D	R1708324-003	80	77	37
MW-11S	R1708324-004	71	70	33
MW-11M	R1708324-005	76	69	37
MW-12S	R1708324-006	67	64	33
MW-12M	R1708324-007	85	75	38
MW-12D	R1708324-008	79	69	35
MW-13S	R1708324-009	83	71	36
MW-13M	R1708324-010	82	70	37
MW-14S	R1708324-011	78	66	35
Method Blank	RQ1709018-01	90	76	41
Lab Control Sample	RQ1709018-02	87	86	45
Duplicate Lab Control Sample	RQ1709018-03	79	74	40

Client: Unicorn Management Consultants **Service Request:** R1708324
Project: Union Road/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	R1708324-001	80	31	91
MW-10M	R1708324-002	80	30	90
MW-10D	R1708324-003	85	31	96
MW-11S	R1708324-004	73	29	80
MW-11M	R1708324-005	69	32	91
MW-12S	R1708324-006	69	29	83
MW-12M	R1708324-007	77	33	102
MW-12D	R1708324-008	71	31	94
MW-13S	R1708324-009	75	30	91
MW-13M	R1708324-010	70	31	97
MW-14S	R1708324-011	69	30	84
Method Blank	RQ1709018-01	85	36	98
Lab Control Sample	RQ1709018-02	90	39	103
Duplicate Lab Control Sample	RQ1709018-03	77	33	88

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1709018-01	**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	ND U	10	1	09/12/17 17:02	9/8/17	
1,2-Dichlorobenzene	ND U	10	1	09/12/17 17:02	9/8/17	
1,3-Dichlorobenzene	ND U	10	1	09/12/17 17:02	9/8/17	
1,4-Dichlorobenzene	ND U	10	1	09/12/17 17:02	9/8/17	
2,4,5-Trichlorophenol	ND U	10	1	09/12/17 17:02	9/8/17	
2,4,6-Trichlorophenol	ND U	10	1	09/12/17 17:02	9/8/17	
2,4-Dichlorophenol	ND U	10	1	09/12/17 17:02	9/8/17	
2,4-Dimethylphenol	ND U	10	1	09/12/17 17:02	9/8/17	
2,4-Dinitrophenol	ND U	50	1	09/12/17 17:02	9/8/17	
2,4-Dinitrotoluene	ND U	10	1	09/12/17 17:02	9/8/17	
2,6-Dinitrotoluene	ND U	10	1	09/12/17 17:02	9/8/17	
2-Chloronaphthalene	ND U	10	1	09/12/17 17:02	9/8/17	
2-Chlorophenol	ND U	10	1	09/12/17 17:02	9/8/17	
2-Methylnaphthalene	ND U	10	1	09/12/17 17:02	9/8/17	
2-Methylphenol	ND U	10	1	09/12/17 17:02	9/8/17	
2-Nitroaniline	ND U	50	1	09/12/17 17:02	9/8/17	
2-Nitrophenol	ND U	10	1	09/12/17 17:02	9/8/17	
3,3'-Dichlorobenzidine	ND U	10	1	09/12/17 17:02	9/8/17	
3- and 4-Methylphenol Coelution	ND U	10	1	09/12/17 17:02	9/8/17	
3-Nitroaniline	ND U	50	1	09/12/17 17:02	9/8/17	
4,6-Dinitro-2-methylphenol	ND U	50	1	09/12/17 17:02	9/8/17	
4-Bromophenyl Phenyl Ether	ND U	10	1	09/12/17 17:02	9/8/17	
4-Chloro-3-methylphenol	ND U	10	1	09/12/17 17:02	9/8/17	
4-Chloroaniline	ND U	10	1	09/12/17 17:02	9/8/17	
4-Chlorophenyl Phenyl Ether	ND U	10	1	09/12/17 17:02	9/8/17	
4-Nitroaniline	ND U	50	1	09/12/17 17:02	9/8/17	
4-Nitrophenol	ND U	50	1	09/12/17 17:02	9/8/17	
Acenaphthene	ND U	10	1	09/12/17 17:02	9/8/17	
Acenaphthylene	ND U	10	1	09/12/17 17:02	9/8/17	
Anthracene	ND U	10	1	09/12/17 17:02	9/8/17	
Benz(a)anthracene	ND U	10	1	09/12/17 17:02	9/8/17	
Benzo(a)pyrene	ND U	10	1	09/12/17 17:02	9/8/17	
Benzo(b)fluoranthene	ND U	10	1	09/12/17 17:02	9/8/17	
Benzo(g,h,i)perylene	ND U	10	1	09/12/17 17:02	9/8/17	
Benzo(k)fluoranthene	ND U	10	1	09/12/17 17:02	9/8/17	
Benzyl Alcohol	ND U	10	1	09/12/17 17:02	9/8/17	
2,2'-Oxybis(1-chloropropane)	ND U	10	1	09/12/17 17:02	9/8/17	
Bis(2-chloroethoxy)methane	ND U	10	1	09/12/17 17:02	9/8/17	
Bis(2-chloroethyl) Ether	ND U	10	1	09/12/17 17:02	9/8/17	
Bis(2-ethylhexyl) Phthalate	ND U	10	1	09/12/17 17:02	9/8/17	
Butyl Benzyl Phthalate	ND U	10	1	09/12/17 17:02	9/8/17	
Carbazole	ND U	10	1	09/12/17 17:02	9/8/17	
Chrysene	ND U	10	1	09/12/17 17:02	9/8/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	RQ1709018-01	**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	ND U	10	1	09/12/17 17:02	9/8/17	
Di-n-octyl Phthalate	ND U	10	1	09/12/17 17:02	9/8/17	
Dibenz(a,h)anthracene	ND U	10	1	09/12/17 17:02	9/8/17	
Dibenzofuran	ND U	10	1	09/12/17 17:02	9/8/17	
Diethyl Phthalate	ND U	10	1	09/12/17 17:02	9/8/17	
Dimethyl Phthalate	ND U	10	1	09/12/17 17:02	9/8/17	
Fluoranthene	ND U	10	1	09/12/17 17:02	9/8/17	
Fluorene	ND U	10	1	09/12/17 17:02	9/8/17	
Hexachlorobenzene	ND U	10	1	09/12/17 17:02	9/8/17	
Hexachlorobutadiene	ND U	10	1	09/12/17 17:02	9/8/17	
Hexachlorocyclopentadiene	ND U	10	1	09/12/17 17:02	9/8/17	
Hexachloroethane	ND U	10	1	09/12/17 17:02	9/8/17	
Indeno(1,2,3-cd)pyrene	ND U	10	1	09/12/17 17:02	9/8/17	
Isophorone	ND U	10	1	09/12/17 17:02	9/8/17	
N-Nitrosodi-n-propylamine	ND U	10	1	09/12/17 17:02	9/8/17	
N-Nitrosodimethylamine	ND U	10	1	09/12/17 17:02	9/8/17	
N-Nitrosodiphenylamine	ND U	10	1	09/12/17 17:02	9/8/17	
Naphthalene	ND U	10	1	09/12/17 17:02	9/8/17	
Nitrobenzene	ND U	10	1	09/12/17 17:02	9/8/17	
Pentachlorophenol (PCP)	ND U	50	1	09/12/17 17:02	9/8/17	
Phenanthrene	ND U	10	1	09/12/17 17:02	9/8/17	
Phenol	ND U	10	1	09/12/17 17:02	9/8/17	
Pyrene	ND U	10	1	09/12/17 17:02	9/8/17	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	90	35 - 141	09/12/17 17:02	
2-Fluorobiphenyl	76	31 - 118	09/12/17 17:02	
2-Fluorophenol	41	10 - 105	09/12/17 17:02	
Nitrobenzene-d5	85	31 - 110	09/12/17 17:02	
Phenol-d6	36	10 - 107	09/12/17 17:02	
p-Terphenyl-d14	98	30 - 133	09/12/17 17:02	

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

Service Request: R1708324
Date Analyzed: 09/12/17

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

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1709018-02			RQ1709018-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4-Trichlorobenzene	8270D	65.9	100	66	54.8	100	55	10-127	18	30
1,2-Dichlorobenzene	8270D	64.0	100	64	54.5	100	54	23-130	17	30
1,3-Dichlorobenzene	8270D	59.7	100	60	52.4	100	52	21-90	14	30
1,4-Dichlorobenzene	8270D	59.4	100	59	50.0	100	50	10-124	17	30
2,4,5-Trichlorophenol	8270D	98.5	100	99	82.9	100	83	63-121	18	30
2,4,6-Trichlorophenol	8270D	96.2	100	96	87.9	100	88	64-116	9	30
2,4-Dichlorophenol	8270D	97.3	100	97	80.4	100	80	52-111	19	30
2,4-Dimethylphenol	8270D	91.0	100	91	80.4	100	80	44-114	13	30
2,4-Dinitrophenol	8270D	93.6	100	94	82.9	100	83	10-160	12	30
2,4-Dinitrotoluene	8270D	91.4	100	91	82.9	100	83	62-142	9	30
2,6-Dinitrotoluene	8270D	97.5	100	98	85.3	100	85	61-139	14	30
2-Chloronaphthalene	8270D	73.0	100	73	67.3	100	67	53-98	9	30
2-Chlorophenol	8270D	81.9	100	82	69.9	100	70	42-112	16	30
2-Methylnaphthalene	8270D	73.6	100	74	66.5	100	67	34-102	10	30
2-Methylphenol	8270D	75.2	100	75	65.2	100	65	59-104	14	30
2-Nitroaniline	8270D	104	100	104	88.4	100	88	52-133	17	30
2-Nitrophenol	8270D	102	100	102	88.6	100	89	51-115	14	30
3,3'-Dichlorobenzidine	8270D	89.0	100	89	80.0	100	80	45-122	11	30
3- and 4-Methylphenol Coelution	8270D	68.8	100	69	60.2	100	60	50-111	14	30
3-Nitroaniline	8270D	78.4	100	78	71.4	100	71	48-115	9	30
4,6-Dinitro-2-methylphenol	8270D	113	100	113	101	100	101	35-168	11	30
4-Bromophenyl Phenyl Ether	8270D	81.4	100	81	72.6	100	73	65-113	10	30
4-Chloro-3-methylphenol	8270D	96.8	100	97	80.7	100	81	52-113	18	30
4-Chloroaniline	8270D	86.2	100	86	71.0	100	71	47-104	19	30
4-Chlorophenyl Phenyl Ether	8270D	75.6	100	76	69.7	100	70	61-110	8	30
4-Nitroaniline	8270D	89.1	100	89	77.1	100	77	54-133	14	30
4-Nitrophenol	8270D	39.3 J	100	39	34.0 J	100	34	10-126	14	30
Acenaphthene	8270D	84.3	100	84	76.9	100	77	54-125	9	30
Acenaphthylene	8270D	85.4	100	85	76.8	100	77	60-106	10	30
Anthracene	8270D	97.0	100	97	85.2	100	85	55-116	13	30
Benz(a)anthracene	8270D	96.7	100	97	82.7	100	83	66-110	16	30
Benzo(a)pyrene	8270D	97.2	100	97	84.4	100	84	44-114	14	30
Benzo(b)fluoranthene	8270D	92.0	100	92	79.0	100	79	69-117	15	30

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

Service Request: R1708324
Date Analyzed: 09/12/17

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

Units:ug/L
Basis:NA

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1709018-02			RQ1709018-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzo(g,h,i)perylene	8270D	104	100	104	91.8	100	92	63-136	12	30
Benzo(k)fluoranthene	8270D	94.9	100	95	81.9	100	82	49-133	15	30
Benzyl Alcohol	8270D	75.7	100	76	63.9	100	64	31-109	17	30
2,2'-Oxybis(1-chloropropane)	8270D	69.9	100	70	61.2	100	61	47-132	14	30
Bis(2-chloroethoxy)methane	8270D	84.7	100	85	71.5	100	72	55-110	17	30
Bis(2-chloroethyl) Ether	8270D	71.3	100	71	61.4	100	61	56-102	15	30
Bis(2-ethylhexyl) Phthalate	8270D	102	100	102	88.1	100	88	70-132	15	30
Butyl Benzyl Phthalate	8270D	100	100	100	86.1	100	86	41-148	15	30
Carbazole	8270D	103	100	103	90.2	100	90	61-126	13	30
Chrysene	8270D	96.8	100	97	81.8	100	82	57-118	17	30
Di-n-butyl Phthalate	8270D	100	100	100	90.6	100	91	57-139	9	30
Di-n-octyl Phthalate	8270D	99.5	100	100	84.5	100	84	70-134	17	30
Dibenz(a,h)anthracene	8270D	101	100	101	85.9	100	86	58-132	16	30
Dibenzofuran	8270D	85.4	100	85	77.1	100	77	62-105	10	30
Diethyl Phthalate	8270D	83.3	100	83	73.6	100	74	65-122	11	30
Dimethyl Phthalate	8270D	83.8	100	84	73.8	100	74	58-119	13	30
Fluoranthene	8270D	98.0	100	98	86.3	100	86	66-127	13	30
Fluorene	8270D	82.4	100	82	73.1	100	73	66-110	12	30
Hexachlorobenzene	8270D	92.3	100	92	82.6	100	83	68-115	10	30
Hexachlorobutadiene	8270D	66.2	100	66	55.5	100	56	16-95	16	30
Hexachlorocyclopentadiene	8270D	57.5	100	58	51.7	100	52	10-99	11	30
Hexachloroethane	8270D	55.9	100	56	48.1	100	48	15-92	15	30
Indeno(1,2,3-cd)pyrene	8270D	107	100	107	93.6	100	94	65-124	13	30
Isophorone	8270D	84.3	100	84	71.9	100	72	50-116	15	30
N-Nitrosodi-n-propylamine	8270D	77.0	100	77	66.5	100	67	49-115	14	30
N-Nitrosodimethylamine	8270D	60.4	100	60	48.8	100	49	31-70	20	30
N-Nitrosodiphenylamine	8270D	96.2	100	96	86.7	100	87	45-123	10	30
Naphthalene	8270D	75.9	100	76	66.2	100	66	36-95	14	30
Nitrobenzene	8270D	82.5	100	83	71.1	100	71	46-108	16	30
Pentachlorophenol (PCP)	8270D	98.5	100	99	87.0	100	87	41-154	13	30
Phenanthrene	8270D	95.8	100	96	86.0	100	86	58-118	11	30
Phenol	8270D	35.2	100	35	29.9	100	30	10-113	15	30
Pyrene	8270D	95.6	100	96	83.2	100	83	69-127	15	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:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1708324-MB1		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	09/13/17 03:48	09/11/17	
Lead, Dissolved	6010C	ND U	ug/L	50	1	09/13/17 03:48	09/11/17	

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1708324-MB2		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Arsenic, Dissolved	6010C	ND U	ug/L	10	1	09/13/17 03:52	09/11/17	
Lead, Dissolved	6010C	ND U	ug/L	50	1	09/13/17 03:52	09/11/17	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

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

Service Request: R1708324
Date Analyzed: 09/13/17

Lab Control Sample Summary
Inorganic Parameters

Units:ug/L
Basis:NA

Lab Control Sample
R1708324-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Arsenic, Dissolved	6010C	41	40	104	80-120
Lead, Dissolved	6010C	522	500	104	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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Unicorn Management Consultants	**Service Request:**	R1708324
Project:	Union Road/2011-100	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	R1708324-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Oil and Grease, Total (HEM)	1664A	ND U	mg/L	5.0	1	09/15/17 09:30	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

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

Service Request: R1708324
Date Analyzed: 09/15/17

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
R1708324-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Oil and Grease, Total (HEM)	1664A	41.3	40.2	103	78-114

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, 2016 to December 26, 2017

	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 Persico at 52 Federal Road, Suite 2C, Danbury CT,
print name 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

1/9/18
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)

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

Stamp (Required for PE)

1/9/18
Date