Supplemental Phase II Environmental Investigation Report

3077 UNION ROAD
ORCHARD PARK, NEW YORK

January 2019 T0105-017-010

Prepared For:

BENDERSON DEVELOPMENT



Prepared By:

TurnKey Environmental Restoration, LLC

2558 Hamburg Turnpike, Suite 300, Buffalo, New York | phone: (716) 856-0635 | fax: (716) 856-0583

SUPPLEMENTAL PHASE II ENVIRONMENTAL INVESTIGATION REPORT

3077 Union Road
Orchard Park, New York

January 2019 0105-017-010

Prepared for:

Benderson Development Company, LLC
570 Delaware Avenue
Buffalo, New York, 14202

Prepared by:

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, New York 14218

PHASE II ENVIRONMENTAL INVESTIGATION REPORT

3077 Union Road
Orchard Park, New York

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 Background and Site Description 1
1.2 Previous Studies 1

2.0 SITE INVESTIGATION ACTIVITIES 3
2.1 Drilling and Monitoring Well Installation Activities 3
2.2 Monitoring Well Development and Groundwater Sampling Activities 4

3.0 INVESTIGATION FINDINGS 5
3.1 Site Geology/Hydrogeology 5
3.2 Field Observations 5
3.3 Groundwater Analytical Results 6

4.0 CONCLUSIONS AND RECOMMENDATIONS 7

5.0 LIMITATIONS 8

PHASE II ENVIRONMENTAL INVESTIGATION REPORT

3077 Union Road
Orchard Park, New York

LIST OF TABLES

Table 1	Summary of Groundwater Analytical Results

LIST OF FIGURES

Figure 1	Site Location and Vicinity Map
Figure 2	Investigation Locations
Figure 3	Overburden Groundwater Isopotential Map
Figure 4	Bedrock Contour Map
Figure 5	Bedrock Groundwater Isopotential Map

APPENDICES

Appendix A	Soil Boring Logs with Well Completion Details
Appendix B	Photo Log
Appendix C	Groundwater Field Forms
Appendix D	Laboratory Analytical Data Summary Package

1.0 INTRODUCTION

1.1 Background and Site Description

TurnKey Environmental Restoration, LLC (TurnKey) performed a Supplemental Phase II Environmental Investigation on behalf of Benderson Development Company, LLC at 3077 Union Road in the Town of Orchard Park, Erie County, New York (Site).

The Site is located in a moderately developed residential and commercial area (see Figure 1). 3077 Union Road is comprised of one parcel totaling 17.9 acres. The parcel is supplied with and has access to municipal sanitary sewer, public water, natural-gas and electric. As further detailed below, an existing building on the western portion of the parcel historically included a dry cleaner. Soil and overburden groundwater impacts were identified on-Site by TurnKey as part of a previous Phase II Environmental Investigation.

The purpose of the supplemental Phase II work was to further delineate chlorinated volatile organic compound (cVOC) impacts identified proximate to the western-most existing building during TurnKey's previous Phase II Environmental Investigation, including investigation of bedrock groundwater.

1.2 Previous Studies

TurnKey completed a Phase I Environmental Site Assessment of a greater property that included the 3077 Union Road Parcel in September 2017.

A dry cleaner and septic system were identified on a 1967 property survey map that was reviewed by TurnKey in the Town of Orchard Park municipal records. The dry cleaner was formerly located within a portion of a vacant strip plaza building on the western portion of 3077 Union Road. In addition, historic operations included automotive repair and equipment repair/maintenance.

Due to the history of dry cleaning with use of a private septic system, automotive repair and the equipment repair/maintenance, TurnKey completed a Phase II Environmental Investigation.

The initial Phase II Investigation consisted of 16 soil borings (SB-1 through SB-16) with five piezometers (PZ-1 through PZ-5) installed. Laboratory analytical results indicated cVOC-impacted soil and groundwater east of the former dry cleaner. Specifically, tetrachloroethene (PCE) and its degradation compounds trichloroethene (TCE) and cis-1,2-

dichloroethene (cis-1,2-DCE) exceeded Part 375 Unrestricted Soil Cleanup Objectives (USCOs), Residential SCOs (RSCOs) and/or Protection of Groundwater SCOs in soil samples collected from four soil borings (SB-3, SB-7, SB-8 and SB-11). PCE and/or its degradation compounds TCE, cis-1,2 DCE and vinyl chloride (VC) exceeded GWQS in overburden groundwater at piezometers PZ-2, PZ-3 and PZ-4.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 Drilling and Monitoring Well Installation Activities

Between December 19, 2018 and December 21, 2018, TurnKey's subcontractor, Earth Dimensions, Inc., mobilized an auger rig (Dierich D120) to the Site. Continuous split spoon soil sampling was completed in overburden soil at four locations (MW-1, MW-1D, MW-2D and MW-4D) until bedrock equipment refusal was encountered in competent bedrock at depths ranging between 6.5 feet below ground surface (fbgs) and 12.5 fbgs were reached. Upon bedrock refusal, MW-1 located at the northwest corner of the existing building (down-gradient direction), was converted into an overburden groundwater monitoring well constructed of 2-inch I.D. flush-joint Schedule 40 PVC solid riser and machine slotted screen (0.010-inch slot size). Overburden well MW-1 was finished with a lockable J-plug and a flush-mount road box.

Upon refusal on competent bedrock at sample locations MW-1D, MW-2D and MW-4D, the augers were sealed with hydrated bentonite chips at the overburden/bedrock interface and a temporary casing was installed and sealed with bentonite at top of rock. Rock coring and rock retrieval activities were completed using a NQ-2 core barrel until total depths between 19 fbgs and 23 fbgs were reached. Upon reaching the target depth, bedrock monitoring wells constructed of 2-inch I.D. flush-joint Schedule 40 PVC solid riser and machine slotted screen (0.010-inch slot size) were installed with the screened section located in bedrock beneath the weathered bedrock unit. Silica sand filter pack (size #0) was installed from the base of the well to approximately two feet above the top of the screen. A bentonite chip seal was then installed in the remaining annulus to mitigate the potential for downhole grout contamination. The newly installed bedrock monitoring wells were completed with flush-mount road boxes, and lockable J-plugs with keyed-alike locks.

Bedrock well locations (MW-1D, MW-2D and MW-4D) were chosen to assess bedrock groundwater conditions within and down-gradient of the suspected cVOC source area. Overburden monitoring well (MW-1) was installed to assess overburden groundwater down-gradient of the source area. Investigation locations (current and historic) are shown on Figure 2.

The sample cores from overburden and bedrock drilling were retrieved from each investigation location to allow for field characterization of the subsurface lithology and

collection of soil samples by TurnKey's Environmental Scientist. All field observations, including lithology, depths, photoionization detector (PID) scan results, etc., at each investigation location are summarized in the Soil Boring Log with Well Completion Details provided in Appendix A. Photographs taken during the work are included in Appendix B.

2.2 Monitoring Well Development and Groundwater Sampling Activities

The four newly installed monitoring wells were developed to remove the fines from the filter pack and well casing using dedicated disposable polyethylene bailers for surging and a non-dedicated submersible pump for purging in accordance with New York State Department of Environmental Conservation (NYSDEC) and Benchmark-TurnKey Field Operating Procedures (FOPs) prior to sampling. Field parameters including pH, oxidation-reduction potential (ORP), dissolved oxygen (DO), temperature, turbidity, and specific conductance were measured periodically (i.e., every well volume or as necessary) during development. Field measurements continued until they became stable. Stability was defined as variation between measurements of approximately 10 percent or less with no overall upward or downward trend in the measurements. Each well was developed until it went dry or 10 well volumes were removed.

After approx. 24 hours following development, groundwater samples were collected from the newly installed monitoring wells using a peristaltic pump with dedicated tubing and/or a dedicated bailer subsequent to purging a minimum of three well volumes from each well. In addition, groundwater samples were collected from each existing piezometer (PZ-2 through PZ-5) subsequent to purging a minimum of three well volumes from each well. Note that PZ-1 was removed during the initial investigation. Eight groundwater samples were placed in pre-cleaned laboratory provided sample bottles, cooled to 4 °C in the field, and transported under chain-of-custody to Alpha for analysis of Target Compound List (TCL) plus Commissioner Policy-51 (CP-51) VOCs. Groundwater field forms are included in Appendix C.

3.0 INVESTIGATION FINDINGS

3.1 Site Geology/Hydrogeology

The overburden geology observed during the soil boring investigation is generally described as mixtures of sand, silt, clay and/or gravel overlying bedrock (see Soil Boring Logs in Appendix A).

Overburden groundwater levels measured in piezometers prior to sampling ranged from near surface at 0.10 feet below top of riser (fbTOR) to 2.69 fbTOR. Overburden groundwater elevations were measured from each monitoring well using survey equipment to assess the groundwater flow direction at the Site. As shown on Figure 3, overburden groundwater level measurements relative to USGS vertical datum suggest a northwesterly groundwater flow direction, which is consistent with topography in the area of the Site.

Bedrock, encountered between 6.5 fbgs and 12.5 fbgs during the supplemental drilling activities, consisted of one to two feet of weathered shale atop fractured Windom Shale bedrock (see Soil Boring Logs in Appendix A). A bedrock contour map indicating a bedrock dip in a northwesterly direction is provided as Figure 4.

Bedrock groundwater levels measured in bedrock wells prior to sampling ranged between 4.25 fbTOR and 7.1 fbTOR. As shown on Figure 5, bedrock groundwater level measurements relative to USGS vertical datum suggest a northwesterly groundwater flow direction.

3.2 Field Observations

Overburden soil samples from the supplemental soil boring investigation were observed and scanned via headspace screening for volatile organics using a PID. No PID readings in overburden soil exceeded background (0.0 parts per million, ppm) except for PID readings between 3 fbgs and 5 fbgs at MW-4D, the highest of which was 17 ppm at five fbgs. No visual or olfactory concerns were identified during overburden drilling.

Regarding bedrock groundwater, a sulfur-like odor and a slight sheen were noted on groundwater during sampling of MW-2D and MW-4D. No visual or olfactory concerns were identified during overburden groundwater sampling activities.

3.3 Groundwater Analytical Results

Overburden (current and historic) and bedrock groundwater sample results are summarized on Table 1 with comparison to Class GA Groundwater Quality Standards (GWQS) per NYSDEC Technical and Operational Guidance Series (T.O.G.S 1.1.1). A copy of the complete laboratory analytical data package is included in Appendix D.

As summarized on Table 1, cVOC concentrations in overburden groundwater at piezometers PZ-2 through PZ-5 have fluctuated since the historic sampling event in January 2018; however, when compared to the current January 2019 sampling event, the concentrations generally exceed their respective GWQS at the same level of magnitude (total cVOCs ranged between 13.4 ug/L to 56,020 ug/L in January 2018 and between 6.23 ug/L to 38,100 ug/L in January 2019 with the highest concentrations of note at PZ-3). VOCs were not detected in the newly installed overburden monitoring well MW-1, except for acetone detected at a concentration significantly below its GWQS.

VOCs were not detected or were detected at concentrations below GWQS, in bedrock groundwater at wells MW-1D, MW-2D and MW-4D except for vinyl chloride at MW-2D, which was detected at a concentration of 4.7 micrograms per liter (ug/L), which slightly exceeds its GWQS of 2 ug/L.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the historic and supplemental Phase II Investigations at the Site, TurnKey offers the following conclusions and recommendations:

- The Site is currently unoccupied and includes a vacant commercial structure that formerly included a dry cleaner in at least 1967.
- TurnKey's initial Phase II completed at the Site in January 2018 identified cVOC-impacts in overburden soil as high as 122 mg/kg and overburden groundwater as high as 56,020 ug/L east of the former dry cleaner. Overburden total cVOC concentrations were as high as 38,100 ug/L during the supplemental overburden groundwater sampling activities in January 2019.
- Based on the results of supplemental Phase II activities, VOCs in bedrock groundwater were not detected or were at concentrations significantly below GWQS except for a vinyl chloride concentration of 4.7 ug/L at MW-2D, which slightly exceeds its GWQS of 2 ug/L.
- In conclusion, cVOC-impacted soil and overburden groundwater is present on-Site, which will require remediation.
- Based on the findings, the Site is a good candidate for the New York Brownfield Cleanup Program (BCP).

5.0 LIMITATIONS

This report has been prepared for the exclusive use of Benderson Development Company, LLC. The contents of this report are limited to information available at the time of the Site investigation activities and to data referenced herein, and assume all referenced historic information sources to be true and accurate. The findings herein may be relied upon only at the discretion of Benderson Development Company, LLC. Use of or reliance on this report or its findings by any other person or entity is prohibited without written permission of TurnKey Environmental Restoration, LLC.

TABLE

TABLE 1

SUMMARY OF OVERBURDEN AND BEDROCK GROUNDWATER ANALYTICAL RESULTS
SUPPLEMENTAL PHASE II ENVIRONMENTAL INVESTIGATION
3077 UNION ROAD
ORCHARD PARK, NY

PARAMETER[1]	GWQS[2]	Sample ID												
		PZ-1 (removed)	MW-1	PZ-2	PZ-2	PZ-3 - DL	PZ-3 - DL	PZ-4	PZ-4	PZ-5	PZ-5	MW-1D	MW-2D	MW-4D
		1/22/2018	12/26/2018	1/23/2018	1/2/2019	1/23/2018	1/2/2019	1/23/2018	1/2/2019	1/23/2018	1/2/2019	12/26/2018	12/26/2018	12/26/2018
		Overburden Wells										Bedrock Wells		
Volatile Organic Compounds (VOCs) - ug/L														
1,1-Dichloroethene	**0.33**	ND	ND	ND	ND	ND	ND	ND	**2.9**	ND	ND	ND	ND	ND
2-Butanone (MEK)	--	ND	ND	ND	7.9	ND	ND	ND	ND	ND	6.7	ND	ND	ND
Acetone	**50**	5	9.6	7.3	49	ND	ND	ND	ND	3.2	**54**	1.9 J	ND	ND
Carbon disulfide	**--**	0.46	ND	0.66	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	**5**	ND	ND	**9.8**	1.3 J	**2200**	**2100**	**37**	**600**	0.9	1.5 J	ND	ND	0.7 J
Cyclohexane	**--**	0.18	ND	0.39	ND	ND	ND	0.29	ND	ND	ND	1.9 J	ND	1.4 J
Ethylbenzene	**5**	ND	ND	4.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	**--**	ND	ND	0.36	ND	ND	ND	0.43	ND	ND	ND	2.7 J	ND	ND
Methylene chloride	**5**	ND	ND	ND	ND	**220**	ND	ND	ND	ND	ND	ND	0.65 J	2.4 J
Tetrachloroethene	**5**	ND	ND	ND	4.5	**51000**	**34000**	**22**	**95**	0.66	**14**	ND	ND	0.47 J
trans-1,2-Dichloroethene	**5**	ND	ND	ND	ND	ND	ND	3	**31**	ND	ND	ND	ND	ND
Trichloroethene	**5**	ND	ND	ND	ND	**2600**	**2000**	**61**	**380**	2.3	4.2	ND	ND	0.46 J
Vinyl chloride	**2**	ND	ND	**3.6**	0.43 J	ND	ND	**7.7**	**160**	ND	ND	ND	**4.7**	1.6
Total Xylenes	**5**	ND	ND	**30**	ND	ND	ND	ND	ND	ND	ND	0.86 J	ND	ND
Total VOCs	**--**	5.64	ND	56.61	ND	56020	ND	131.42	ND	7.06	ND	ND	ND	ND
Total cVOCs	**--**	0	0	13.4	6.23	56020	38100	130.7	1268.9	3.86	19.7	0	5.35	5.63

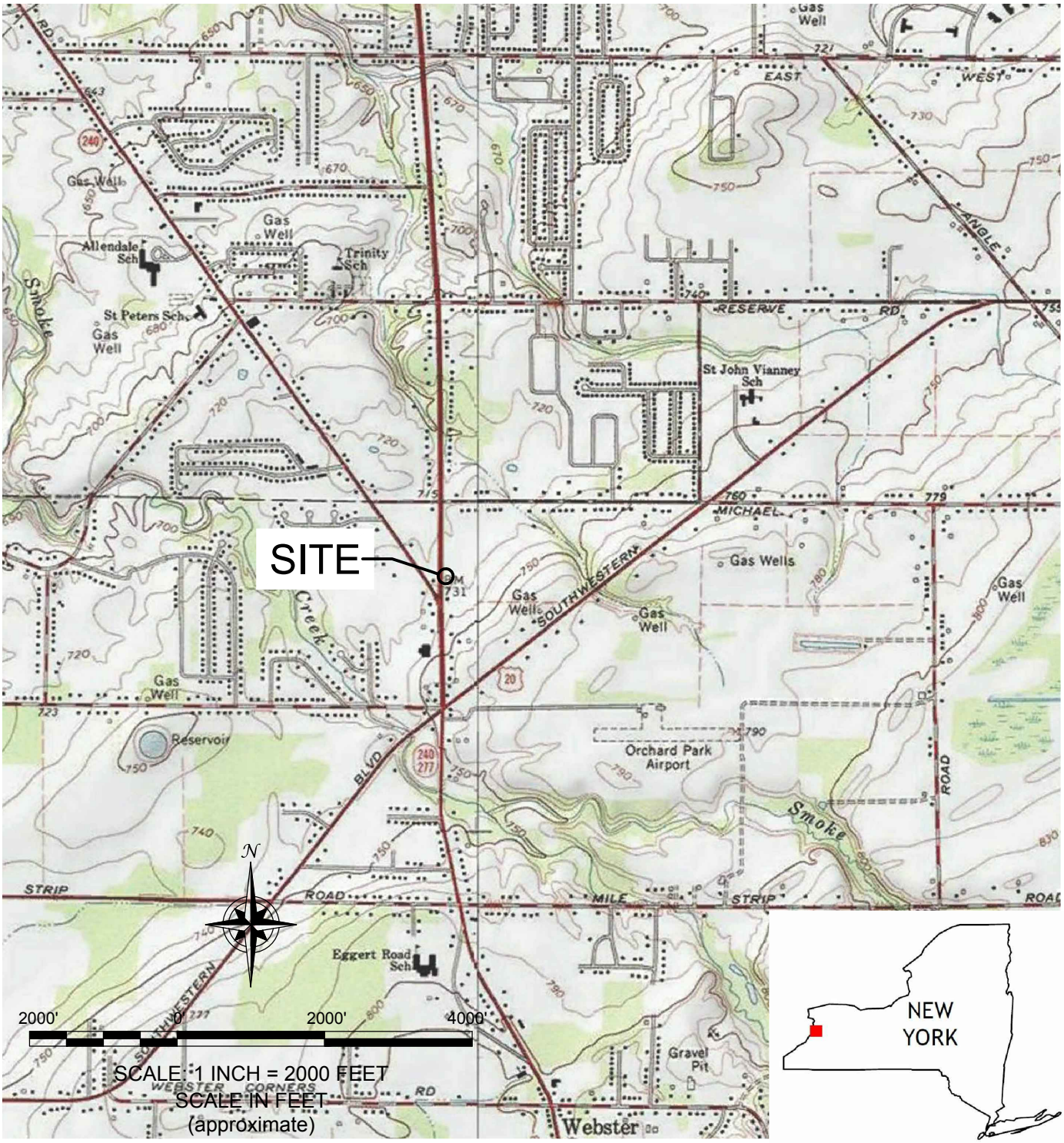
Notes:
1. Only those parameters detected at a minimum of one sample location are presented in this table; other compounds were reported as non-detect.
2. Regulatory limits are NYSDEC Class "GA" Groundwater Quality Standards (GWQS) and Guidance Values and Groundwater Effluent Limitations.

Definitions:
ND = Parameter not detected above laboratory detection limit.
"--" = No value available for the parameter; Parameter not analyzed for.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
DL = Indicates a dilution, re-analysis, re-extraction, or additional initial metals/anion analysis of the sample.
Bold = Result exceeds NYSDEC Groundwater Quality Standards.

FIGURES

F:\CAD\TurnKey\Benderson\3077 Union Road and Associated Parcels\Phase II\Figure 1 - Site Location and Vicinity Map.dwg

FIGURE 1



TurnKey Environmental Restoration, LLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: T0105-017-010

DATE: JANUARY 2018

DRAFTED BY: CMS

SITE LOCATION AND VICINITY MAP

PHASE II ENVIRONMENTAL INVESTIGATION

3077-3097 UNION ROAD

ORCHARD PARK, NEW YORK

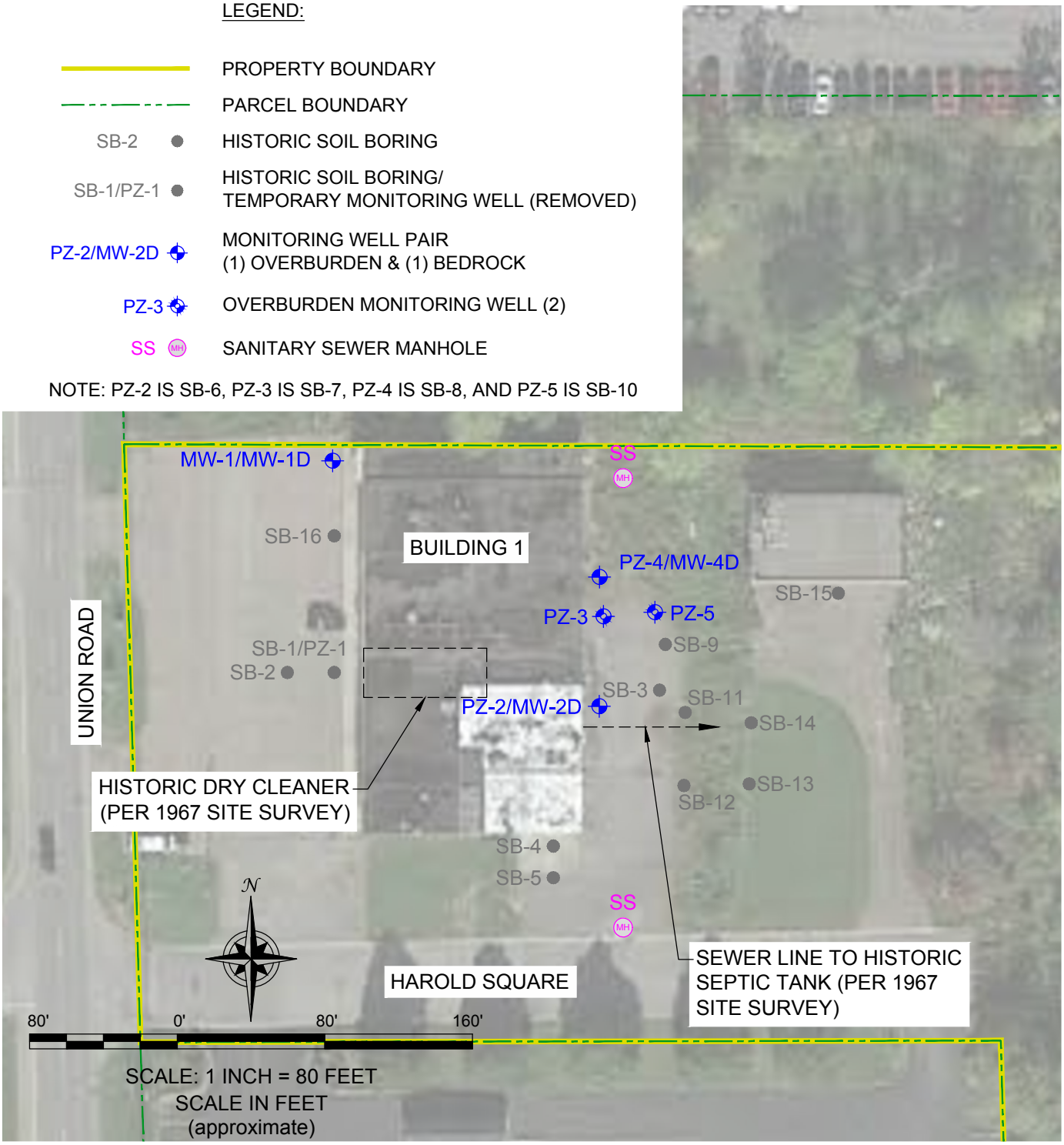
PREPARED FOR

BENDERSON DEVELOPMENT COMPANY

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F:\CAD\TurnKey\Benderson\3077 Union Road and Associated Parcels\Phase II\Figure 2 - Investigation Locations_rev.dwg

FIGURE 2



TURNKEY ENVIRONMENTAL RESTORATION, LLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: T0105-017-010

DATE: JANUARY 2019

DRAFTED BY: CMC

INVESTIGATION LOCATIONS

PHASE II ENVIRONMENTAL INVESTIGATION

3077 UNION ROAD

ORCHARD PARK, NEW YORK

PREPARED FOR

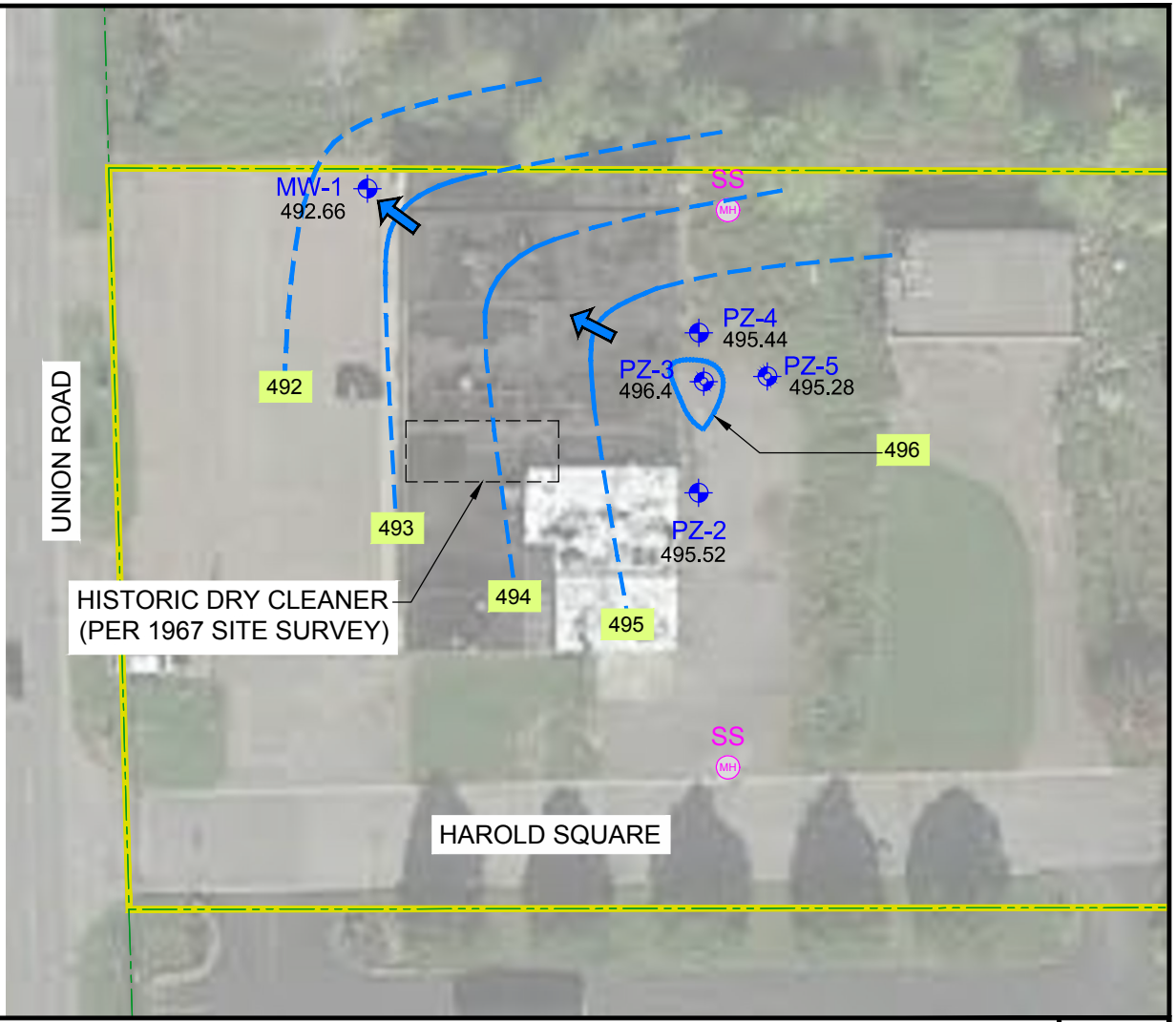
BENDERSON DEVELOPMENT COMPANY

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F:\CAD\TurnKey\Benderson\3077 Union Road and Associated Parcels\Phase II\Figure 3 - Overburden GW Isopotential Map.dwg

LEGEND:

- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- MW-1 492.66 — MONITORING WELL
- PZ-3 496.4 — OVERBURDEN MONITORING WELL (2)
- SS — SANITARY SEWER MANHOLE
- 484 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION



N

60' 0' 60' 120'

SCALE: 1 INCH = 60 FEET
SCALE IN FEET
(approximate)

TURNKEY ENVIRONMENTAL RESTORATION, LLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: T0105-017-010

DATE: JANUARY 2019

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OVERBURDEN GROUNDWATER ISOPOTENTIAL MAP

PHASE II ENVIRONMENTAL INVESTIGATION

3077 UNION ROAD

ORCHARD PARK, NEW YORK

PREPARED FOR

BENDERSON DEVELOPMENT COMPANY

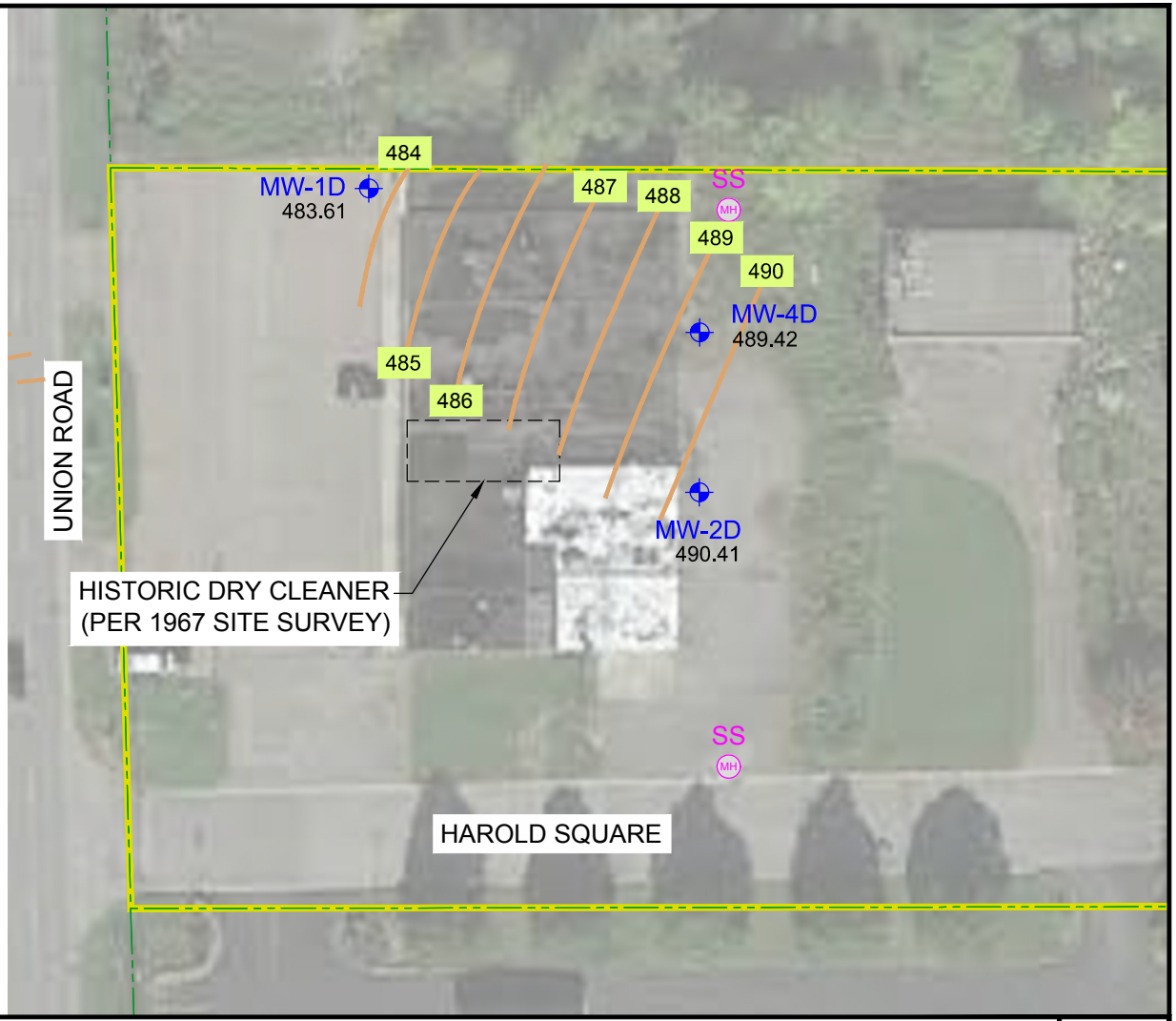
FIGURE 3

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F:\CAD\TurnKey\Benderson\3077 Union Road and Associated Parcels\Phase II\Figure 4 - Bedrock Contour Map.dwg

LEGEND:

- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- SS (MH) SANITARY SEWER MANHOLE
- MW-2 487.2 BEDROCK WELL WITH BEDROCK ELEVATION
- 484 BEDROCK ELEVATION CONTOUR FROM AUGERED BORING/WELL LOCATIONS



N

60' 0' 60' 120'

SCALE: 1 INCH = 60 FEET
SCALE IN FEET
(approximate)

TURNKEY ENVIRONMENTAL RESTORATION, LLC

2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: T0105-017-010

DATE: JANUARY 2019

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BEDROCK CONTOUR MAP

PHASE II ENVIRONMENTAL INVESTIGATION

3077 UNION ROAD

ORCHARD PARK, NEW YORK

PREPARED FOR

BENDERSON DEVELOPMENT COMPANY

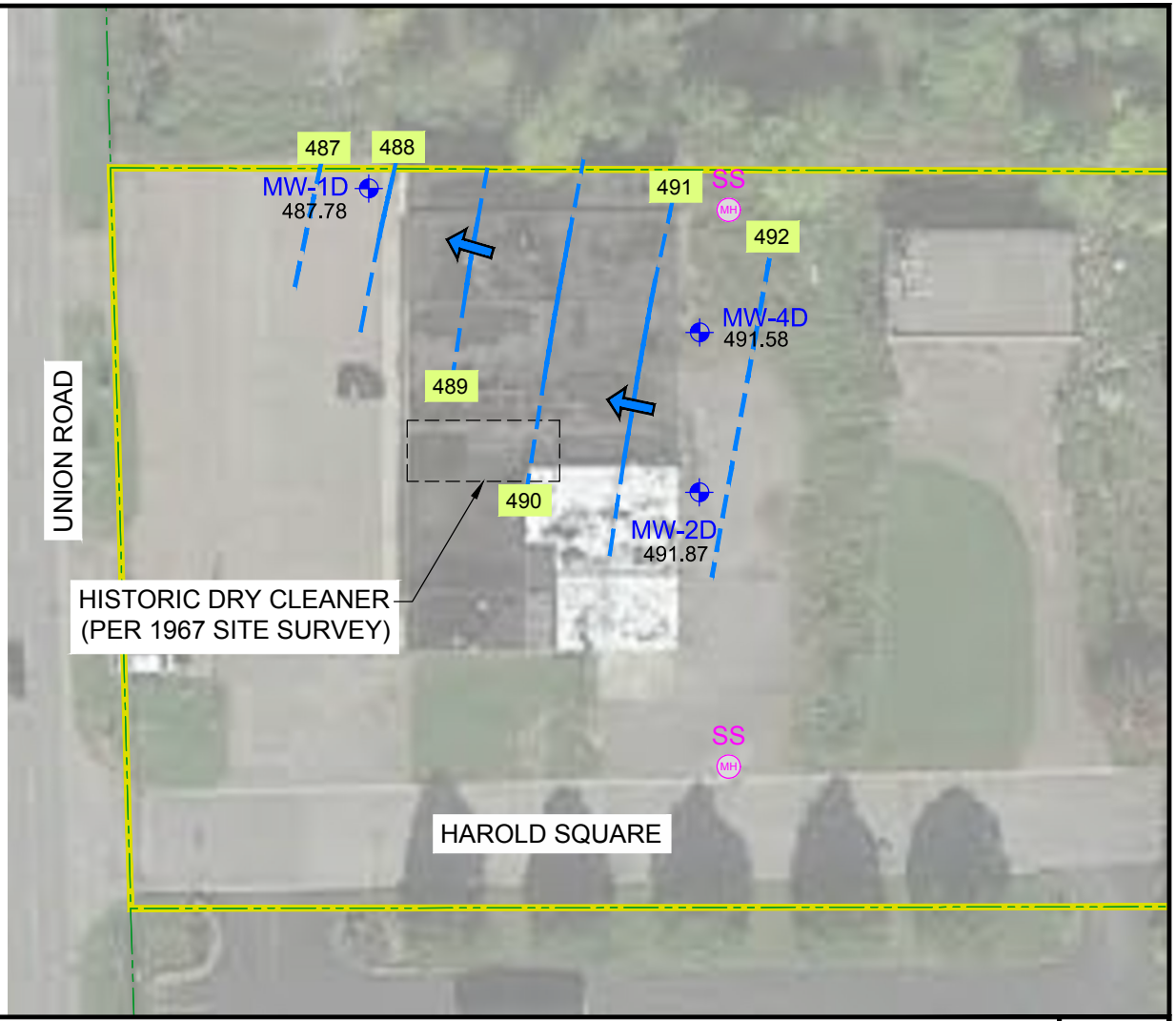
FIGURE 4

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F:\CAD\TurnKey\Benderson\3077 Union Road and Associated Parcels\Phase II\Figure 5 - Bedrock GW Isopotential.dwg

LEGEND:

- PROPERTY BOUNDARY
- PARCEL BOUNDARY
- MW-2D 491.87 — BEDROCK WELL WITH GROUNDWATER ELEVATION
- SS — SANITARY SEWER MANHOLE
- 484 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION



N

60' 0' 60' 120'

SCALE: 1 INCH = 60 FEET
SCALE IN FEET
(approximate)

TURNKEY ENVIRONMENTAL RESTORATION, LLC

2558 HAMBURG TURNPIKE
SUITE 300
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(716) 856-0635

PROJECT NO.: T0105-017-010

DATE: JANUARY 2019

DRAFTED BY: CMC

BEDROCK GROUNDWATER ISOPOTENTIAL MAP

PHASE II ENVIRONMENTAL INVESTIGATION

3077 UNION ROAD

ORCHARD PARK, NEW YORK

PREPARED FOR

BENDERSON DEVELOPMENT COMPANY

FIGURE 5

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APPENDIX A

SOIL BORING LOGS WITH WELL COMPLETION DETAILS

Project No: 105-017-010

Borehole Number: MW-1

Project: Supplemental Phase II

A.K.A.:

Client: Benderson Development Company

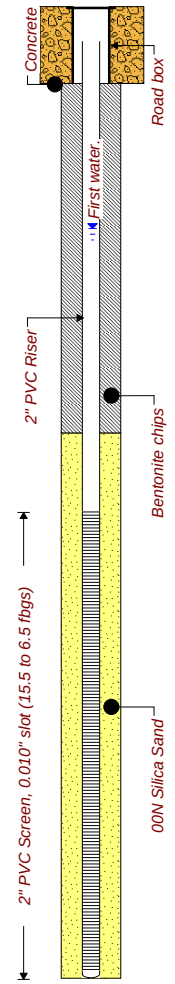
Logged By: TAB

Site Location: Orchard Park, New York

Checked By:

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	495.2 / 0.0	Ground Surface							
	494.8 / 0.4	***Asphalt***							
		See boring log for MW-1D.							
5.0									
10.0									
	484.2 / 11.0	***Silt with Sand*** Brown, moist to wet (8.0 fbgs), mostly non-plastic fines, some fine sand, few fine gravels (sub-rounded), very dense.	S1	100 / 5	1.3				
	482.7 / 12.5	***Bedrock (weathered)*** Dark grey, dry, highley fissel shale, very weak, fine grained thinly bedded, easliy breaks. Spoon refusal at 13.0 fbgs.	S2	100 / 4	0.0				
	482.2 / 13.0	End of Borehole							
15.0									



Drilled By: Earth Dimensions, inc.
Drill Rig Type: Dierich D120
Drill Method: 4 1/4-inch hollow stem auger.
Comments:
Drill Date(s): 12/19/18 - 12/20/18

Hole Size: eight inch.
Stick-up: Flushmount.
Datum: Assumed 500 ft elevation.

Sheet: 1 of 1

Project No: 105-017-010

Borehole Number: MW-1D

Project: Supplemental Phase II

A.K.A.:

Client: Benderson Development Company

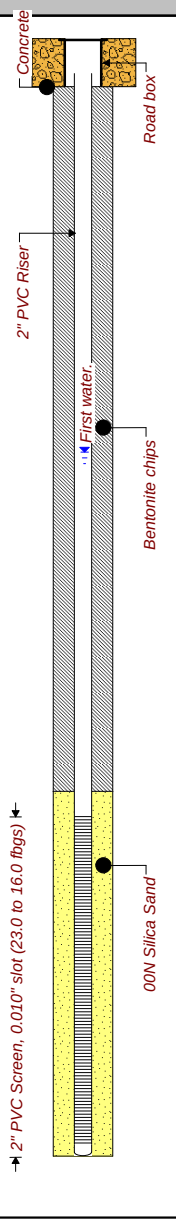
Logged By: TAB

Site Location: Orchard, Park New York

Checked By:

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm	Lab Sample	Well Completion Details or Remarks
0.0	495.6 / 0.0	Ground Surface					0 – 12.5 – 25		
	494.6 / 1.0	***Asphalt***							
		Sub-base Dark grey, moist mostly coarse gravel (angular), with fill (slag), loose.	S1	51	1.1		0.0		
	492.6 / 3.0	***Fill*** Black, moist, mostly fine sand with some fine gravel, with slag concrete and brick.	S2	50	1.2		0.0		
5.0		***Lean CLay with Sand*** Dark grey/grey, moist, mostly low to medium plasticity fines, little fine sand, stiff, massive.	S3	15	1.6		0.0		
	489.6 / 6.0	***Silt with Sand*** Brown, moist to wet (8.0 fbgs), mostly non-plastic fines, some fine sand, few fine gravels (sub-rounded), very dense.	S4	43	1.6		0.0.		
			S5	94	1.1		0.0		
10.0	485.6 / 10.0	As above grey, with intermitent shale bedding.	S6	121	1.8		0.0		
	483.6 / 12.0	***Bedrock (weathered)*** Dark grey, dry, highley fissel shale, very weak, fine grained thinly bedded, easliy breaks.	S7	100/2	0.8		0.0		
	482.6 / 13.0	***Bedrock (Windom Shale)*** Run #1 (13.0 to 18.0fbgs) Recovery = 90.5% RQD = 16.97% Very poor. 13.0 to 14.5 fbgs - highly fractured. 14.5 to 16.3 fbgs - Broken to moderatley fractured. 16.3 to 18.0 fbgs- Highley fractured.	Run #1					No water loss.	
15.0	477.6 / 18.0	Run #2 (18.0 to 23.0 fbgs) Recovery = 92.8% RQD = 41.0% Poor. 18.0 to 23.0 fbgs - broken to moderatley fractured.	Run #2						
20.0	472.6 / 23.0	End of Borehole							



Drilled By: Earth Dimensions, inc.
Drill Rig Type: Dierich D120
Drill Method: Continuous split spoon followed by NQ-2 core barrel
Comments:
Drill Date(s): 12/19/18 - 12/20/18

Hole Size: six inch.
Stick-up: Flushmount.
Datum: Assumed 500 ft elevation.

Sheet: 1 of 1

Project No: 105-017-010

Borehole Number: MW-2D

Project: Supplemental Phase II

A.K.A.:

Client: Benderson Development Company

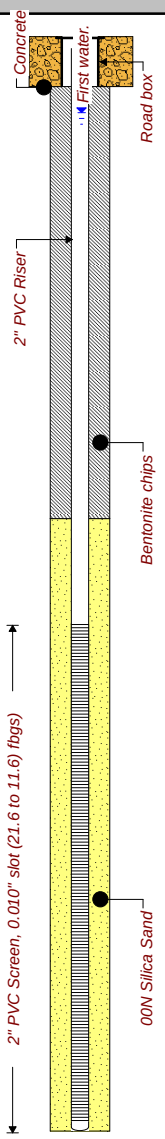
Logged By: TAB

Site Location: Orchard Park, New York

Checked By:

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs (ppm)	Lab Sample	Well Completion Details or Remarks
0.0	496.6 0.0	Ground Surface							
	495.6 1.0	***Fill*** Brown, moist to wet (1.5 fbgs), mostly non-plasticty fines some fine sand, few fine gravel (shale fragments and sub-rounded).	S1	15	1.2		0.0		
	494.6 2.0	***Lean Clay with Sand*** Dark grey/grey, moist, mostly low to medium plasticity fines, little fine sand, stiff, massive.	S2	39	1.3		0.0		
5.0	492.6 4.0	As above, wet, with little fine gravel (shale fragments)	S3	95	1.2		0.0		
	490.1 6.5		S4	100 4	0.0		0.0.		
		Bedrock (Windom Shale) Run #1 (6.5 to 11.5 fbgs) Recovery = 78% RQD = 15.6% Very poor. 6.5 to 11.5 fbgs - intensely fractured, weathered.	Run #1				0.0 0.0		
10.0	485.1 11.5						0.0		
		Run #2 (11.5 to 16.5 fbgs) Recovery = 95.0% RQD = 15.79% Very Poor. 11.5 to 16.5 fbgs - Intensley fractured, weathered.	Run #2				0.0	No water loss.	
15.0	480.1 16.5	Run #3 (16.5 to 21.6fbgs) Recovery = 100% RQD = 83.33% Good. 16.5.to 18.5 fbgs - moderatly fractured. 18.5 to 21.6 fbgs - slightly fractured.	Run #3						
20.0	475.0 21.6	End of Borehole							



Drilled By: Earth Dimensions, inc.
Drill Rig Type: Dierich D120
Drill Method: Continuous split spoon followed by NQ-2 core barrel
Comments:
Drill Date(s): 12/20/18

Hole Size: six inch.
Stick-up: Flushmount.
Datum: Assumed 500 ft elevation.

Sheet: 1 of 1

Project No: 105-017-010

Borehole Number: MW-4D

Project: Supplemental Phase II

A.K.A.:

Client: Benderson Development Company

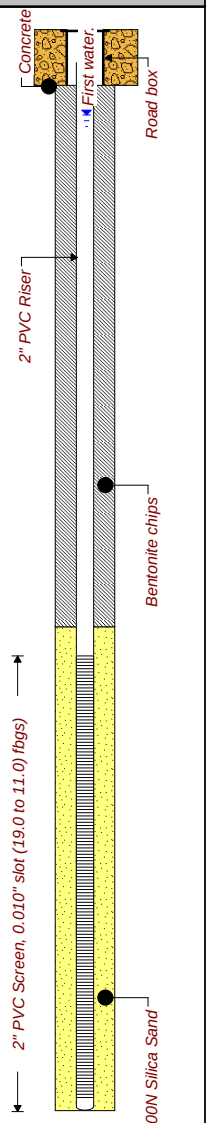
Logged By: TAB

Site Location: Orchard Park, New York

Checked By:

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs (ppm)	Lab Sample	Well Completion Details or Remarks
0.0	496.4 / 0.0	Ground Surface							
	495.4 / 1.0	***Fill*** Brown, moist to wet (1.5 fbgs), mostly non-plasticty fines some fine sand, few fine gravel (shale fragments and sub-rounded).	S1	17	1.3		0.0		
	494.4 / 2.0	***Lean Clay with Sand*** Dark grey/grey, moist, mostly low to medium plasticity fines, little fine sand, stiff, massive. As above.	S2	14	1.3		2.2		
5.0	492.4 / 4.0	***Silt with sand*** Grey, moist, mostly non-plastic fines, with some sand, with few fin gravels (shale fragments), medium dense.	S3	18	1.9		17.0		
	490.4 / 6.0	As above.	S4	28	0.8		0.0.		
	489.4 / 7.0	***Bedrock (weathered)*** Dark grey, dry, highley fissel shale, very weak, fine grained thinly bedded, easliy breaks.	S5	100/5	0.8		0.0		
10.0	487.4 / 9.0	***Bedrock (Windom Shale)*** Run #1 (9.0 to 19.0 fbgs) Recovery = 93% RQD = 38.8% poor. 9.0 to 15.0 fbgs - intensely fractured, weathered. 15.0 to 17.0fbgs - moderatley fractured. 17.0 to 19.0fbgs - Slighlty Fractured.	Run #1					No water loss.	
15.0									
	477.4 / 19.0	End of Borehole							
20.0									



Drilled By: Earth Dimensions, inc.
Drill Rig Type: Dierich D120
Drill Method: Continuous split spoon followed by NQ-2 core barrel
Comments:
Drill Date(s): 12/21/18

Hole Size: six inch.
Stick-up: Flushmount.
Datum: Assumed 500 ft elevation.

Sheet: 1 of 1

APPENDIX B

PHOTO LOG

SITE PHOTOGRAPHS

Photo 1:



Photo 2:



Photo 3:



Photo 4:



Photo 1: Advancement of MW-1D (looking east).

Photo 2: Typical fill soils from MW-1D.

Photo 3 NQ2 Core barrel coring bedrock through 6-inch temporary well casing (looking east).

Photo 4: MW-1D Windom Shale bedrock core, RUN #1.

APPENDIX C

GROUNDWATER FIELD FORMS

TurnKey Environmental Restoration, LLC

EQUIPMENT CALIBRATION LOG

PROJECT INFORMATION:

Project Name: 3077 Union Rd

Project No.:

Client:

Date: 12/24/18

Instrument Source: ☒ BM ☐ Rental

METER TYPE	UNITS	TIME	MAKE/MODEL	SERIAL NUMBER	CAL. BY	STANDARD	POST CAL. READING	SETTINGS
☒ pH meter	units	7:34	Myron L Company Ultra Meter 6P	6213516 ☐ 6243084 ☒ 6212375 ☐ 6243003 ☐ 6223973 ☐	CNK	4.00 7.00 10.01	4.00 7.06 10.05	4.00 7.01 10.00
☒ Turbidity meter	NTU	7:55	Hach 2100P or 2100Q Turbidimeter	06120C020523 (P) ☐ 13120C030432 (Q) ☒ 17110C062619 (Q) ☐	CNK	10 NTU verification <0.4 20 100 800	10.3	10.0
☒ Sp. Cond. meter	uS mS	7:47	Myron L Company Ultra Meter 6P	6213516 ☐ 6243084 ☒ 6212375 ☐ 6243003 ☐ 6223973 ☐	CNK	7000 mS @ 25 °C	6996	7000
☐ PID	ppm		MinRAE 2000			open air zero ____ ppm Iso. Gas		MIBK response factor = 1.0
☒ Dissolved Oxygen	ppm	7:30	HACH Model HQ30d	080700023281 ☐ 100500041867 ☐ 140200100319 ☒	CNK	100% Satuartion	100%	98.8%
☐ Particulate meter	mg/m³					zero air		
☐ Radiation Meter	uR/H					background area		

ADDITIONAL REMARKS:

PREPARED BY: CNK **DATE:** 12/24/18

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER FIELD FORM

Project Name: 3077 Union Rd Date: 12/24/18

Location: Project No.: Field Team:

Well No. MW-1D			Diameter (inches): 2"			Sample Date / Time: —			
Product Depth (fbTOR):			Water Column (ft): 17.2			DTW when sampled:			
DTW (static) (fbTOR): 5.51			One Well Volume (gal): 2.80			Purpose: ☒ Development ☐ Sample ☐ Purge & Sample			
Total Depth (fbTOR): 22.71			Total Volume Purged (gal): 3.5			Purge Method: Bailer			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
0900	0 Initial	0	7.13	17.0	1695	606	—	83	turbid, no odor
0920	1 20.59	2.8	7.50	11.0	1624	>1000	—	51	very turbid, no odor
0935	2 DRY	3.5	7.65	7.6	1611	>1000		50	very turbid, no odor
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
	S1								
	S2								

Sl. cond. 1564 →

Well No. MW-1			Diameter (inches): 2"			Sample Date / Time: —			
Product Depth (fbTOR):			Water Column (ft): 9.49			DTW when sampled:			
DTW (static) (fbTOR): 2.57			One Well Volume (gal): 1.55			Purpose: ☒ Development ☐ Sample ☐ Purge & Sample			
Total Depth (fbTOR): 12.06			Total Volume Purged (gal): 3.0			Purge Method: Bailer			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
0948	0 Initial	0	7.49	9.0	1458	318	—	52	turbid, no odor
0956	1 8.3	1.5	7.46	10.2	1379	231	—	46	turbid, no odor
1009	2 DRY	3.0	7.61	10.1	1247	71000	—	34	very turbid, no odor
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
	S1								
	S2								

REMARKS:

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CNK

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER FIELD FORM

Project Name: 3071 Union Rd Date: 12/24/10

Location: Project No.: Field Team:

Well No. MW-2D			Diameter (inches): 2"			Sample Date / Time: —			
Product Depth (fbTOR):			Water Column (ft): 17.09			DTW when sampled: —			
DTW (static) (fbTOR): 4.29			One Well Volume (gal): 2.79			Purpose: ☒ Development ☐ Sample ☐ Purge & Sample			
Total Depth (fbTOR): 21.38			Total Volume Purged (gal): 30			Purge Method: Bailer			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1043	0 Initial	0	7.51	8.4	12.46	177	—	-179	turbid, no odor
1051	1 8.75	3.0	7.39	10.3	1403	>1000	—	-212	very turbid, no odor
1104	2 8.56	6.0	7.46	10.0	1553	>1000	—	-200	"
112	3 8.85	9.0	7.49	8.3	1565	>1000	—	-185	turbid, no odor
1124	4 8.91	12.0	7.41	8.5	1570	831	—	-182	"
1138	5 8.84	15.0	7.53	9.4	1545	759	—	-175	"
1157	6 8.98	18.0	7.48	9.1	1586	936	—	-172	"
1210	7 10.56	21.0	7.46	10.0	1604	>1000	—	-167	very turbid, no odor
1220	8 10.00	24.0	7.40	10.9	1601	>1000	—	-171	"
1226	9 10.32	27.0	7.38	10.6	1623	>1000	—	-170	"
1234	10 10.38	30.0	7.37	10.4	1652	880	—	-165	turbid, no odor
Sample Information:									
	S1								
	S2								

Well No.			Diameter (inches):			Sample Date / Time:			
Product Depth (fbTOR):			Water Column (ft):			DTW when sampled:			
DTW (static) (fbTOR):			One Well Volume (gal):			Purpose: ☐ Development ☐ Sample ☐ Purge & Sample			
Total Depth (fbTOR):			Total Volume Purged (gal):			Purge Method:			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
	S1								
	S2								

REMARKS:

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CNL

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER FIELD FORM

Project Name: 3077 Union Rd Date:
Location: Project No.: Field Team: 12/24/18

Well No. MW-4D			Diameter (inches): 2"		Sample Date / Time: —
Product Depth (fbTOR):			Water Column (ft): 13.03		DTW when sampled: —
DTW (static) (fbTOR): 4.97			One Well Volume (gal): 2.22		Purpose: ☒ Development ☐ Sample ☐ Purge & Sample
Total Depth (fbTOR): 18.00			Total Volume Purged (gal): 19.25		Purge Method: Bailer

Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
1254	1 13.70	2.25	7.54	9.8	1194	>1000	—	-219	very turbid, sulfur odor
1258	2 DRY	4.5	7.53	11.6	1172	>1000	—	-232	"
1304	3 16.11	6.75	7.51	11.5	1383	>1000	—	-244	"
1313	4 14.81	[illegible]	7.51	11.0	1464	>1000	—	-250	"
1319	5 DRY	8.00	7.60	11.4	1462	>1000	—	-240	"
1325	6 DRY	10.25	7.53	11.4	1479	>1000	—	-243	"
1333	7 15.28	12.5	7.53	10.7	1524	>1000	—	-249	"
1340	8 DRY	14.75	7.50	11.0	1550	>1000	—	-242	"
1347	9 15.36	17.0	7.51	11.1	1577	>1000	—	-242	"
1353	10 14.31	19.25	7.64	8.3	1552	>1000	—	-236	"
Sample Information:									
	S1								
	S2								

Acc Vol 9.25 →

Well No.			Diameter (inches):		Sample Date / Time:
Product Depth (fbTOR):			Water Column (ft):		DTW when sampled:
DTW (static) (fbTOR):			One Well Volume (gal):		Purpose: ☐ Development ☐ Sample ☐ Purge & Sample
Total Depth (fbTOR):			Total Volume Purged (gal):		Purge Method:

Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
	1								
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
	S1								
	S2								

REMARKS:

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CNK

TurnKey Environmental Restoration, LLC

EQUIPMENT CALIBRATION LOG

PROJECT INFORMATION:

Project Name: 3077 Union Rd

Project No.:

Client:

Date: 12/26/18

Instrument Source: ☒ BM ☐ Rental

METER TYPE	UNITS	TIME	MAKE/MODEL	SERIAL NUMBER	CAL. BY	STANDARD	POST CAL. READING	SETTINGS
☒ pH meter	units	0836	Myron L Company Ultra Meter 6P	6213516 ☐ 6243084 ☒ 6212375 ☐ 6243003 ☐ 6223973 ☐	CNK	4.00 7.00 10.01	4.03 7.06 9.95	4.0 7.0 10.0
☒ Turbidity meter	NTU	0843	Hach 2100P or 2100Q Turbidimeter	06120C020523 (P) ☐ 13120C030432 (Q) ☒ 17110C062619 (Q) ☐	CNK	10 NTU verification <0.4 20 100 800	10.4	10.0
☒ Sp. Cond. meter	uS mS	0841	Myron L Company Ultra Meter 6P	6213516 ☐ 6243084 ☒ 6212375 ☐ 6243003 ☐ 6223973 ☐	CNK	7000 mS @ 25 °C	7001	7000
☐ PID	ppm		MinRAE 2000			open air zero ____ ppm Iso. Gas		MIBK response factor = 1.0
☒ Dissolved Oxygen	ppm	0831	HACH Model HQ30d	080700023281 ☐ 100500041867 ☐ 140200100319 ☒	CNK	100% Satuartion	100%	101.4%
☐ Particulate meter	mg/m^3					zero air		
☐ Radiation Meter	uR/H					background area		

ADDITIONAL REMARKS:

PREPARED BY: CNK **DATE:** 12/26/18

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER FIELD FORM

Project Name: 3077 U.S. 1 Rd Date: 12/26/18

Location: Project No.: Field Team:

Well No. MW-11S			Diameter (inches): 2"			Sample Date / Time: 12/26/18 1313			
Product Depth (fbTOR):			Water Column (ft): 15.63			DTW when sampled: 18.25			
DTW (static) (fbTOR): 7.10			One Well Volume (gal): 2.55			Purpose: ☐ Development ☒ Sample ☐ Purge & Sample			
Total Depth (fbTOR): 22.73			Total Volume Purged (gal): 3.0			Purge Method: ~~Geo Flow~~ Bailer			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
0958	1 20.30	2.5	7.16	9.4	1469	708	7.40	28	turbid, no odor
1002	2 DRY	3.0	7.37	11.1	1483	71000	7.15	18	very turbid, no odor
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
1313	S1 18.75	3.0	7.61	10.3	1452	7.67	8.99	-110	clear, no odor
	S2								

Well No. MW-1			Diameter (inches): 2"			Sample Date / Time: 12/26/18 1310			
Product Depth (fbTOR):			Water Column (ft): 9.39			DTW when sampled: 6.75			
DTW (static) (fbTOR): 2.64			One Well Volume (gal): 1.53			Purpose: ☐ Development ☒ Sample ☐ Purge & Sample			
Total Depth (fbTOR): 12.03			Total Volume Purged (gal): 2.25			Purge Method: Bailer			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0 Initial								
1009	1 10.35	1.5	7.48	10.9	1253	>1000	5.07	30	very turbid, no odor
1011	2 DRY	2.25	7.45	10.7	1189	>1000	5.05	42	"
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information: 2.25			7.37	[illegible]	[illegible]				
1310	S1 10.75	[illegible]	[illegible]	9.5	1251	24.5	5.51	-123	clear, no odor
	S2								

REMARKS:

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CNK

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC

GROUNDWATER FIELD FORM

Project Name: 3077 Union Rd Date: 12/26/18

Location: Project No.: Field Team:

Well No. MW-2D | Diameter (inches): 2" | Sample Date / Time: 12/26/18 1045

Product Depth (fbTOR): — | Water Column (ft): 16.55 | DTW when sampled: 6.52

DTW (static) (fbTOR): 4.83 79 | One Well Volume (gal): 2.70 | Purpose: ☐ Development ☒ Sample ☐ Purge & Sample

Total Depth (fbTOR): 21.38 | Total Volume Purged (gal): 2.50 | Purge Method: Low Flow

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1035	0	Initial	0.25	7.23	9.0	1157	141	0.69	-225	SL Turb SL odor sheen
1037	1	6.91	0.5	7.22	10.2	1127	251	1.13	-257	"
1039	2	6.52	1.0	7.24	10.8	1203	438	0.55	-255	SL Turb, sulfur odor, brine sheen
1041	3	6.52	1.5	7.26	10.9	1246	27.8	0.81	-251	"
1045	4	6.54	2.5	7.25	11.5	1262	19.2	0.65	-247	"
	5									
	6									
	7									
	8									
	9									
	10									
Sample Information:										
1049	S1	6.52	2.75	7.27	11.2	1265	17.5	0.74	-245	clear, sulfur odor, sheen
	S2									

Well No. MW-4D | Diameter (inches): 2" | Sample Date / Time: 12/26/18

Product Depth (fbTOR): | Water Column (ft): 14.33 | DTW when sampled: 6.54

DTW (static) (fbTOR): 4.25 | One Well Volume (gal): 2.33 | Purpose: ☐ Development ☒ Sample ☐ Purge & Sample

Total Depth (fbTOR): 18.58 | Total Volume Purged (gal): 1.75 | Purge Method: Low Flow

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1112	0	Initial	0	7.41	8.7	1439	157	1.17	-237	SL turbid, sulfur odor
1114	1	6.46	0.5	7.36	11.0	1439	51.1	0.78	-238	SL turb, sulfur odor, no sheen
1116	2	6.48	1.5	7.34	11.5	1450	68.2	1.01	-234	" , no sheen
1119	3	6.48	1.75	7.32	11.6	1449	64.5	0.9	-234	" , slight sheen
~~1121~~	4	~~6.54~~	~~1.75~~							
	5									
	6									
	7									
	8									
	9									
	10									
Sample Information:										
1121	S1	6.54	2.75	7.31	11.5	1456	44.4	0.69	-239	SL turb, no odor, no sheen
	S2									

REMARKS:

Note: All water level measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: CN IK

TurnKey Environmental Restoration LLC

EQUIPMENT CALIBRATION LOG

PROJECT INFORMATION:

Project Name: 3077 Union Rd

Project No.:

Client: Benusson

Date: 12/31/12

Instrument Source: ☐ BM ☐ Rental

METER TYPE	UNITS	TIME	MAKE/MODEL	SERIAL NUMBER	CAL. BY	STANDARD	POST CAL. READING	SETTINGS
☒ pH meter	units	900	Myron L Company Ultra Meter 6P	6213516 ☐ 6243084 ☒ 6212375 ☐ 6243003 ☐ 6223973 ☐	TAB	4.00	3.99	4.0
						7.00	7.05	7.0
						10.01	9.54	10.0
☒ Turbidity meter	NTU	901	Hach 2100P or 2100Q Turbidimeter	06120C020523 (P) ☐ 13120C030432 (Q) ☒ 17110C062619 (Q) ☐	TAB	10 NTU verification	9.43	10.0
						<0.4		
						20		
						100		
						800		
☒ Sp. Cond. meter	uS mS	901	Myron L Company Ultra Meter 6P	6213516 ☐ 6243084 ☒ 6212375 ☐ 6243003 ☐ 6223973 ☐	TAB	7.000 mS @ 25 °C	7.003	7.000
☐ PID	ppm		MinRAE 2000			open air zero		MIBK response factor = 1.0
						____ ppm Iso. Gas		
☒ Dissolved Oxygen	ppm	900	HACH Model HQ30d	080700023281 ☐ 100500041867 ☐ 140200100319 ☒	TAB	100% Satuartion	✓	
☐ Particulate meter	mg/m³					zero air		
☐ Radiation Meter	uR/H					background area		

ADDITIONAL REMARKS:

PREPARED BY: **DATE:** 12/31/12

GROUNDWATER FIELD FORM

Project Name: 3077 Union Rd Date: 12/31/19

Location: Orchard Park Project No.: Field Team: TAB

Well No. PZ-2	Diameter (inches): 1"	Sample Date / Time: 12/31/19 + 1/2/19
Product Depth (fbTOR): —	Water Column (ft): 4.07	DTW when sampled:
DTW (static) (fbTOR): 1.64	One Well Volume (gal): .16	Purpose: ☐ Development ☐ Sample ☒ Purge & Sample
Total Depth (fbTOR): 5.71	Total Volume Purged (gal): 0.50	Purge Method: Peristaltic + Mini bailer

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
	0	Initial	>0.25	Water was Extremely turbid, Was Trying						
	1	DRY		To clear Sediment out Prior to collecting						
	2			any Readings. Well was purged Dry						
	3									
	4									
	5									
	6									
	7									
	8									
	9									
	10									

Sample Information: Well went Dry During 1 well volume

1/2/19 1000	S1	Insufficient	water	For	Readings		
	S2						

Well No. PZ-3	Diameter (inches): 1"	Sample Date / Time: 12/31/19 + 1/2/19
Product Depth (fbTOR): ~~0.00~~	Water Column (ft): 7.63	DTW when sampled:
DTW (static) (fbTOR): 0.10	One Well Volume (gal): 0.31	Purpose: ☐ Development ☐ Sample ☒ Purge & Sample
Total Depth (fbTOR): 7.73	Total Volume Purged (gal): 0.93	Purge Method: Peristaltic + Mini Bailer

Time		Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
1643	0	Initial	>0.25	6.77	7.3	1555	51.2	3.82	272	Light brown wood
1646	1	–	0.25	7.23	6.0	1367	68.8	3.23	219	"
1650	2	DRY	0.5	7.18	7.1	1603	44.0	3.51	186	
	3									
	4									
	5									
	6									
	7									
	8									
	9									
	10									

12/19

Sample Information:

1/2/19 1030	S1	Insufficient	water	For	Readings		
	S2						

REMARKS:

Note: All measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: TAB

GROUNDWATER FIELD FORM

Project Name: 3077 Union R2 Date: 12/31/18

Location: Orchard Park Project No.: Field Team: TA+B

Well No. PZ-4			Diameter (inches): 1"			Sample Date / Time: 1/2/19			
Product Depth (fbTOR): —			Water Column (ft): 5.43			DTW when sampled:			
DTW (static) (fbTOR): 6.65			One Well Volume (gal): 0.22			Purpose: ☐ Development ☐ Sample ☐ Purge & Sample			
Total Depth (fbTOR): 6.08			Total Volume Purged (gal): 0.25			Purge Method: Peristaltic + mini-Bailer			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
12/31 1125	0 Initial	>0.25	7.08	7.0	1376	>1000	2.46	6	Turbid No Odor
1127	1 DRY	0.25	7.14	6.3	1166	>1000	3.00	-45	"
	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
1/2/19 1100	S1	Influent water for Readings							
	S2								

Well No. PZ-5			Diameter (inches): 1"			Sample Date / Time:			
Product Depth (fbTOR):			Water Column (ft): 5.58			DTW when sampled:			
DTW (static) (fbTOR): 1.14			One Well Volume (gal): 0.22			Purpose: ☐ Development ☐ Sample ☐ Purge & Sample			
Total Depth (fbTOR): 6.58			Total Volume Purged (gal):			Purge Method:			
Time	Water Level (fbTOR)	Acc. Volume (gallons)	pH (units)	Temp. (deg. C)	SC (uS)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Appearance & Odor
12/31 1105	0 Initial	>0.25	7.32	7.3	1267	>1000	3.80	143	Turbid No Odor
1108	1 —	0.27	7.43	6.6	1135	>1000	4.62	143	"
1110	2 DRY	0.4	7.44	6.6	1154	>1000	4.35	144	"
	3								
	4								
	5								
	6								
	7								
	8								
	9								
	10								
Sample Information:									
1/2/19 1130	S1	Influent water for Readings							
	S2								

REMARKS:

Note: All measurements are in feet, distance from top of riser.

Volume Calculation

Diam.	Vol. (g/ft)
1"	0.041
2"	0.163
4"	0.653
6"	1.469

Stabilization Criteria

Parameter	Criteria
pH	± 0.1 unit
SC	± 3%
Turbidity	± 10%
DO	± 0.3 mg/L
ORP	± 10 mV

PREPARED BY: TA+B

APPENDIX D

LABORATORY ANALYTICAL DATA SUMMARY PACKAGE

ANALYTICAL REPORT

Lab Number:	L1900104
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Bryan Mayback
Phone:	(716) 856-0599
Project Name:	3077 UNION RD.
Project Number:	T0105-017-010
Report Date:	01/09/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: 3077 UNION RD.
Project Number: T0105-017-010

Lab Number: L1900104
Report Date: 01/09/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1900104-01	PZ-2	WATER	3077 UNION RD.	01/02/19 10:00	01/02/19
L1900104-02	PZ-3	WATER	3077 UNION RD.	01/02/19 10:30	01/02/19
L1900104-03	PZ-4	WATER	3077 UNION RD.	01/02/19 11:00	01/02/19
L1900104-04	PZ-5	WATER	3077 UNION RD.	01/02/19 11:30	01/02/19

Project Name: 3077 UNION RD. **Lab Number:** L1900104
Project Number: T0105-017-010 **Report Date:** 01/09/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	3077 UNION RD.	**Lab Number:**	L1900104
Project Number:	T0105-017-010	**Report Date:**	01/09/19

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 01/09/19

ORGANICS

VOLATILES

Project Name: 3077 UNION RD.
Lab Number: L1900104
Project Number: T0105-017-010
Report Date: 01/09/19

SAMPLE RESULTS

Lab ID: L1900104-01
Client ID: PZ-2
Sample Location: 3077 UNION RD.

Date Collected: 01/02/19 10:00
Date Received: 01/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/04/19 11:54
Analyst: RR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	4.5		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	0.43	J	ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: 3077 UNION RD. **Lab Number:** L1900104

Project Number: T0105-017-010 **Report Date:** 01/09/19

SAMPLE RESULTS

Lab ID: L1900104-01 Date Collected: 01/02/19 10:00

Client ID: PZ-2 Date Received: 01/02/19

Sample Location: 3077 UNION RD. Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	1.3	J	ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	49		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	7.9		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	102		70-130

Project Name: 3077 UNION RD. **Lab Number:** L1900104

Project Number: T0105-017-010 **Report Date:** 01/09/19

SAMPLE RESULTS

Lab ID: L1900104-02 D
Client ID: PZ-3
Sample Location: 3077 UNION RD.

Date Collected: 01/02/19 10:30
Date Received: 01/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/04/19 12:49
Analyst: RR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	1000	280	400
1,1-Dichloroethane	ND		ug/l	1000	280	400
Chloroform	ND		ug/l	1000	280	400
Carbon tetrachloride	ND		ug/l	200	54.	400
1,2-Dichloropropane	ND		ug/l	400	55.	400
Dibromochloromethane	ND		ug/l	200	60.	400
1,1,2-Trichloroethane	ND		ug/l	600	200	400
Tetrachloroethene	34000		ug/l	200	72.	400
Chlorobenzene	ND		ug/l	1000	280	400
Trichlorofluoromethane	ND		ug/l	1000	280	400
1,2-Dichloroethane	ND		ug/l	200	53.	400
1,1,1-Trichloroethane	ND		ug/l	1000	280	400
Bromodichloromethane	ND		ug/l	200	77.	400
trans-1,3-Dichloropropene	ND		ug/l	200	66.	400
cis-1,3-Dichloropropene	ND		ug/l	200	58.	400
Bromoform	ND		ug/l	800	260	400
1,1,2,2-Tetrachloroethane	ND		ug/l	200	67.	400
Benzene	ND		ug/l	200	64.	400
Toluene	ND		ug/l	1000	280	400
Ethylbenzene	ND		ug/l	1000	280	400
Chloromethane	ND		ug/l	1000	280	400
Bromomethane	ND		ug/l	1000	280	400
Vinyl chloride	ND		ug/l	400	28.	400
Chloroethane	ND		ug/l	1000	280	400
1,1-Dichloroethene	ND		ug/l	200	68.	400
trans-1,2-Dichloroethene	ND		ug/l	1000	280	400
Trichloroethene	2000		ug/l	200	70.	400
1,2-Dichlorobenzene	ND		ug/l	1000	280	400

Project Name: 3077 UNION RD. **Lab Number:** L1900104

Project Number: T0105-017-010 **Report Date:** 01/09/19

SAMPLE RESULTS

Lab ID: L1900104-02 D Date Collected: 01/02/19 10:30

Client ID: PZ-3 Date Received: 01/02/19

Sample Location: 3077 UNION RD. Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	1000	280	400
1,4-Dichlorobenzene	ND		ug/l	1000	280	400
Methyl tert butyl ether	ND		ug/l	1000	280	400
p/m-Xylene	ND		ug/l	1000	280	400
o-Xylene	ND		ug/l	1000	280	400
cis-1,2-Dichloroethene	2100		ug/l	1000	280	400
Styrene	ND		ug/l	1000	280	400
Dichlorodifluoromethane	ND		ug/l	2000	400	400
Acetone	ND		ug/l	2000	580	400
Carbon disulfide	ND		ug/l	2000	400	400
2-Butanone	ND		ug/l	2000	780	400
4-Methyl-2-pentanone	ND		ug/l	2000	400	400
2-Hexanone	ND		ug/l	2000	400	400
Bromochloromethane	ND		ug/l	1000	280	400
1,2-Dibromoethane	ND		ug/l	800	260	400
n-Butylbenzene	ND		ug/l	1000	280	400
sec-Butylbenzene	ND		ug/l	1000	280	400
1,2-Dibromo-3-chloropropane	ND		ug/l	1000	280	400
Isopropylbenzene	ND		ug/l	1000	280	400
p-Isopropyltoluene	ND		ug/l	1000	280	400
n-Propylbenzene	ND		ug/l	1000	280	400
1,2,3-Trichlorobenzene	ND		ug/l	1000	280	400
1,2,4-Trichlorobenzene	ND		ug/l	1000	280	400
1,3,5-Trimethylbenzene	ND		ug/l	1000	280	400
1,2,4-Trimethylbenzene	ND		ug/l	1000	280	400
Methyl Acetate	ND		ug/l	800	94.	400
Cyclohexane	ND		ug/l	4000	110	400
1,4-Dioxane	ND		ug/l	100000	24000	400
Freon-113	ND		ug/l	1000	280	400
Methyl cyclohexane	ND		ug/l	4000	160	400

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	101		70-130

Project Name: 3077 UNION RD.
Lab Number: L1900104
Project Number: T0105-017-010
Report Date: 01/09/19

SAMPLE RESULTS

Lab ID: L1900104-03 D
Client ID: PZ-4
Sample Location: 3077 UNION RD.

Date Collected: 01/02/19 11:00
Date Received: 01/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/04/19 13:17
Analyst: MAB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	12	3.5	5
1,1-Dichloroethane	ND		ug/l	12	3.5	5
Chloroform	ND		ug/l	12	3.5	5
Carbon tetrachloride	ND		ug/l	2.5	0.67	5
1,2-Dichloropropane	ND		ug/l	5.0	0.68	5
Dibromochloromethane	ND		ug/l	2.5	0.74	5
1,1,2-Trichloroethane	ND		ug/l	7.5	2.5	5
Tetrachloroethene	95		ug/l	2.5	0.90	5
Chlorobenzene	ND		ug/l	12	3.5	5
Trichlorofluoromethane	ND		ug/l	12	3.5	5
1,2-Dichloroethane	ND		ug/l	2.5	0.66	5
1,1,1-Trichloroethane	ND		ug/l	12	3.5	5
Bromodichloromethane	ND		ug/l	2.5	0.96	5
trans-1,3-Dichloropropene	ND		ug/l	2.5	0.82	5
cis-1,3-Dichloropropene	ND		ug/l	2.5	0.72	5
Bromoform	ND		ug/l	10	3.2	5
1,1,2,2-Tetrachloroethane	ND		ug/l	2.5	0.84	5
Benzene	ND		ug/l	2.5	0.80	5
Toluene	ND		ug/l	12	3.5	5
Ethylbenzene	ND		ug/l	12	3.5	5
Chloromethane	ND		ug/l	12	3.5	5
Bromomethane	ND		ug/l	12	3.5	5
Vinyl chloride	160		ug/l	5.0	0.36	5
Chloroethane	ND		ug/l	12	3.5	5
1,1-Dichloroethene	2.9		ug/l	2.5	0.84	5
trans-1,2-Dichloroethene	31		ug/l	12	3.5	5
Trichloroethene	380		ug/l	2.5	0.88	5
1,2-Dichlorobenzene	ND		ug/l	12	3.5	5

Project Name: 3077 UNION RD. **Lab Number:** L1900104

Project Number: T0105-017-010 **Report Date:** 01/09/19

SAMPLE RESULTS

Lab ID: L1900104-03 D Date Collected: 01/02/19 11:00
Client ID: PZ-4 Date Received: 01/02/19
Sample Location: 3077 UNION RD. Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	12	3.5	5
1,4-Dichlorobenzene	ND		ug/l	12	3.5	5
Methyl tert butyl ether	ND		ug/l	12	3.5	5
p/m-Xylene	ND		ug/l	12	3.5	5
o-Xylene	ND		ug/l	12	3.5	5
cis-1,2-Dichloroethene	600		ug/l	12	3.5	5
Styrene	ND		ug/l	12	3.5	5
Dichlorodifluoromethane	ND		ug/l	25	5.0	5
Acetone	ND		ug/l	25	7.3	5
Carbon disulfide	ND		ug/l	25	5.0	5
2-Butanone	ND		ug/l	25	9.7	5
4-Methyl-2-pentanone	ND		ug/l	25	5.0	5
2-Hexanone	ND		ug/l	25	5.0	5
Bromochloromethane	ND		ug/l	12	3.5	5
1,2-Dibromoethane	ND		ug/l	10	3.2	5
n-Butylbenzene	ND		ug/l	12	3.5	5
sec-Butylbenzene	ND		ug/l	12	3.5	5
1,2-Dibromo-3-chloropropane	ND		ug/l	12	3.5	5
Isopropylbenzene	ND		ug/l	12	3.5	5
p-Isopropyltoluene	ND		ug/l	12	3.5	5
n-Propylbenzene	ND		ug/l	12	3.5	5
1,2,3-Trichlorobenzene	ND		ug/l	12	3.5	5
1,2,4-Trichlorobenzene	ND		ug/l	12	3.5	5
1,3,5-Trimethylbenzene	ND		ug/l	12	3.5	5
1,2,4-Trimethylbenzene	ND		ug/l	12	3.5	5
Methyl Acetate	ND		ug/l	10	1.2	5
Cyclohexane	ND		ug/l	50	1.4	5
1,4-Dioxane	ND		ug/l	1200	300	5
Freon-113	ND		ug/l	12	3.5	5
Methyl cyclohexane	ND		ug/l	50	2.0	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	101		70-130

Project Name: 3077 UNION RD.
Lab Number: L1900104
Project Number: T0105-017-010
Report Date: 01/09/19

SAMPLE RESULTS

Lab ID: L1900104-04
Client ID: PZ-5
Sample Location: 3077 UNION RD.

Date Collected: 01/02/19 11:30
Date Received: 01/02/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/04/19 12:22
Analyst: RR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	14		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	4.2		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: 3077 UNION RD. **Lab Number:** L1900104

Project Number: T0105-017-010 **Report Date:** 01/09/19

SAMPLE RESULTS

Lab ID: L1900104-04 Date Collected: 01/02/19 11:30

Client ID: PZ-5 Date Received: 01/02/19

Sample Location: 3077 UNION RD. Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	1.5	J	ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	54		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	6.7		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	102		70-130

Project Name: 3077 UNION RD. **Lab Number:** L1900104

Project Number: T0105-017-010 **Report Date:** 01/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/04/19 08:39
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1194835-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name: 3077 UNION RD. **Lab Number:** L1900104

Project Number: T0105-017-010 **Report Date:** 01/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/04/19 08:39
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1194835-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

Project Name: 3077 UNION RD. **Lab Number:** L1900104

Project Number: T0105-017-010 **Report Date:** 01/09/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/04/19 08:39
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1194835-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 3077 UNION RD.

Project Number: T0105-017-010

Lab Number: L1900104

Report Date: 01/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1194835-3 WG1194835-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	100		98		63-132	2		20
1,2-Dichloropropane	98		99		70-130	1		20
Dibromochloromethane	100		98		63-130	2		20
1,1,2-Trichloroethane	100		100		70-130	0		20
Tetrachloroethene	100		99		70-130	1		20
Chlorobenzene	100		100		75-130	0		20
Trichlorofluoromethane	96		93		62-150	3		20
1,2-Dichloroethane	98		99		70-130	1		20
1,1,1-Trichloroethane	100		99		67-130	1		20
Bromodichloromethane	98		98		67-130	0		20
trans-1,3-Dichloropropene	98		98		70-130	0		20
cis-1,3-Dichloropropene	100		100		70-130	0		20
Bromoform	100		99		54-136	1		20
1,1,2,2-Tetrachloroethane	100		100		67-130	0		20
Benzene	98		98		70-130	0		20
Toluene	99		100		70-130	1		20
Ethylbenzene	99		98		70-130	1		20
Chloromethane	**61**	Q	**63**	Q	64-130	3		20
Bromomethane	**28**	Q	**25**	Q	39-139	11		20
Vinyl chloride	96		95		55-140	1		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: 3077 UNION RD.
Project Number: T0105-017-010

Lab Number: L1900104
Report Date: 01/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1194835-3 WG1194835-4								
Chloroethane	130		120		55-138	8		20
1,1-Dichloroethene	98		98		61-145	0		20
trans-1,2-Dichloroethene	100		100		70-130	0		20
Trichloroethene	99		99		70-130	0		20
1,2-Dichlorobenzene	100		97		70-130	3		20
1,3-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	100		98		70-130	2		20
Methyl tert butyl ether	110		100		63-130	10		20
p/m-Xylene	100		100		70-130	0		20
o-Xylene	100		100		70-130	0		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Styrene	90		90		70-130	0		20
Dichlorodifluoromethane	73		72		36-147	1		20
Acetone	77		71		58-148	8		20
Carbon disulfide	99		98		51-130	1		20
2-Butanone	97		89		63-138	9		20
4-Methyl-2-pentanone	100		94		59-130	6		20
2-Hexanone	92		85		57-130	8		20
Bromochloromethane	100		110		70-130	10		20
1,2-Dibromoethane	100		100		70-130	0		20
n-Butylbenzene	98		94		53-136	4		20
sec-Butylbenzene	100		95		70-130	5		20
1,2-Dibromo-3-chloropropane	98		96		41-144	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 3077 UNION RD.

Project Number: T0105-017-010

Lab Number: L1900104

Report Date: 01/09/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1194835-3 WG1194835-4								
Isopropylbenzene	99		96		70-130	3		20
p-Isopropyltoluene	98		94		70-130	4		20
n-Propylbenzene	100		97		69-130	3		20
1,2,3-Trichlorobenzene	95		93		70-130	2		20
1,2,4-Trichlorobenzene	96		91		70-130	5		20
1,3,5-Trimethylbenzene	100		97		64-130	3		20
1,2,4-Trimethylbenzene	99		96		70-130	3		20
Methyl Acetate	95		91		70-130	4		20
Cyclohexane	98		94		70-130	4		20
1,4-Dioxane	152		116		56-162	**27**	Q	20
Freon-113	100		100		70-130	0		20
Methyl cyclohexane	100		94		70-130	6		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		101		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	96		95		70-130
Dibromofluoromethane	100		102		70-130

Project Name: 3077 UNION RD.
Project Number: T0105-017-010

Lab Number: L1900104
Report Date: 01/09/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1900104-01A	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)
L1900104-01B	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)
L1900104-01C	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)
L1900104-02A	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)
L1900104-02B	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)
L1900104-02C	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)
L1900104-03A	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)
L1900104-03B	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)
L1900104-03C	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)
L1900104-04A	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)
L1900104-04B	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)
L1900104-04C	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)

*Values in parentheses indicate holding time in days

Project Name:	3077 UNION RD.	**Lab Number:**	L1900104
Project Number:	T0105-017-010	**Report Date:**	01/09/19

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample¿s toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Report Format: DU Report with 'J' Qualifiers

Project Name:	3077 UNION RD.	**Lab Number:**	L1900104
Project Number:	T0105-017-010	**Report Date:**	01/09/19

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	3077 UNION RD.	**Lab Number:**	L1900104
Project Number:	T0105-017-010	**Report Date:**	01/09/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALPHA ANALYTICAL

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page: 1 of 1

Date Rec'd in Lab: 1/3/19

ALPHA Job #: L1900104

Client Information

Client: TURNKEY ENV. REST.
Address: 2558 HAMBURG TPKE
Phone: 716-856-0599
Fax:
Email: b.mayback@turnkeyllc.com

Project Information

Project Name: 3077 UNION RD
Project Location: 3077 UNION RD
Project #: T0105-017-013
(Use Project name as Project #)
Project Manager: BRYAN MAYBACK
ALPHAQuote #:

Turn-Around Time

Standard: X
Rush (only if pre approved):
Due Date:
# of Days:

Deliverables

ASP-A
ASP-B
EQuIS (1 File)
EQuIS (4 File)
Other

Regulatory Requirement

NY TOGS
NY Part 375
AWQ Standards
NY CP-51
NY Restricted Use
Other
NY Unrestricted Use
NYC Sewer Discharge

Billing Information

Same as Client Info: X
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
NJ
NY: X
Other:

These samples have been previously analyzed by Alpha

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

TCL + CP51 VOCs

Sample Filtration
Done
Lab to do
Preservation
Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL + CP51 VOCs	Sample Specific Comments	Total Bottle
00104-01	PZ-2	1/2/19	1000	AQUA	CS	X		5
-02	PZ-3		1030			X		3
-03	PZ-4		1100			X		3
-04	PZ-5		1130			X		3

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type: V
Preservative: B

Relinquished By:	Date/Time	Received By:	Date/Time
Chad M Schmidt	1/2/19 1235	FedEx-AAL	1/2/19 1235
FedEx-AAL	1/2/19 1235		1/3/19 0045

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L1853200
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Bryan Mayback
Phone:	(716) 856-0599
Project Name:	3077 UNION RD.
Project Number:	0105-017-010
Report Date:	01/07/19

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: 3077 UNION RD.
Project Number: 0105-017-010

Lab Number: L1853200
Report Date: 01/07/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1853200-01	MW-1	WATER	ORCHARD PARK, NY	12/26/18 13:10	12/27/18
L1853200-02	MW-1D	WATER	ORCHARD PARK, NY	12/26/18 13:13	12/27/18
L1853200-03	MW-2D	WATER	ORCHARD PARK, NY	12/26/18 10:49	12/27/18
L1853200-04	MW-4D	WATER	ORCHARD PARK, NY	12/26/18 11:21	12/27/18

Project Name: 3077 UNION RD.
Project Number: 0105-017-010

Lab Number: L1853200
Report Date: 01/07/19

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	3077 UNION RD.	**Lab Number:**	L1853200
Project Number:	0105-017-010	**Report Date:**	01/07/19

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Amita Naik

Title: Technical Director/Representative Date: 01/07/19

ORGANICS

VOLATILES

Project Name: 3077 UNION RD.
Project Number: 0105-017-010
Lab Number: L1853200
Report Date: 01/07/19

SAMPLE RESULTS

Lab ID: L1853200-01
Client ID: MW-1
Sample Location: ORCHARD PARK, NY

Date Collected: 12/26/18 13:10
Date Received: 12/27/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/03/19 10:43
Analyst: RR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: 3077 UNION RD. **Lab Number:** L1853200

Project Number: 0105-017-010 **Report Date:** 01/07/19

SAMPLE RESULTS

Lab ID: L1853200-01 Date Collected: 12/26/18 13:10

Client ID: MW-1 Date Received: 12/27/18

Sample Location: ORCHARD PARK, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	9.6		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	103		70-130

Project Name: 3077 UNION RD.
Project Number: 0105-017-010
Lab Number: L1853200
Report Date: 01/07/19

SAMPLE RESULTS

Lab ID: L1853200-02
Client ID: MW-1D
Sample Location: ORCHARD PARK, NY
Date Collected: 12/26/18 13:13
Date Received: 12/27/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/03/19 11:11
Analyst: RR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: 3077 UNION RD. **Lab Number:** L1853200

Project Number: 0105-017-010 **Report Date:** 01/07/19

SAMPLE RESULTS

Lab ID: L1853200-02 Date Collected: 12/26/18 13:13

Client ID: MW-1D Date Received: 12/27/18

Sample Location: ORCHARD PARK, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	0.86	J	ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	1.9	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	1.9	J	ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	2.7	J	ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	103		70-130

Project Name: 3077 UNION RD.
Lab Number: L1853200
Project Number: 0105-017-010
Report Date: 01/07/19

SAMPLE RESULTS

Lab ID: L1853200-03
Client ID: MW-2D
Sample Location: ORCHARD PARK, NY

Date Collected: 12/26/18 10:49
Date Received: 12/27/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/03/19 11:39
Analyst: RR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	4.7		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: 3077 UNION RD. **Lab Number:** L1853200

Project Number: 0105-017-010 **Report Date:** 01/07/19

SAMPLE RESULTS

Lab ID: L1853200-03 Date Collected: 12/26/18 10:49

Client ID: MW-2D Date Received: 12/27/18

Sample Location: ORCHARD PARK, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	0.65	J	ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	104		70-130

Project Name: 3077 UNION RD.
Project Number: 0105-017-010
Lab Number: L1853200
Report Date: 01/07/19

SAMPLE RESULTS

Lab ID: L1853200-04
Client ID: MW-4D
Sample Location: ORCHARD PARK, NY
Date Collected: 12/26/18 11:21
Date Received: 12/27/18
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 01/03/19 12:06
Analyst: RR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	0.47	J	ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	1.6		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	0.46	J	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: 3077 UNION RD. **Lab Number:** L1853200

Project Number: 0105-017-010 **Report Date:** 01/07/19

SAMPLE RESULTS

Lab ID: L1853200-04 Date Collected: 12/26/18 11:21

Client ID: MW-4D Date Received: 12/27/18

Sample Location: ORCHARD PARK, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	0.70	J	ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	1.4	J	ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	2.4	J	ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	105		70-130

Project Name: 3077 UNION RD. **Lab Number:** L1853200

Project Number: 0105-017-010 **Report Date:** 01/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/03/19 08:51
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1194453-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name: 3077 UNION RD. **Lab Number:** L1853200

Project Number: 0105-017-010 **Report Date:** 01/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/03/19 08:51
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1194453-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

Project Name: 3077 UNION RD. **Lab Number:** L1853200

Project Number: 0105-017-010 **Report Date:** 01/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 01/03/19 08:51
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1194453-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 3077 UNION RD.

Project Number: 0105-017-010

Lab Number: L1853200

Report Date: 01/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1194453-3 WG1194453-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	100		100		63-132	0		20
1,2-Dichloropropane	100		99		70-130	1		20
Dibromochloromethane	100		100		63-130	0		20
1,1,2-Trichloroethane	100		110		70-130	10		20
Tetrachloroethene	100		100		70-130	0		20
Chlorobenzene	100		100		75-130	0		20
Trichlorofluoromethane	100		100		62-150	0		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	100		100		67-130	0		20
Bromodichloromethane	100		97		67-130	3		20
trans-1,3-Dichloropropene	100		98		70-130	2		20
cis-1,3-Dichloropropene	100		96		70-130	4		20
Bromoform	100		100		54-136	0		20
1,1,2,2-Tetrachloroethane	110		110		67-130	0		20
Benzene	100		98		70-130	2		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		99		70-130	1		20
Chloromethane	70		66		64-130	6		20
Bromomethane	**30**	Q	**25**	Q	39-139	18		20
Vinyl chloride	110		100		55-140	10		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: 3077 UNION RD.
Project Number: 0105-017-010

Lab Number: L1853200
Report Date: 01/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1194453-3 WG1194453-4								
Chloroethane	**140**	Q	130		55-138	7		20
1,1-Dichloroethene	100		98		61-145	2		20
trans-1,2-Dichloroethene	110		100		70-130	10		20
Trichloroethene	100		99		70-130	1		20
1,2-Dichlorobenzene	100		99		70-130	1		20
1,3-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	100		99		70-130	1		20
Methyl tert butyl ether	100		110		63-130	10		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	105		100		70-130	5		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Styrene	95		95		70-130	0		20
Dichlorodifluoromethane	79		76		36-147	4		20
Acetone	83		84		58-148	1		20
Carbon disulfide	100		99		51-130	1		20
2-Butanone	100		100		63-138	0		20
4-Methyl-2-pentanone	100		110		59-130	10		20
2-Hexanone	97		100		57-130	3		20
Bromochloromethane	110		100		70-130	10		20
1,2-Dibromoethane	100		100		70-130	0		20
n-Butylbenzene	100		97		53-136	3		20
sec-Butylbenzene	100		99		70-130	1		20
1,2-Dibromo-3-chloropropane	100		100		41-144	0		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 3077 UNION RD.

Project Number: 0105-017-010

Lab Number: L1853200

Report Date: 01/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1194453-3 WG1194453-4								
Isopropylbenzene	100		96		70-130	4		20
p-Isopropyltoluene	100		96		70-130	4		20
n-Propylbenzene	100		96		69-130	4		20
1,2,3-Trichlorobenzene	97		98		70-130	1		20
1,2,4-Trichlorobenzene	99		95		70-130	4		20
1,3,5-Trimethylbenzene	100		97		64-130	3		20
1,2,4-Trimethylbenzene	100		96		70-130	4		20
Methyl Acetate	96		96		70-130	0		20
Cyclohexane	100		100		70-130	0		20
1,4-Dioxane	122		98		56-162	**22**	Q	20
Freon-113	110		110		70-130	0		20
Methyl cyclohexane	110		100		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		102		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	96		92		70-130
Dibromofluoromethane	102		103		70-130

Project Name: 3077 UNION RD.
Project Number: 0105-017-010

Lab Number: L1853200
Report Date: 01/07/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1853200-01A	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260-R2(14)
L1853200-01B	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260-R2(14)
L1853200-01C	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260-R2(14)
L1853200-02A	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260-R2(14)
L1853200-02B	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260-R2(14)
L1853200-02C	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260-R2(14)
L1853200-03A	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260-R2(14)
L1853200-03B	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260-R2(14)
L1853200-03C	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260-R2(14)
L1853200-04A	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260-R2(14)
L1853200-04B	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260-R2(14)
L1853200-04C	Vial HCl preserved	A	NA		2.4	Y	Absent		NYTCL-8260-R2(14)

*Values in parentheses indicate holding time in days

Project Name:	3077 UNION RD.	**Lab Number:**	L1853200
Project Number:	0105-017-010	**Report Date:**	01/07/19

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample¿s toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Report Format: DU Report with 'J' Qualifiers

Project Name:	3077 UNION RD.	**Lab Number:**	L1853200
Project Number:	0105-017-010	**Report Date:**	01/07/19

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	3077 UNION RD.	**Lab Number:**	L1853200
Project Number:	0105-017-010	**Report Date:**	01/07/19

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 12/28/18

ALPHA Job #: L1853200

Client Information

Client: Terrakey Environmental Res
Address: 2558 Hamburg Turnpike
Lackawanna NY 14218
Phone: (716) 810-8350
Fax: (716) 558-0583
Email: TBehrendt@Terrakeyllc.com

Project Information

Project Name: 3077 Union Rd
Project Location: Orchard Park NY
Project # 0105-017-010
(Use Project name as Project #) [X]
Project Manager: Bryan Maybeck
ALPHAQuote #:

Turn-Around Time

Standard [X] Due Date:
Rush (only if pre approved) [ ] # of Days:

Deliverables

[ ] ASP-A [ ] ASP-B
[ ] EQuIS (1 File) [ ] EQuIS (4 File)
[ ] Other

Regulatory Requirement

[ ] NY TOGS [ ] NY Part 375
[ ] AWQ Standards [ ] NY CP-51
[ ] NY Restricted Use [ ] Other
[ ] NY Unrestricted Use
[ ] NYC Sewer Discharge

Billing Information

[ ] Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
[ ] NJ [ ] NY
[ ] Other:

These samples have been previously analyzed by Alpha [ ]

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

TCL+CP-51 VOC 8260

Sample Filtration
[ ] Done
[ ] Lab to do
Preservation
[ ] Lab to do
(Please Specify below)

Total Bottle

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Sample Specific Comments
53200-01	MW-1	12/26/18	1310	Water	TAB	3
-02	MW-1D		1313			3
-03	MW-2D		1049			3
-04	MW-4D		1121			3

Container Type: V
Preservative: B

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	12/26/18 1530	[signature]	12/27/18 11:55
J. Dawson FAX	12/27/18 12:30	[signature]	12/28/18 01:00

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)