Phase II Environmental Investigation Report

3077-3097 UNION ROAD and 20-26 HAROLD SQUARE
ORCHARD PARK, NEW YORK

February 2018 T0105-017-010

Prepared For:

BENDERSON DEVELOPMENT



Prepared By:

TurnKey Environmental Restoration, LLC

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PHASE II ENVIRONMENTAL INVESTIGATION REPORT

3077-3097 Union Road and 20-26 Harold Square
Orchard Park, New York

February 2018 0105-017-010

Prepared for:

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Buffalo, New York, 14202

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PHASE II ENVIRONMENTAL INVESTIGATION REPORT

3077-3097 Union Road and 20-26 Harold Square
Orchard Park, New York

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1.0 INTRODUCTION

1.1 Background and Site Description

TurnKey Environmental Restoration, LLC (TurnKey) performed a Phase II Environmental Investigation on behalf of Benderson Development Company, LLC at 3077-3097 Union Road and 20-26 Harold Square, Town of Orchard Park, Erie County, New York (Site).

The Site is located in a moderately developed residential and commercial area (see Figure 1). As shown on Figure 2, two structures are present on the Site. Building 1 (3077-3097 Union Road) is a plaza with vacant tenant spaces and two current occupants, Adam's Barber Shop (barber shop) and Gold N Ham (pawnshop and butcher shop). Building 2 (20-26 Harold Square) reportedly has a history of being used for storage and use by a contractor/masonry company. A portion of Building 2 is presumed by TurnKey to have been used for equipment repair/maintenance.

The Site consists of one 17.9 acre parcel municipally addressed as 3077 Union Road. The Site is currently supplied with municipal sanitary sewer, electric, natural-gas and public water.

The scope of work for the Phase II investigation was devised based on recognized environmental conditions (RECs) identified for the Site by TurnKey through completion of a Phase I Environmental Site Assessment, dated September 2017; see Section 1.2 below for additional information. Note that TurnKey's Phase I was completed on a greater property of which the Site, subject to this Phase II assessment, was a part.

1.2 Previous Study

The following summarizes the findings of TurnKey's September 2017 Phase I Environmental Site Assessment provided under separate cover.

A dry cleaner and septic were identified on a 1967 Survey that was reviewed by TurnKey in the Town of Orchard Park municipal records. The former dry cleaner appears to have formerly been located in the current Gold N Ham tenant space, which was inaccessible at the time of the site visit.

A tenant space in the southeastern portion of the plaza (Building 1) was historically used for automotive repair. No floor drains or lifts were observed by TurnKey at the time of the site reconnaissance; however, TurnKey observed the presence of remaining automotive fluids and vehicle components such as engines. TurnKey also noted the presence of black staining to concrete ground surfaces within historic automotive repair area of Building 1.

Only the eastern portion of Building 2 was accessible at the time of the site visit. This space was reportedly used for minor equipment repair/maintenance for a masonry business. TurnKey observed the presence of remaining hazardous/regulated materials (hydraulic oil, muriatic acid, clean strip, insulite, latex bending mixture, roof cement, etc.) and a floor drain within the center of the bay. The floor drain reportedly discharges into the municipal sanitary sewer system.

TurnKey identified the following RECs in connection with the Site as part of the Phase I:

- The dry cleaner and septic system identified the 1967 survey due to the anticipated use of solvents and the potential for subsurface soil and/or groundwater impacts.
- Historic automotive repair at Building 1 and equipment repair/maintenance with a floor drain at Building 2.
- The remaining hazardous/regulated materials and vehicle components (engines, etc.) remaining at the Site as such will require proper off-site disposal if not intended for future use.

Due to the history of dry cleaning with use of a private septic system, automotive repair and the equipment repair/maintenance, TurnKey recommended completion of a Phase II Environmental Investigation to assess subsurface soil and groundwater conditions.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 Soil Boring Investigation

On January 22, 2018, TurnKey's subcontractor, TREC Environmental, Inc. (TREC), mobilized a track-mounted Geoprobe 6620DT direct-push drill rig equipped with a 1.5-inch diameter, 48 inch long macro-core sampler to the Site to assess subsurface conditions at the Site. As shown on Figure 2, 16 soil borings designated as SB-1 through SB-16 were completed at the Site with five borings converted into one-inch diameter piezometers. The rationale for the specific boring investigation locations is provided below in Section 3.2. The soil borings were advanced to equipment refusal (suspected bedrock) at depths ranging between 4 and 12 feet below ground surface (fbgs).

The sample cores were retrieved from the boring locations in clear PVC sleeves to allow for field characterization of the subsurface lithology and collection of soil samples by TurnKey's Environmental Scientist. The physical characteristics of all soil borings were classified using the ASTM D2488 Visual-Manual Procedure Description. Soils from each boring were screened via headspace screening using a MiniRae 3000 Photoionization Detector (PID). All field observations, including lithology, depths, PID scan results, etc., at each investigation location are summarized in the Soil Boring Log sheets provided in Appendix A. Photographs taken during the work are included in Appendix B.

Seven soil samples selected for laboratory analysis were transported under chain-of custody command to Test America Laboratories, Inc. (Test America) in Amherst, New York for analysis of New York State Department of Environmental Conservation (NYSDEC) Target Compound List (TCL) plus Commissioners Policy-51 (CP-51) volatile organic compounds (VOCs) and/or polycyclic aromatic hydrocarbons (PAHs). One soil sample was also analyzed for VOCs by Toxicity Characteristic Leaching Procedure (TCLP). All samples were collected in laboratory provided sample bottles and were cooled to 4^0 C prior to transport.

2.2 Groundwater Sampling

Five soil borings, SB-1, SB-6, SB-7, SB-8 and SB-10, were converted into one-inch diameter piezometers (PZ-1 through PZ-5). PZ-1 was installed west of the former dry cleaner at Building 1 and the other wells were installed east of the former dry cleaner. The piezometers were installed using one-inch diameter Schedule 40 PVC well screen and riser. Groundwater grab samples were collected from the piezometers using dedicated and disposable 0.5" polyethylene bailers subsequent to purging a minimum of three well volumes from each well.

Five 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 Test America for analysis of TCL plus CP-51 VOCs.

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 noted at depths ranging between 4 and 12 fbgs (see Soil Boring Logs in Appendix A). Suspected non-native fill materials overlying native soils were observed at SB-1, SB-2 and SB-4. Fill materials were noted to include fine sand, gravel and red brick fragments.

Groundwater levels measured in piezometers prior to sampling ranged between 2 and 8.25 fbgs. Groundwater flow is likely in a northerly direction consistent with topography in the area of the Site. Local groundwater flow, however, may be influenced by subsurface features, such as excavations, utilities, and localized fill-conditions.

3.2 Field Observations

Soil samples from the soil boring investigation were observed and scanned via headspace screening for volatile organics using a PID. A description of the field observations during the boring investigation is presented below:

Investigation Location ID	Environmental Concern Assessed	Highest PID reading (parts per million, ppm) and depth (fbgs)	Other Observations
SB/1/PZ-1	West of former dry cleaner.	1.1 ppm at 10 fbgs.	Bedrock refusal at 12 fbgs.
SB-2		0.4 ppm at 1 fbgs.	
SB-3	East of former dry cleaner.	1.4 ppm at 4 fbgs.	Bedrock refusal at 4.5 fbgs.
SB-4	South of automotive repair operation at Building 1.	1.7 ppm at 5 fbgs.	Bedrock refusal at 5.5 fbgs.
SB-5		0.0 ppm throughout boring.	Bedrock refusal at 4 fbgs.
SB-6/PZ-2	East of former dry cleaner.	0.0 ppm throughout boring.	Bedrock refusal at 5.5 fbgs.
SB-7/PZ-3		2,200 ppm at 5 fbgs decreasing to 150 ppm from 6 to 7 fbgs.	Bedrock refusal at 8 fbgs.
SB-8/PZ-4		0.5 ppm at 2 and 6 fbgs.	Bedrock refusal at 8 fbgs.
SB-9		1.4 ppm at 4 fbgs.	Bedrock refusal at 4 fbgs.
SB-10/PZ-5		0.0 ppm throughout boring.	Bedrock refusal at 7 fbgs.

Investigation Location ID	Environmental Concern Assessed	Highest PID reading (parts per million, ppm) and depth (fbgs)	Other Observations
SB-11	Proximate to former septic system, east of former dry cleaner.	1.0 ppm at 3 fbgs.	Bedrock refusal at 4 fbgs.
SB-12		0.1 ppm at 3 fbgs.	Bedrock refusal at 4 fbgs.
SB-13		0.0 ppm throughout boring.	Bedrock refusal at 9 fbgs.
SB-14		0.0 ppm throughout boring.	Bedrock refusal at 8 fbgs.
SB-15	South of Building 2 equipment repair/maintenance area with floor drain.	0.0 ppm throughout boring.	Bedrock refusal at 9.5 fbgs.
SB-16	Northwest of former dry cleaner.	0.0 ppm throughout boring.	Bedrock refusal at 12 fbgs.

3.3 Soil Analytical Results

Table 1 presents a summary of the detected analytes for each of the laboratory analyzed soil samples. For comparative purposes, Table 1 includes 6NYCRR Part 375 Unrestricted and Residential Use Soil Cleanup Objectives (USCOs and RSCOs, respectively). Based on the groundwater analytical results further described below, Part 375 Protection of Groundwater SCOs apply to the specific VOCs identified at concentrations above Class GA Groundwater Quality Standards (GWQS, see Table 3). Appendix C contains a copy of the laboratory analytical data package.

As summarized on Table 1, chlorinated VOCs (cVOCs) were detected at concentrations exceeding Part 375 USCOs, RSCOs and/or Protection of Groundwater SCOs. Specifically, tetrachloroethene (PCE) was identified at concentrations exceeding its respective RSCO of 5.5 milligrams per kilogram (mg/kg) at SB-3 (44 mg/kg at 4-4.5' interval), SB-7 (120 mg/kg at 4-6' interval and 19 mg/kg at 6-8' interval) and SB-11 (13 mg/kg at 2-4' interval). PCE degradation compounds trichloroethene (TCE) and cis-1,2-dichloroethene (cis-1,2 DCE) exceed USCOs and Protection of Groundwater SCOs at SB-7 and SB-8. In addition, TCE exceeds its respective USCO and Protection of Groundwater SCO at SB-3. Methylene chloride exceeds its respective USCO and Protection of Groundwater SCO in all samples.

Based on field observations and the highest PCE concentration of 120 mg/kg at SB-7 (4-6'), this sample was also analyzed by the laboratory for VOCs by TCLP to assess whether cVOC concentrations above the characteristic hazardous waste threshold. As

(4-6') exceeds its respective characteristic hazardous waste threshold of 0.7 mg/L. Note that PCE was identified within the laboratory method blank; however, according to the laboratory, "the detection in the method blank was just slightly above the Method Detection Limit (MDL) and wouldn't have any significant impact on the sample results at that level." TCE was identified at an estimated concentration of 0.0081 mg/L, which is below its respective characteristic hazardous waste threshold of 0.5 mg/L.

3.4 Groundwater Analytical Results

Groundwater sample results are summarized on Table 3 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 C. Note that in the laboratory report, wells TMW-1 through TMW-5 refers to piezometers PZ-1 through PZ-5, respectively.

As summarized on Table 3, cVOCs exceed their respective GWQS at PZ-2, PZ-3 and PZ-4 with the most significant cVOC concentrations identified at PZ-3 located east of the former dry cleaner. Specifically, PCE exceeds its respective GWQS of 5 micrograms per liter (ug/L) at PZ-3 (51,000 ug/L) and PZ-4 (61 ug/L). Degradation products of PCE, including TCE, cis-1,2 DCE and/or vinyl chloride (VC) exceed their respective GWQS at PZ2 and PZ-4. Total xylenes at a concentration of 30 ug/L at PZ-2 exceeds its respective GWQS of 5 ug/L.

4.0 CONCLUSIONS AND RECOMMENDATIONS

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

- The highest PID reading identified during the work was 2,200 ppm at SB-7 (4-6'). PID readings decreased to 150 ppm at SB-7 at the deeper 6 to 7' interval, which is just above bedrock.
- Laboratory analytical results revealed the presence of cVOC-impacted soil and groundwater east of the former dry cleaner at Building 1. The highest cVOC concentrations in soil and groundwater were identified at SB-7/PZ-3, located approximately five feet off the east wall of Building 1. Additional information relative to soil and groundwater impacts identified at the Site is provided below:
    - Soil – PCE and its degradation compounds TCE and cis-1,2-DCE exceeded Part 375 USCOs, 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 in soil at SB-7 (4-6') was identified at a concentration exceeding its respective characteristic hazardous waste threshold.
    - Groundwater – PCE and/or its degradation compounds TCE, cis-1,2 DCE and VC exceeded GWQS at PZ-2, PZ-3 and PZ-4. In addition, total xylenes exceeded its respective GWQS at PZ-2.
- The source of the cVOC-impacted soil and groundwater is reasonably attributable to the historic dry cleaner formerly located within the current Gold N Ham tenant space. Xylenes in water may be attributed to the dry cleaner if a Stoddard/petroleum-based solvent was used.
- Based on the proximity of the existing building to the cVOC impacts, there is the potential for cVOC-impacted soil and groundwater beneath the existing building slab.
- The elevated cVOC concentrations represent a potential vapor encroachment condition (VEC) whereby subslab soil vapor and/or indoor air with elevated concentrations of cVOCs may be present within the existing and future buildings if left unremediated.
- In conclusion, cVOC-impacted soil and groundwater is present on-Site and will require remediation and/or proper soil/groundwater management either prior to or during redevelopment of the Site. Further work, including additional soil borings and installation of monitoring wells, would be required to assess the extent of cVOC soil and groundwater impacts at the Site. A soil vapor intrusion assessment should be completed to assess whether a VEC exists at the Site. Installation of an active subslab depressurization (ASD) system may be required to address cVOC-impacted subslab vapor and/or indoor air within the existing building. The presence of elevated cVOC concentrations on-Site should be considered as part of any redevelopment project.

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.

TABLES

TABLE 1

SUMMARY OF SUBSURFACE SOIL ANALYTICAL RESULTS
PHASE II ENVIRONMENTAL INVESTIGATION
3077-3097 UNION ROAD & 20-26 HAROLD SQUARE
ORACHARD PARK, NY

PARAMETER[1]	Protection of Groundwater SCOs[2]	Unrestricted Use SCOs[2]	Residential Use SCOs [2]	Sample ID (Depth, Highest PID reading in ppm)						
				SB-1 (10-12', 1.1)	SB-3 (4-4.5', 1.4)	SB-4 (2-4', 1.4)	SB-7 (4-6', 2,200)	SB-7 (6-8', 150)	SB-8 (4-6', 0.5)	SB-11 (2-4', 1.0)
				1/22/2018						
Volatile Organic Compounds (VOCs) - mg/Kg [3]										
cis-1,2-Dichloroethene	**0.25**	**0.25**	**59**	ND	0.17 J	--	ND	**0.28**	**0.26**	ND
Methylene chloride	**0.05**	**0.05**	**51**	**0.1 J,B**	**0.33 J,B**	--	**2 J,B**	**0.19 J,B**	**0.11 J,B**	**0.2 J,B**
Tetrachloroethene	**1.3**	**1.3**	**5.5**	1	**44**	--	**120**	**19**	1.1	**13**
Trichloroethene	**0.47**	**0.47**	**10**	ND	**1.5**	--	ND	**0.94**	**0.61**	0.18 J
Total cVOCs	--	--	--	1.1 J,B	46 J,B	--	122 J,B	20.41 J,B	2.08 J,B	13.38 J,B
Polycyclic Aromatic Hydrocarbons (PAHs) - mg/Kg										
Total PAHs	--	--	--	--	--	ND	--	--	--	--

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. Values per NYSDEC Part 375 Soil Cleanup Objectives (SCOs). Protection of Groundwater SCOs apply to specific VOCS exceeding Groundwater Quality Standards (see Table 3).
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparisons to SCOs.

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.
B = Compound was found in the blank and sample.

Bold	= Result exceeds Part 375 Unrestricted Use SCOs and/or Protection of Groundwater SCOs.
Bold	= Result exceeds Residential Use SCOs.

TABLE 2

SUMMARY OF TCLP VOC RESULTS
PHASE II ENVIRONMENTAL INVESTIGATION

3077-3097 UNION ROAD & 20-26 HAROLD SQUARE
ORCHARD PARK, NEW YORK

PARAMETER	Characteristic Hazardous Waste Threshold[1] (mg/L)	SB-7 (4-6)
		1/22/2018
TCLP Volatile Organic Compounds (VOCs) - mg/L		
Tetrachloroethene - DL	**0.7**	**2.6 B**
Trichloroethene	**0.5**	0.0081 J

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. TCLP/Haz Waste Regulatory Levels per 40 CFR 261, Appendix II, 1993 ed., as amended by 58 FR 46040, August 31, 1993.

Definitions:

J = Estimated value; result is less than the sample quantitation limit but greater than zero.

B = Analyte was detected in associated method blank.

DL = Indicates a dilution, re-analysis, re-extraction, or additional initial metals/anion analysis of the sample.

Exceeds Haz Waste Threshold

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
PHASE II ENVIRONMENTAL INVESTIGATION
3077-3097 UNION ROAD & 20-26 HAROLD SQUARE
ORCHARD PARK, NY

PARAMETER[1]	GWQS[2]	Sample ID				
		PZ-1	PZ-2	PZ-3	PZ-4	PZ-5
		1/22/2018 and 1/23/2018				
Volatile Organic Compounds (VOCs) - ug/L						
Acetone	**50**	5	7.3	ND	ND	3.2
Carbon disulfide	**--**	0.46	0.66	ND	ND	ND
cis-1,2-Dichloroethene	**5**	ND	**9.8**	**2200**	**37**	0.9
Cyclohexane	**--**	0.18	0.39	ND	0.29	ND
Ethylbenzene	**5**	ND	4.5	ND	ND	ND
Methylcyclohexane	**--**	ND	0.36	ND	0.43	ND
Methylene chloride	**5**	ND	ND	**220**	ND	ND
Tetrachloroethene	**5**	ND	ND	**51000 DL**	**22**	0.66
trans-1,2-Dichloroethene	**5**	ND	ND	ND	3	ND
Trichloroethene	**5**	ND	ND	**2600**	**61**	2.3
Vinyl chloride	**2**	ND	**3.6**	ND	**7.7**	ND
Total Xylenes	**5**	ND	**30**	ND	ND	ND
Total VOCs	**--**	0.64	56.61	56020	131.42	7.06
Total cVOCs	**--**	ND	**13.4**	56020	130.7	3.86

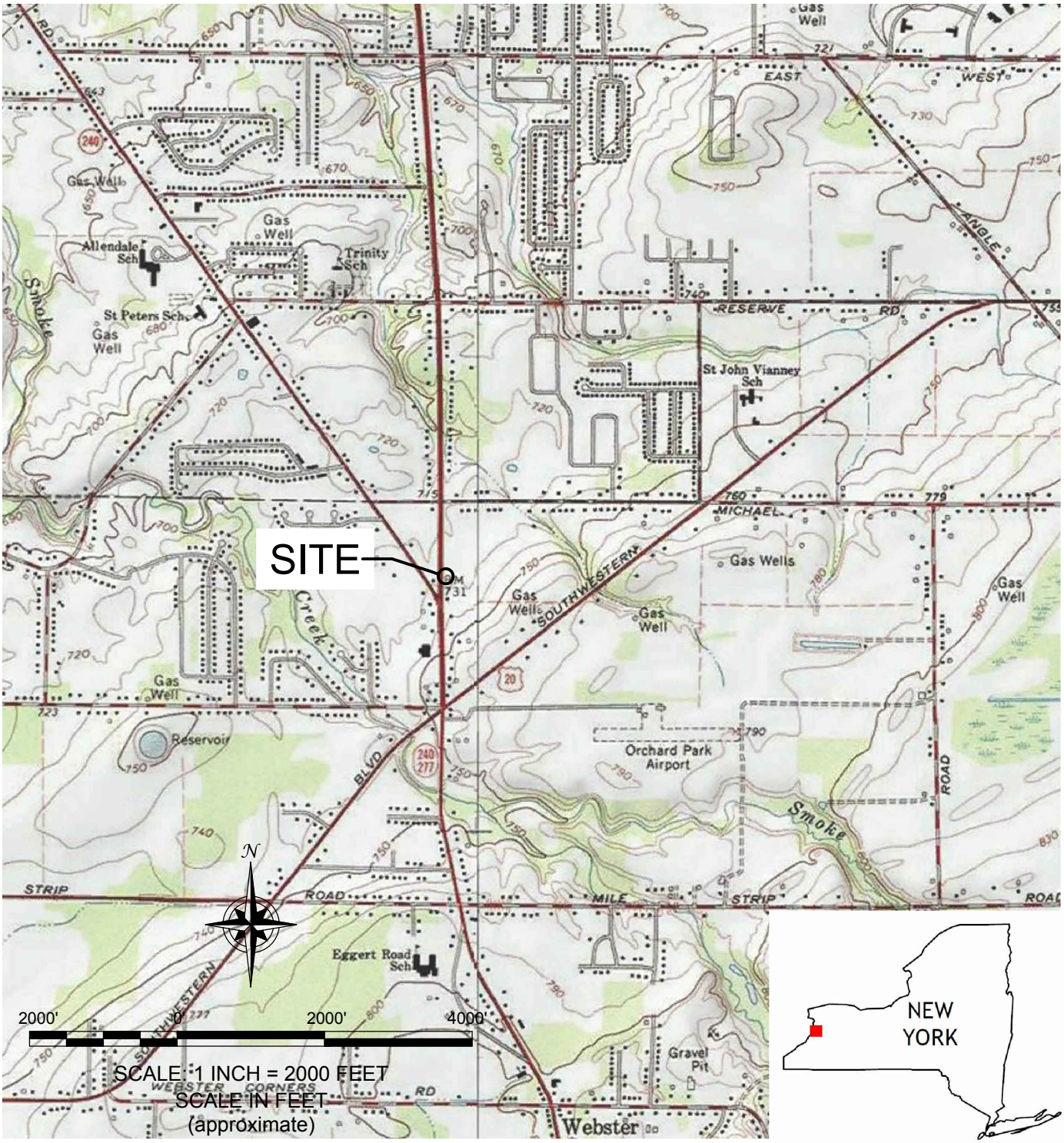
Notes:
1. Only those parameters detected at a minimum of one sample location are presented in this table; other compounds were reported as non-detect.
2. Regulatory limits are NYSDEC Class "GA" Groundwater Quality Standards (GWQS) and Guidance Values and Groundwater Effluent Limitations.

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, 20-26 HAROLD SQUARE
AND ASSOCIATED PARCELS
ORCHARD PARK, NEW YORK

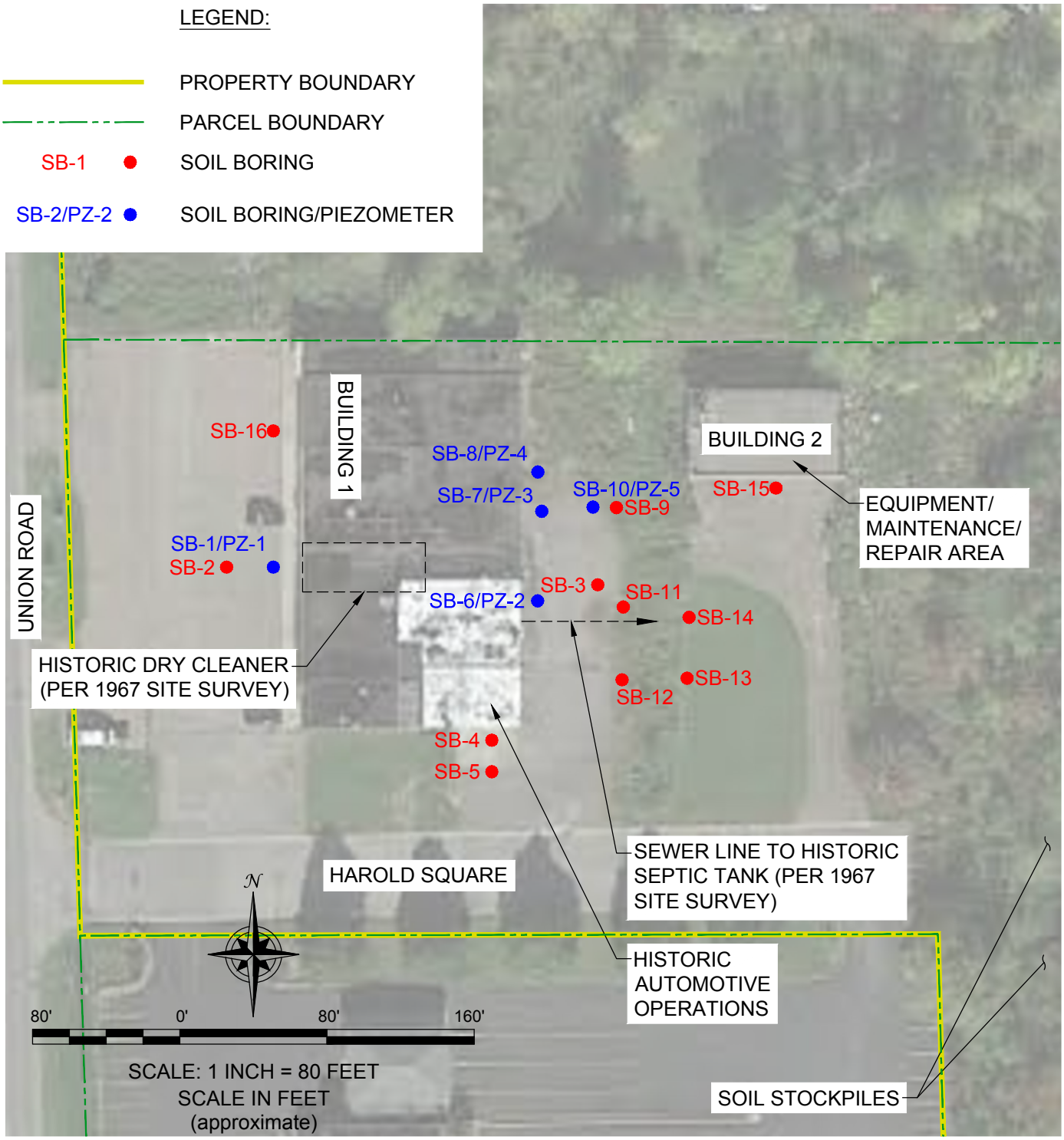
PREPARED FOR

BENDERSON DEVELOPMENT COMPANY

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F:\CAD\TurnKey\Benderson\3077 Union Road and Associated Parcels\Phase II\Figure 2 - Investigation Locations.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 2018

DRAFTED BY: CMS

INVESTIGATION LOCATIONS

PHASE II ENVIRONMENTAL INVESTIGATION

3077-3097 UNION ROAD, 20-26 HAROLD SQUARE
AND ASSOCIATED PARCELS
ORCHARD PARK, NEW YORK

PREPARED FOR

BENDERSON DEVELOPMENT COMPANY

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APPENDIX A

SOIL BORING LOGS

Project No: T0105-017-001

Borehole Number: SB-1

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.: PZ-1

Client: Benderson Development Company

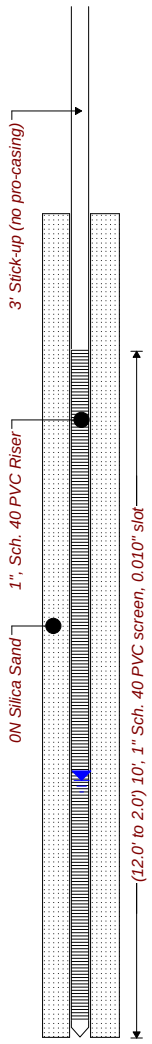
Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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
-3.0									
	0.0	Ground Surface							
	0.0 / -0.5	***Asphalt and Subbase***							
	0.5 / -1.2	***Fill*** Black, moist, mostly gravelly fill, some non-plastic fines, some red brick							
2.0	1.2	***Lean Clay*** Brown, moist, mostly medium plasticity fines, some angular gravel, trace fine sands, medium toughness, medium density, reworked.			2.3		0.0 / 0.0 / 0.0		
	-4.0 / 4.0	As Above					0.0		
	-5.2 / 5.2	***Well Graded Gravel with Silt and Sand*** Brown, moist, mostly angular gravel, some non-plastic fines, some fine sand, loose.			3.6		0.0 / 0.0 / 0.0		
7.0	-8.0 / 8.0	As Above					0.0		
	-8.5 / 8.5	***Weathered Rock with Silt and Sand*** Grey, moist, mostly weathered rock, some fine sand, some non-plastic fines, loose. Equipment refusal at 12.0 fbgs			2.6		0.0 / 1.1 / 0.0	Sample Location	
12.0	-12.0 / 12.0	End of Borehole					0.0		



Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2" with 1" well
Stick-up: 3'
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-2

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.:

Client: Benderson Development Company

Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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	0.0	Ground Surface							
	0.0	***Asphalt and Subbase***							
	-0.5 / 0.5	***Fill*** Black, moist, mostly gravelly fill, some non-plastic fines, red brick layer from 1.4 to 1.8 fbgs.					0.4		
	-1.2 / 1.2	***Lean Clay*** Brown, moist, mostly medium plasticity fines, some angular gravel, trace fine sands, medium toughness, medium density, reworked.			2.7		0.0		
							0.0		
	-4.0 / 4.0	As Above					0.0		
5.0					3.0		0.0		
							0.0		
	-6.3 / 6.3	***Well Graded Gravel with Silt and Sand*** Brown, moist, mostly angular gravel, some non-plastic fines, some fine sand, loose.					0.0		
	-8.0 / 8.0	***Weathered Rock with Silt and Sand*** Grey, moist, mostly weathered rock, some fine sand, some non-plastic fines, loose. Equpiment refusal at 12.0 fbgs					0.0		
10.0					3.2		0.0		
							0.0		
	-12.0 / 12.0	End of Borehole					0.0		

Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2"
Stick-up:
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-3

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.:

Client: Benderson Development Company

Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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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	0.0	Ground Surface							
	0.0	***Asphalt and Subbase***							
	-1.1						0.0		
	1.1	***Well Graded Gravel with Silt and Sand*** Brown, moist, mostly well-graded gravel some fine sand, trace medium plasticity fines. loose			1.9		0.5		
							0.0		
	-4.0						1.4		
	4.0	***Weathered Rock***			.5			Sample Location	
	-4.5	Equipment refusal at 4.5 fbgs							
	4.5	End of Borehole							
5.0									

Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2"
Stick-up:
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-4

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.:

Client: Benderson Development Company

Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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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	0.0	Ground Surface							
	0.0	***Concrete and Subbase***							
	-0.5 / 0.5	***Fill - Lean Clay with Well Graded Gravel*** Brown, moist, mostly medium plasticity fines, some well-graded gravel and fine sand,. loose.					0.0		
	-1.0 / 1.0	***Fill - Well Graded Gravel with Clay*** Brown, moist, mostly well-graded gravel, some medium plasticity fines and sand, loose							
	-2.0 / 2.0	***Lean Clay with Well-Graded Gravel*** Brown,moist, mostly medium plasticity fines, some gravel, trace fine sand, meium density, medium toughness.			2.8		0.0		
							1.4	Sample Location	
	-4.0 / 4.0	As Above					1.4		
					1.5				
5.0	-5.0 / 5.0	***Weathered Rock***					1.7		
	-5.5 / 5.5	Equpiment refusal at 5.5 fbgs							
		End of Borehole							

Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2"
Stick-up:
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-5

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.:

Client: Benderson Development Company

Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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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	0.0 / 0.0	Ground Surface							
		Well-Graded Gravel with Clay and Sand Brown, moist, mostly sub-angular gravel, some medium plasticity fines, trace fine sand, loose							
		Equpiment refusal at 4.0 fbgs							
							0.0		
					2.7		0.0		
							0.0		
							0.0		
	-4.0 / 4.0	End of Borehole							

Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2"
Stick-up:
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-6

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.: PZ-2

Client: Benderson Development Company

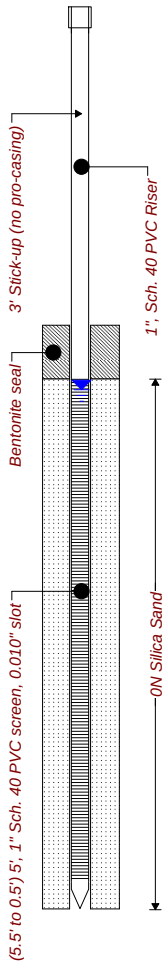
Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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(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	0.0	Ground Surface							
	0.0	***Asphalt and Subbase***							
	-0.5 / 0.5	***Lean Clay with Gravel*** Grey-Brown, moist, mostly medium plasticity fines, some angular gravel, grey iron staining			3.5		0.0 / 0.0 / 0.0		
2.0									
	-4.0 / 4.0	***Well-Graded Gravel with Sand and Clay*** Grey, moist, mostly sub-angular gravel, some fine sand, trace medium plasticity fines, loose.			1.5		0.0		
	-5.2 / 5.2	***Weathered Rock***							
	-5.5 / 5.5	Grey, moist, mostly weathered roack, some medium plasticity fines.							
		Equipment refusal at 5.5 fbgs							
7.0		End of Borehole							



Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2" with 1" well
Stick-up: 3'
Datum:

Sheet: 1 of 1

Project No: 0105-017-001

Borehole Number: SB-7

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.: PZ-3

Client: Benderson Development Company

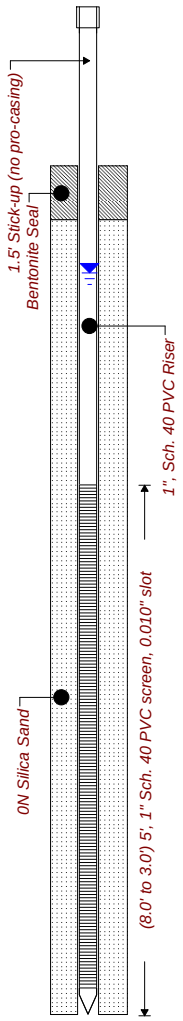
Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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SUBSURFACE PROFILE			SAMPLE						
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
-2.0							0 1000 2000 3000		
	0.0	Ground Surface							
	0.0	***Gravel and Subbase***					0.0		
					0.7		50		
3.0							200		
	-4.0						200		
	4.0	***Lean Clay with Gravel*** Grey-brown, moist, mostly medium plasticity fines, some sub-angular gravel, trace fine sand. Noticeable sweet odor in soil.					2200	Sample Location	
							1850		
	-5.7								
	5.7	***Weathered Rock*** Grey, moist, mostly weathered rock, some medium plasticity fines. Equipment refusal at 8.0 fbgs			3.6		150		
							150	Sample Location	
8.0							0.0		
	-8.0								
	8.0	End of Borehole							



Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2" with 1" well
Stick-up: 1.5'
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-8

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.: PZ-4

Client: Benderson Development Company

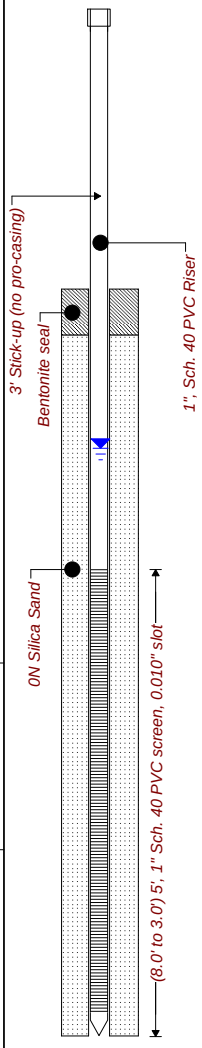
Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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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
-3.0									
	0.0	Ground Surface							
	0.0	***Asphalt and Subbase***					0.0		
	-0.5 0.5	***Lean Clay with Gravel*** Reddish-Brown, moist, mostly medium plasticity fines, some angular gravel, little fine sand, medium toughness, medium density.			2.2		.5 0.0		
2.0									
	-4.0 4.0	As Above					0.0		
	-4.8 4.8	***Well-Graded Gravel with Clay and Sand*** Brown, moist, mostly sub-angular gravel, some medium plasticity fines, little fine sand, loose. Equipment refusal at 8.0 fbgs			3.6		0.0 0.5	Sample Location	
7.0							0.0		
	-8.0 8.0	End of Borehole					0.0		



Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2" with 1" well
Stick-up: 3'
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-9

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.:

Client: Benderson Development Company

Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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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	0.0	Ground Surface							
	0.0	***Asphalt and Subbase***							
	-0.5								
	0.5	***Lean Clay with Gravel*** Reddish-Brown, moist, mostly medium plasticity fines, some angular gravel, little fine sand, medium toughness, medium density.					0.0		
					2.4		0.0		
	-2.2								
	2.2	***Weathered Rock*** Equipment refusal at 4.0 fbgs					0.0		
	-4.0						1.4		
	4.0	End of Borehole							

Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2"
Stick-up:
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-10

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.: PZ-5

Client: Benderson Development Company

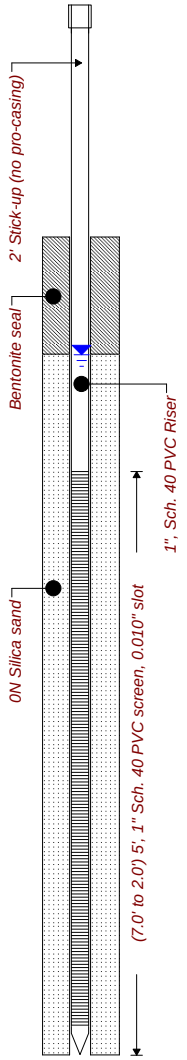
Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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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
-2.0									
	0.0	Ground Surface							
	0.0	***Asphalt and Subbase***							
	-0.5 / 0.5	***Lean Clay with Gravel*** Reddish-Brown, moist, mostly medium plasticity fines, some angular gravel, little fine sand, medium toughness, medium density.					0.0		
	-2.2 / 2.2	***Weathered Rock***			2.4		0.0		
3.0							0.0		
	-4.0 / 4.0	As Above					0.0		
		Equipment refusal at 7.0 fbgs			3.0		0.0		
							0.0		
	-7.0 / 7.0	End of Borehole					0.0		
8.0									



Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2" with 1" well
Stick-up: 2'
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-11

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.:

Client: Benderson Development Company

Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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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	0.0 / 0.0	Ground Surface							
	-0.3 / 0.3	***Topsoil*** Brown, moist, mostly organic soil, some medium plasticity fines.							
	-0.5 / 0.5	***Lean Clay*** Light Brown, moist, mostly medium plasticity fines, some angular gravel, trace fine sand, medium toughness, medium density.							
		Gravel with Silt Dark Brown, moist, mostly sub-angular gravel, some non-plastic fines, loose					0.0		
	-2.0 / 2.0	***Weathered Rock***			2.5		0.0		
		Equipment refusal at 4.0 fbgs					1.0	Sample Location	
	-4.0 / 4.0	End of Borehole					0.0		

Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2"
Stick-up:
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-12

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.:

Client: Benderson Development Company

Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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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	0.0 / 0.0	Ground Surface							
	-0.3 / 0.3	***Topsoil*** Brown, moist, mostly organic soil, some medium plasticity fines.							
	-0.5 / 0.5	***Lean Clay*** Light Brown, moist, mostly medium plasticity fines, some angular gravel, trace fine sand, medium toughness, medium density.							
		Gravel with Silt Dark Brown, moist, mostly sub-angular gravel. some non-plastic fines, loose.					0.1		
	-2.0 / 2.0	***Weathered Rock***			2.3		0.0		
		Equipment refusal at 4.0 fbgs					0.1		
	-4.0 / 4.0	End of Borehole					0.0		

Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2"
Stick-up:
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-13

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.:

Client: Benderson Development Company

Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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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	0.0	Ground Surface							
	0.0	***Topsoil*** Brown, moist, mostly organic soil, some medium plasticity fines.					0.0		
	-0.5 / 0.5	***Lean Clay with Sand*** Reddish-Brown, moist, mostly medium plasticity fines, some fine sand, trace sub-angular gravel, medium toughness, medium density.					0.0		
	-1.8 / 1.8	***Sand with Lean Clay*** Reddish-Brown, moist, mostly fine sand, some medium plasticity fines, trace sub-angular gravel.			2.9		0.0		
	-2.3 / 2.3	***Weathered Rock with Clay and Sand*** Reddish-Brown, mostly angular gravel, some fine sand and medium plasticity fines.					0.0		
	-4.0 / 4.0	As Above					0.0		
5.0					3.6		0.0		
	-8.0 / 8.0	As Above					0.0		
		Equipment refusal at 9.0 fbgs			0.8				
	-9.0 / 9.0	End of Borehole					0.0		

Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2"
Stick-up:
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-14

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.:

Client: Benderson Development Company

Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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Buffalo, NY 14218
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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	0.0 / 0.0	Ground Surface							
		Topsoil Brown, moist, mostly organic soil, some medium plasticity fines.							
	-0.5 / 0.5	***Lean Clay with Sand*** Light brown, moist, mostly medium plasticity fines, some fine sand, trace sub-angular gravel, medium toughness, medium density.			3.6		0.0		
							0.0		
							0.0		
	-4.0 / 4.0	As Above					0.0		
5.0							0.0		
	-5.5 / 5.5	***Weathered Rock*** Dark Brown, moist, mostly angular gravel, some fine sand, trace medium plasticity fines, loose.			3.6		0.0		
		Equipment refusal at 7.8 fbgs					0.0		
	-7.8 / 7.8	End of Borehole							

Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2"
Stick-up:
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-15

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.:

Client: Benderson Development Company

Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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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	0.0	Ground Surface							
	0.0	***Asphalt and Subbase***							
	-0.5								
	0.5	***Lean Clay*** Dark brown and grey, moist, mostly medium plasticity fines, trace angular gravel, trace fine sand, low toughness, medium density.					0.0		
					2.8		0.0		
							0.0		
	-4.0						0.0		
	4.0	As Above					0.0		
5.0							0.0		
	-6.2				2.4		0.0		
	6.2	***Weathered Rock***					0.0		
	-8.0						0.0		
	8.0	As Above Equpiment refusal at 9.5 fbgs			1.0		0.0		
	-9.5								
	9.5	End of Borehole							
10.0									

Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2"
Stick-up:
Datum:

Sheet: 1 of 1

Project No: T0105-017-001

Borehole Number: SB-16

Project: 3077-3097 Union Road and 20-26 Harold Square

A.K.A.:

Client: Benderson Development Company

Logged By: CMS

Site Location: Orchard Park, New York

Checked By: BWM

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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	0.0	Ground Surface							
	0.0	***Asphalt and Subbase***					0.0		
	-1.3 / 1.3	***Lean Clay*** Dark brown, mostly medium plasticity fines, trace fine sand, medium toughness, medium density.			2.0		0.0		
							0.0		
	-4.0 / 4.0	As Above, color change to brown-grey.					0.0		
5.0							0.0		
	-6.3 / 6.3	***Lean Clay with Weathered Rock*** As Above, with angular gravel			3.4		0.0		
	-8.0 / 8.0	As Above, wet.					0.0		
							0.0		
10.0	-9.9 / 9.9	***Weathered Rock*** Grey, wet, mostly angular gravel, trace medium plasticity fines, loose.			3.8		0.0		
							0.0		
	-12.0 / 12.0	End of Borehole					0.0		

Drilled By: Trec Environmental, Inc
Drill Rig Type: Geoprobe 6620 DT
Drill Method: Direct Push
Comments:
Drill Date(s): 1/22/2018

Hole Size: 2"
Stick-up:
Datum:

Sheet: 1 of 1

APPENDIX B

PHOTO LOG

SITE PHOTOGRAPHS

Photo 1:



Photo 2:



Photo 3:



Photo 4:



Photo 1: View during completion of SB-1 (west of former dry cleaner, looking north).

Photo 2: View during completion of SB-7 (east of former dry cleaner, looking west).

Photo 3: View during completion of SB-4 (south of automotive repair operation, looking north).

Photo 4: View of typical soils.

APPENDIX C

LABORATORY ANALYTICAL DATA SUMMARY PACKAGE

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-130449-1
Client Project/Site: Benchmark - 3077-3097 Union Rd

For:
Benchmark Env. Eng. & Science, PLLC
2558 Hamburg Turnpike
Lackawanna, New York 14218

Attn: Bryan Mayback

Joseph V. Giacomazza

Authorized for release by:
1/29/2018 10:15:46 AM
Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Brian Fischer, Manager of Project Management
(716)504-9835
brian.fischer@testamericainc.com

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-130449-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-130449-1

Comments
No additional comments.

Receipt
The samples were received on 1/23/2018 3:15 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.5º C.

GC/MS VOA
Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-397230 recovered above the upper control limit for 1,1,2-Trichloro-1,2,2-trifluoroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: TWW-1 (480-130449-8).

Method(s) 8260C: Due to the coelution of Ethyl Acetate with 2-Butanone in the full spike solution, these analytes exceeded control limits in the laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) associated with batch 480-397230. The following sample was affected : TWW-1 (480-130449-8).

Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: SB-7 (4-6) (480-130449-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: TWW-1 (480-130449-8).
The sample was analyzed within 7 days per EPA recommendation.

Method(s) 8260C: The following samples were diluted due to the nature of the TCLP matrix: SB-7 (4-6) (480-130449-4) and (LB 480-397113/1-A). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The laboratory control sample (LCS) for preparation batch 480-397178 and analytical batch 480-397378 recovered outside control limits for the following analyte: 1,2-Dibromo-3-Chloropropane. 1,2-Dibromo-3-Chloropropane has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction was not performed. These results have been reported and qualified.

Method(s) 8260C: The following samples were diluted to bring the concentration of target analytes within the calibration range: SB-3 (6-8) (480-130449-2), SB-7 (4-6) (480-130449-4), SB-7 (6-8) (480-130449-5) and SB-11 (2-4) (480-130449-7). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: SB-7 (4-6) (480-130449-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following samples as analyzed using medium level soil analysis and diluted to bring the concentration of target analytes within the calibration range: SB-3 (6-8) (480-130449-2), SB-7 (4-6) (480-130449-4), SB-7 (6-8) (480-130449-5) and SB-11 (2-4) (480-130449-7). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following samples were analyzed using medium level soil analysis to bring the concentration of target analytes within the calibration range: SB-1 (10-12) (480-130449-1), SB-8 (4-6) (480-130449-6), (480-130382-A-3-C MS) and (480-130382-A-3-D MSD). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Job ID: 480-130449-1 (Continued)

Laboratory: TestAmerica Buffalo (Continued)

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-1 (10-12) — Lab Sample ID: 480-130449-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	100	J B	130	25	ug/Kg	1	☼	8260C	Total/NA
Tetrachloroethene	1000		130	17	ug/Kg	1	☼	8260C	Total/NA

Client Sample ID: SB-3 ~~(6-8)~~ — Lab Sample ID: 480-130449-2

Note: Actual Sample was taken from 4'-4.5'

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	170	J	450	120	ug/Kg	4	☼	8260C	Total/NA
Methylene Chloride	330	J B	450	89	ug/Kg	4	☼	8260C	Total/NA
Tetrachloroethene	44000		450	61	ug/Kg	4	☼	8260C	Total/NA
Trichloroethene	1500		450	130	ug/Kg	4	☼	8260C	Total/NA

Client Sample ID: SB-4 (2-4) — Lab Sample ID: 480-130449-3

No Detections.

Client Sample ID: SB-7 (4-6) — Lab Sample ID: 480-130449-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	2000	J B	2500	490	ug/Kg	20	☼	8260C	Total/NA
Tetrachloroethene	120000		2500	330	ug/Kg	20	☼	8260C	Total/NA
Trichloroethene	0.0081	J	0.010	0.0046	mg/L	10		8260C	TCLP
Tetrachloroethene - DL	2.6	B	0.050	0.018	mg/L	50		8260C	TCLP

Client Sample ID: SB-7 (6-8) — Lab Sample ID: 480-130449-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	280		220	61	ug/Kg	2	☼	8260C	Total/NA
Methylene Chloride	190	J B	220	44	ug/Kg	2	☼	8260C	Total/NA
Tetrachloroethene	19000		220	30	ug/Kg	2	☼	8260C	Total/NA
Trichloroethene	940		220	62	ug/Kg	2	☼	8260C	Total/NA

Client Sample ID: SB-8 (4-6) — Lab Sample ID: 480-130449-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	260		130	35	ug/Kg	1	☼	8260C	Total/NA
Methylene Chloride	110	J B	130	25	ug/Kg	1	☼	8260C	Total/NA
Tetrachloroethene	1100		130	17	ug/Kg	1	☼	8260C	Total/NA
Trichloroethene	610		130	36	ug/Kg	1	☼	8260C	Total/NA

Client Sample ID: SB-11 (2-4) — Lab Sample ID: 480-130449-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	200	J B	240	47	ug/Kg	2	☼	8260C	Total/NA
Tetrachloroethene	13000		240	32	ug/Kg	2	☼	8260C	Total/NA
Trichloroethene	180	J	240	66	ug/Kg	2	☼	8260C	Total/NA

Client Sample ID: TWW-1 — Lab Sample ID: 480-130449-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	5.0	J	10	3.0	ug/L	1		8260C	Total/NA
Carbon disulfide	0.46	J	1.0	0.19	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: TWW-1 (Continued)

Lab Sample ID: 480-130449-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyclohexane	0.18	J	1.0	0.18	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-1 (10-12)
Date Collected: 01/22/18 08:45
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-1
Matrix: Solid
Percent Solids: 84.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		130	35	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,1,2,2-Tetrachloroethane	ND		130	20	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		130	63	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,1,2-Trichloroethane	ND		130	26	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,1-Dichloroethane	ND		130	39	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,1-Dichloroethene	ND		130	43	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,2,4-Trichlorobenzene	ND		130	48	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,2,4-Trimethylbenzene	ND		130	35	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,2-Dibromo-3-Chloropropane	ND	*	130	63	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,2-Dichlorobenzene	ND		130	32	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,2-Dichloroethane	ND		130	51	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,2-Dichloropropane	ND		130	20	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,3,5-Trimethylbenzene	ND		130	38	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,3-Dichlorobenzene	ND		130	34	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,4-Dichlorobenzene	ND		130	18	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
2-Butanone (MEK)	ND		630	370	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
2-Hexanone	ND		630	260	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
4-Isopropyltoluene	ND		130	42	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
4-Methyl-2-pentanone (MIBK)	ND		630	40	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Acetone	ND		630	520	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Benzene	ND		130	24	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Bromoform	ND		130	63	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Bromomethane	ND		130	28	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Carbon disulfide	ND		130	57	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Carbon tetrachloride	ND		130	32	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Chlorobenzene	ND		130	17	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Dibromochloromethane	ND		130	61	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Chloroethane	ND		130	26	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Chloroform	ND		130	86	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Chloromethane	ND		130	30	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
cis-1,2-Dichloroethene	ND		130	35	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Cyclohexane	ND		130	28	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Bromodichloromethane	ND		130	25	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Dichlorodifluoromethane	ND		130	55	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Ethylbenzene	ND		130	37	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
1,2-Dibromoethane	ND		130	22	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Isopropylbenzene	ND		130	19	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Methyl acetate	ND		630	60	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Methyl tert-butyl ether	ND		130	47	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Methylcyclohexane	ND		130	59	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Methylene Chloride	**100**	**J B**	130	25	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
m,p-Xylene	ND		250	70	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
n-Butylbenzene	ND		130	37	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
N-Propylbenzene	ND		130	33	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
o-Xylene	ND		130	16	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
sec-Butylbenzene	ND		130	46	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Tetrachloroethene	**1000**		130	17	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Toluene	ND		130	34	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
trans-1,2-Dichloroethene	ND		130	30	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-1 (10-12)
Date Collected: 01/22/18 08:45
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-1
Matrix: Solid
Percent Solids: 84.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		130	12	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Trichloroethene	ND		130	35	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Trichlorofluoromethane	ND		130	59	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Vinyl chloride	ND		130	42	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Xylenes, Total	ND		250	70	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
cis-1,3-Dichloropropene	ND		130	30	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
Styrene	ND		130	30	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1
tert-Butylbenzene	ND		130	35	ug/Kg	☼	01/24/18 15:46	01/26/18 00:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*53 - 146*	*01/24/18 15:46*	*01/26/18 00:11*	*1*
4-Bromofluorobenzene (Surr)	*105*		*49 - 148*	*01/24/18 15:46*	*01/26/18 00:11*	*1*
Toluene-d8 (Surr)	*102*		*50 - 149*	*01/24/18 15:46*	*01/26/18 00:11*	*1*
Dibromofluoromethane (Surr)	*95*		*60 - 140*	*01/24/18 15:46*	*01/26/18 00:11*	*1*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-3 (~~6-8~~) Note: Actual Sample was taken from 4'-4.5'
Date Collected: 01/22/18 09:30
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-2
Matrix: Solid
Percent Solids: 92.2

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		450	120	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,1,2,2-Tetrachloroethane	ND		450	73	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		450	230	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,1,2-Trichloroethane	ND		450	95	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,1-Dichloroethane	ND		450	140	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,1-Dichloroethene	ND		450	160	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,2,4-Trichlorobenzene	ND		450	170	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,2,4-Trimethylbenzene	ND		450	130	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,2-Dibromo-3-Chloropropane	ND	*	450	230	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,2-Dichlorobenzene	ND		450	110	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,2-Dichloroethane	ND		450	180	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,2-Dichloropropane	ND		450	73	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,3,5-Trimethylbenzene	ND		450	140	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,3-Dichlorobenzene	ND		450	120	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,4-Dichlorobenzene	ND		450	63	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
2-Butanone (MEK)	ND		2300	1300	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
2-Hexanone	ND		2300	920	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
4-Isopropyltoluene	ND		450	150	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
4-Methyl-2-pentanone (MIBK)	ND		2300	140	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Acetone	ND		2300	1900	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Benzene	ND		450	86	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Bromoform	ND		450	230	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Bromomethane	ND		450	99	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Carbon disulfide	ND		450	200	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Carbon tetrachloride	ND		450	110	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Chlorobenzene	ND		450	59	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Dibromochloromethane	ND		450	220	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Chloroethane	ND		450	94	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Chloroform	ND		450	310	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Chloromethane	ND		450	110	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
cis-1,2-Dichloroethene	**170**	**J**	450	120	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Cyclohexane	ND		450	100	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Bromodichloromethane	ND		450	90	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Dichlorodifluoromethane	ND		450	200	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Ethylbenzene	ND		450	130	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
1,2-Dibromoethane	ND		450	79	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Isopropylbenzene	ND		450	68	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Methyl acetate	ND		2300	210	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Methyl tert-butyl ether	ND		450	170	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Methylcyclohexane	ND		450	210	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Methylene Chloride	**330**	**J B**	450	89	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
m,p-Xylene	ND		900	250	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
n-Butylbenzene	ND		450	130	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
N-Propylbenzene	ND		450	120	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
o-Xylene	ND		450	59	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
sec-Butylbenzene	ND		450	170	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Tetrachloroethene	**44000**		450	61	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Toluene	ND		450	120	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
trans-1,2-Dichloroethene	ND		450	110	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-3 ~~(6-8)~~
Date Collected: 01/22/18 09:30
Date Received: 01/23/18 15:15

Note: Actual Sample was taken from 4'-4.5'

Lab Sample ID: 480-130449-2
Matrix: Solid
Percent Solids: 92.2

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		450	44	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Trichloroethene	**1500**		450	130	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Trichlorofluoromethane	ND		450	210	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Vinyl chloride	ND		450	150	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Xylenes, Total	ND		900	250	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
cis-1,3-Dichloropropene	ND		450	110	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
Styrene	ND		450	110	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4
tert-Butylbenzene	ND		450	130	ug/Kg	☼	01/24/18 15:46	01/26/18 00:34	4

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*53 - 146*	*01/24/18 15:46*	*01/26/18 00:34*	*4*
4-Bromofluorobenzene (Surr)	*103*		*49 - 148*	*01/24/18 15:46*	*01/26/18 00:34*	*4*
Toluene-d8 (Surr)	*101*		*50 - 149*	*01/24/18 15:46*	*01/26/18 00:34*	*4*
Dibromofluoromethane (Surr)	*98*		*60 - 140*	*01/24/18 15:46*	*01/26/18 00:34*	*4*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-4 (2-4)
Date Collected: 01/22/18 10:00
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-3
Matrix: Solid
Percent Solids: 90.6

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		190	27	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Acenaphthylene	ND		190	24	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Anthracene	ND		190	46	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Benzo[a]anthracene	ND		190	19	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Benzo[a]pyrene	ND		190	27	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Benzo[b]fluoranthene	ND		190	30	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Benzo[g,h,i]perylene	ND		190	20	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Benzo[k]fluoranthene	ND		190	24	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Chrysene	ND		190	42	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Dibenz(a,h)anthracene	ND		190	33	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Fluoranthene	ND		190	20	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Fluorene	ND		190	22	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Indeno[1,2,3-cd]pyrene	ND		190	23	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Naphthalene	ND		190	24	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Pyrene	ND		190	22	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1
Phenanthrene	ND		190	27	ug/Kg	☼	01/24/18 16:05	01/26/18 00:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*89*		*54 - 120*	*01/24/18 16:05*	*01/26/18 00:10*	*1*
2-Fluorobiphenyl	*83*		*60 - 120*	*01/24/18 16:05*	*01/26/18 00:10*	*1*
2-Fluorophenol (Surr)	*75*		*52 - 120*	*01/24/18 16:05*	*01/26/18 00:10*	*1*
Phenol-d5 (Surr)	*74*		*54 - 120*	*01/24/18 16:05*	*01/26/18 00:10*	*1*
p-Terphenyl-d14 (Surr)	*93*		*65 - 121*	*01/24/18 16:05*	*01/26/18 00:10*	*1*
Nitrobenzene-d5 (Surr)	*75*		*53 - 120*	*01/24/18 16:05*	*01/26/18 00:10*	*1*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-7 (4-6)
Date Collected: 01/22/18 11:15
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-4
Matrix: Solid
Percent Solids: 84.9

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		2500	690	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,1,2,2-Tetrachloroethane	ND		2500	400	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		2500	1200	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,1,2-Trichloroethane	ND		2500	520	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,1-Dichloroethane	ND		2500	770	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,1-Dichloroethene	ND		2500	860	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,2,4-Trichlorobenzene	ND		2500	940	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,2,4-Trimethylbenzene	ND		2500	690	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,2-Dibromo-3-Chloropropane	ND	*	2500	1200	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,2-Dichlorobenzene	ND		2500	630	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,2-Dichloroethane	ND		2500	1000	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,2-Dichloropropane	ND		2500	400	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,3,5-Trimethylbenzene	ND		2500	750	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,3-Dichlorobenzene	ND		2500	660	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,4-Dichlorobenzene	ND		2500	350	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
2-Butanone (MEK)	ND		12000	7400	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
2-Hexanone	ND		12000	5100	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
4-Isopropyltoluene	ND		2500	840	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
4-Methyl-2-pentanone (MIBK)	ND		12000	790	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Acetone	ND		12000	10000	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Benzene	ND		2500	470	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Bromoform	ND		2500	1200	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Bromomethane	ND		2500	550	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Carbon disulfide	ND		2500	1100	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Carbon tetrachloride	ND		2500	630	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Chlorobenzene	ND		2500	330	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Dibromochloromethane	ND		2500	1200	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Chloroethane	ND		2500	520	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Chloroform	ND		2500	1700	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Chloromethane	ND		2500	590	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
cis-1,2-Dichloroethene	ND		2500	680	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Cyclohexane	ND		2500	550	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Bromodichloromethane	ND		2500	500	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Dichlorodifluoromethane	ND		2500	1100	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Ethylbenzene	ND		2500	720	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
1,2-Dibromoethane	ND		2500	430	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Isopropylbenzene	ND		2500	370	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Methyl acetate	ND		12000	1200	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Methyl tert-butyl ether	ND		2500	940	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Methylcyclohexane	ND		2500	1200	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Methylene Chloride	**2000**	**J B**	2500	490	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
m,p-Xylene	ND		5000	1400	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
n-Butylbenzene	ND		2500	720	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
N-Propylbenzene	ND		2500	650	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
o-Xylene	ND		2500	320	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
sec-Butylbenzene	ND		2500	910	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Tetrachloroethene	**120000**		2500	330	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Toluene	ND		2500	660	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
trans-1,2-Dichloroethene	ND		2500	590	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20

Client Sample ID: SB-7 (4-6)
Date Collected: 01/22/18 11:15
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-4
Matrix: Solid
Percent Solids: 84.9

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		2500	240	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Trichloroethene	ND		2500	690	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Trichlorofluoromethane	ND		2500	1200	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Vinyl chloride	ND		2500	830	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Xylenes, Total	ND		5000	1400	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
cis-1,3-Dichloropropene	ND		2500	590	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
Styrene	ND		2500	600	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20
tert-Butylbenzene	ND		2500	690	ug/Kg	☼	01/24/18 15:46	01/26/18 00:57	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*53 - 146*	*01/24/18 15:46*	*01/26/18 00:57*	*20*
4-Bromofluorobenzene (Surr)	*102*		*49 - 148*	*01/24/18 15:46*	*01/26/18 00:57*	*20*
Toluene-d8 (Surr)	*101*		*50 - 149*	*01/24/18 15:46*	*01/26/18 00:57*	*20*
Dibromofluoromethane (Surr)	*98*		*60 - 140*	*01/24/18 15:46*	*01/26/18 00:57*	*20*

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			01/25/18 13:21	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			01/25/18 13:21	10
Benzene	ND		0.010	0.0041	mg/L			01/25/18 13:21	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			01/25/18 13:21	10
Chlorobenzene	ND		0.010	0.0075	mg/L			01/25/18 13:21	10
Chloroform	ND		0.010	0.0034	mg/L			01/25/18 13:21	10
Trichloroethene	**0.0081**	**J**	0.010	0.0046	mg/L			01/25/18 13:21	10
Vinyl chloride	ND		0.010	0.0090	mg/L			01/25/18 13:21	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			01/25/18 13:21	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*01/25/18 13:21*	*10*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*01/25/18 13:21*	*10*
Toluene-d8 (Surr)	*104*		*80 - 120*		*01/25/18 13:21*	*10*
Dibromofluoromethane (Surr)	*104*		*75 - 123*		*01/25/18 13:21*	*10*

Method: 8260C - Volatile Organic Compounds by GC/MS - TCLP - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**2.6**	**B**	0.050	0.018	mg/L			01/26/18 13:34	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*01/26/18 13:34*	*50*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*01/26/18 13:34*	*50*
Toluene-d8 (Surr)	*103*		*80 - 120*		*01/26/18 13:34*	*50*
Dibromofluoromethane (Surr)	*99*		*75 - 123*		*01/26/18 13:34*	*50*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-7 (6-8)
Date Collected: 01/22/18 11:15
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-5
Matrix: Solid
Percent Solids: 92.5

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		220	61	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,1,2,2-Tetrachloroethane	ND		220	36	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		220	110	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,1,2-Trichloroethane	ND		220	46	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,1-Dichloroethane	ND		220	68	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,1-Dichloroethene	ND		220	77	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,2,4-Trichlorobenzene	ND		220	84	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,2,4-Trimethylbenzene	ND		220	62	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,2-Dibromo-3-Chloropropane	ND	*	220	110	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,2-Dichlorobenzene	ND		220	56	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,2-Dichloroethane	ND		220	91	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,2-Dichloropropane	ND		220	36	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,3,5-Trimethylbenzene	ND		220	67	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,3-Dichlorobenzene	ND		220	59	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,4-Dichlorobenzene	ND		220	31	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
2-Butanone (MEK)	ND		1100	660	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
2-Hexanone	ND		1100	450	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
4-Isopropyltoluene	ND		220	75	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
4-Methyl-2-pentanone (MIBK)	ND		1100	71	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Acetone	ND		1100	910	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Benzene	ND		220	42	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Bromoform	ND		220	110	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Bromomethane	ND		220	49	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Carbon disulfide	ND		220	100	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Carbon tetrachloride	ND		220	56	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Chlorobenzene	ND		220	29	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Dibromochloromethane	ND		220	110	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Chloroethane	ND		220	46	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Chloroform	ND		220	150	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Chloromethane	ND		220	53	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
cis-1,2-Dichloroethene	**280**		220	61	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Cyclohexane	ND		220	49	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Bromodichloromethane	ND		220	44	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Dichlorodifluoromethane	ND		220	97	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Ethylbenzene	ND		220	64	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
1,2-Dibromoethane	ND		220	39	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Isopropylbenzene	ND		220	33	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Methyl acetate	ND		1100	110	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Methyl tert-butyl ether	ND		220	84	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Methylcyclohexane	ND		220	100	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Methylene Chloride	**190**	**J B**	220	44	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
m,p-Xylene	ND		440	120	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
n-Butylbenzene	ND		220	65	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
N-Propylbenzene	ND		220	58	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
o-Xylene	ND		220	29	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
sec-Butylbenzene	ND		220	81	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Tetrachloroethene	**19000**		220	30	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Toluene	ND		220	59	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
trans-1,2-Dichloroethene	ND		220	52	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-7 (6-8)
Date Collected: 01/22/18 11:15
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-5
Matrix: Solid
Percent Solids: 92.5

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		220	22	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Trichloroethene	**940**		220	62	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Trichlorofluoromethane	ND		220	100	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Vinyl chloride	ND		220	74	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Xylenes, Total	ND		440	120	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
cis-1,3-Dichloropropene	ND		220	53	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
Styrene	ND		220	53	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2
tert-Butylbenzene	ND		220	62	ug/Kg	☼	01/24/18 15:46	01/26/18 01:20	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*53 - 146*	*01/24/18 15:46*	*01/26/18 01:20*	*2*
4-Bromofluorobenzene (Surr)	*106*		*49 - 148*	*01/24/18 15:46*	*01/26/18 01:20*	*2*
Toluene-d8 (Surr)	*104*		*50 - 149*	*01/24/18 15:46*	*01/26/18 01:20*	*2*
Dibromofluoromethane (Surr)	*97*		*60 - 140*	*01/24/18 15:46*	*01/26/18 01:20*	*2*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-8 (4-6)
Date Collected: 01/22/18 11:30
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-6
Matrix: Solid
Percent Solids: 83.8

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		130	36	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,1,2,2-Tetrachloroethane	ND		130	21	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		130	64	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,1,2-Trichloroethane	ND		130	27	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,1-Dichloroethane	ND		130	40	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,1-Dichloroethene	ND		130	44	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,2,4-Trichlorobenzene	ND		130	49	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,2,4-Trimethylbenzene	ND		130	36	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,2-Dibromo-3-Chloropropane	ND	*	130	64	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,2-Dichlorobenzene	ND		130	33	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,2-Dichloroethane	ND		130	53	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,2-Dichloropropane	ND		130	21	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,3,5-Trimethylbenzene	ND		130	39	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,3-Dichlorobenzene	ND		130	34	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,4-Dichlorobenzene	ND		130	18	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
2-Butanone (MEK)	ND		640	380	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
2-Hexanone	ND		640	260	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
4-Isopropyltoluene	ND		130	43	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
4-Methyl-2-pentanone (MIBK)	ND		640	41	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Acetone	ND		640	530	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Benzene	ND		130	24	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Bromoform	ND		130	64	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Bromomethane	ND		130	28	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Carbon disulfide	ND		130	59	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Carbon tetrachloride	ND		130	33	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Chlorobenzene	ND		130	17	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Dibromochloromethane	ND		130	62	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Chloroethane	ND		130	27	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Chloroform	ND		130	88	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Chloromethane	ND		130	31	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
cis-1,2-Dichloroethene	**260**		130	35	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Cyclohexane	ND		130	29	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Bromodichloromethane	ND		130	26	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Dichlorodifluoromethane	ND		130	56	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Ethylbenzene	ND		130	37	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
1,2-Dibromoethane	ND		130	23	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Isopropylbenzene	ND		130	19	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Methyl acetate	ND		640	61	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Methyl tert-butyl ether	ND		130	49	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Methylcyclohexane	ND		130	60	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Methylene Chloride	**110**	**J B**	130	25	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
m,p-Xylene	ND		260	71	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
n-Butylbenzene	ND		130	38	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
N-Propylbenzene	ND		130	34	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
o-Xylene	ND		130	17	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
sec-Butylbenzene	ND		130	47	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Tetrachloroethene	**1100**		130	17	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Toluene	ND		130	34	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
trans-1,2-Dichloroethene	ND		130	30	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-8 (4-6)
Date Collected: 01/22/18 11:30
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-6
Matrix: Solid
Percent Solids: 83.8

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		130	13	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Trichloroethene	**610**		130	36	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Trichlorofluoromethane	ND		130	60	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Vinyl chloride	ND		130	43	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Xylenes, Total	ND		260	71	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
cis-1,3-Dichloropropene	ND		130	31	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
Styrene	ND		130	31	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1
tert-Butylbenzene	ND		130	36	ug/Kg	☼	01/24/18 15:46	01/26/18 01:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*53 - 146*	*01/24/18 15:46*	*01/26/18 01:43*	*1*
4-Bromofluorobenzene (Surr)	*107*		*49 - 148*	*01/24/18 15:46*	*01/26/18 01:43*	*1*
Toluene-d8 (Surr)	*105*		*50 - 149*	*01/24/18 15:46*	*01/26/18 01:43*	*1*
Dibromofluoromethane (Surr)	*94*		*60 - 140*	*01/24/18 15:46*	*01/26/18 01:43*	*1*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-11 (2-4)
Date Collected: 01/22/18 13:15
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-7
Matrix: Solid
Percent Solids: 88.7

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		240	66	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,1,2,2-Tetrachloroethane	ND		240	38	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		240	120	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,1,2-Trichloroethane	ND		240	50	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,1-Dichloroethane	ND		240	73	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,1-Dichloroethene	ND		240	82	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,2,4-Trichlorobenzene	ND		240	90	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,2,4-Trimethylbenzene	ND		240	66	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,2-Dibromo-3-Chloropropane	ND	*	240	120	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,2-Dichlorobenzene	ND		240	60	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,2-Dichloroethane	ND		240	97	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,2-Dichloropropane	ND		240	38	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,3,5-Trimethylbenzene	ND		240	72	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,3-Dichlorobenzene	ND		240	63	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,4-Dichlorobenzene	ND		240	33	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
2-Butanone (MEK)	ND		1200	700	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
2-Hexanone	ND		1200	490	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
4-Isopropyltoluene	ND		240	80	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
4-Methyl-2-pentanone (MIBK)	ND		1200	76	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Acetone	ND		1200	970	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Benzene	ND		240	45	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Bromoform	ND		240	120	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Bromomethane	ND		240	52	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Carbon disulfide	ND		240	110	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Carbon tetrachloride	ND		240	60	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Chlorobenzene	ND		240	31	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Dibromochloromethane	ND		240	110	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Chloroethane	ND		240	49	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Chloroform	ND		240	160	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Chloromethane	ND		240	56	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
cis-1,2-Dichloroethene	ND		240	65	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Cyclohexane	ND		240	53	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Bromodichloromethane	ND		240	47	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Dichlorodifluoromethane	ND		240	100	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Ethylbenzene	ND		240	69	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
1,2-Dibromoethane	ND		240	41	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Isopropylbenzene	ND		240	36	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Methyl acetate	ND		1200	110	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Methyl tert-butyl ether	ND		240	90	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Methylcyclohexane	ND		240	110	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Methylene Chloride	**200**	**J B**	240	47	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
m,p-Xylene	ND		470	130	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
n-Butylbenzene	ND		240	69	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
N-Propylbenzene	ND		240	62	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
o-Xylene	ND		240	31	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
sec-Butylbenzene	ND		240	87	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Tetrachloroethene	**13000**		240	32	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Toluene	ND		240	64	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
trans-1,2-Dichloroethene	ND		240	56	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-11 (2-4)
Date Collected: 01/22/18 13:15
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-7
Matrix: Solid
Percent Solids: 88.7

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		240	23	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Trichloroethene	**180**	**J**	240	66	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Trichlorofluoromethane	ND		240	110	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Vinyl chloride	ND		240	79	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Xylenes, Total	ND		470	130	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
cis-1,3-Dichloropropene	ND		240	57	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
Styrene	ND		240	57	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2
tert-Butylbenzene	ND		240	66	ug/Kg	☼	01/24/18 15:46	01/26/18 02:07	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*53 - 146*	*01/24/18 15:46*	*01/26/18 02:07*	*2*
4-Bromofluorobenzene (Surr)	*105*		*49 - 148*	*01/24/18 15:46*	*01/26/18 02:07*	*2*
Toluene-d8 (Surr)	*101*		*50 - 149*	*01/24/18 15:46*	*01/26/18 02:07*	*2*
Dibromofluoromethane (Surr)	*93*		*60 - 140*	*01/24/18 15:46*	*01/26/18 02:07*	*2*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: TWW-1
Date Collected: 01/22/18 16:00
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			01/25/18 11:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			01/25/18 11:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			01/25/18 11:40	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			01/25/18 11:40	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			01/25/18 11:40	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			01/25/18 11:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			01/25/18 11:40	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			01/25/18 11:40	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			01/25/18 11:40	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			01/25/18 11:40	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			01/25/18 11:40	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			01/25/18 11:40	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			01/25/18 11:40	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			01/25/18 11:40	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			01/25/18 11:40	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			01/25/18 11:40	1
2-Butanone (MEK)	ND	*	10	1.3	ug/L			01/25/18 11:40	1
2-Hexanone	ND		5.0	1.2	ug/L			01/25/18 11:40	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			01/25/18 11:40	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			01/25/18 11:40	1
Acetone	**5.0**	**J**	10	3.0	ug/L			01/25/18 11:40	1
Benzene	ND		1.0	0.41	ug/L			01/25/18 11:40	1
Bromodichloromethane	ND		1.0	0.39	ug/L			01/25/18 11:40	1
Bromoform	ND		1.0	0.26	ug/L			01/25/18 11:40	1
Bromomethane	ND		1.0	0.69	ug/L			01/25/18 11:40	1
Carbon disulfide	**0.46**	**J**	1.0	0.19	ug/L			01/25/18 11:40	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			01/25/18 11:40	1
Chlorobenzene	ND		1.0	0.75	ug/L			01/25/18 11:40	1
Chloroethane	ND		1.0	0.32	ug/L			01/25/18 11:40	1
Chloroform	ND		1.0	0.34	ug/L			01/25/18 11:40	1
Chloromethane	ND		1.0	0.35	ug/L			01/25/18 11:40	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			01/25/18 11:40	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			01/25/18 11:40	1
Cyclohexane	**0.18**	**J**	1.0	0.18	ug/L			01/25/18 11:40	1
Dibromochloromethane	ND		1.0	0.32	ug/L			01/25/18 11:40	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			01/25/18 11:40	1
Ethylbenzene	ND		1.0	0.74	ug/L			01/25/18 11:40	1
Isopropylbenzene	ND		1.0	0.79	ug/L			01/25/18 11:40	1
m,p-Xylene	ND		2.0	0.66	ug/L			01/25/18 11:40	1
Methyl acetate	ND		2.5	1.3	ug/L			01/25/18 11:40	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			01/25/18 11:40	1
Methylcyclohexane	ND		1.0	0.16	ug/L			01/25/18 11:40	1
Methylene Chloride	ND		1.0	0.44	ug/L			01/25/18 11:40	1
n-Butylbenzene	ND		1.0	0.64	ug/L			01/25/18 11:40	1
N-Propylbenzene	ND		1.0	0.69	ug/L			01/25/18 11:40	1
o-Xylene	ND		1.0	0.76	ug/L			01/25/18 11:40	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			01/25/18 11:40	1
Styrene	ND		1.0	0.73	ug/L			01/25/18 11:40	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			01/25/18 11:40	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: TWW-1
Date Collected: 01/22/18 16:00
Date Received: 01/23/18 15:15

Lab Sample ID: 480-130449-8
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	0.36	ug/L			01/25/18 11:40	1
Toluene	ND		1.0	0.51	ug/L			01/25/18 11:40	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			01/25/18 11:40	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			01/25/18 11:40	1
Trichloroethene	ND		1.0	0.46	ug/L			01/25/18 11:40	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			01/25/18 11:40	1
Vinyl chloride	ND		1.0	0.90	ug/L			01/25/18 11:40	1
Xylenes, Total	ND		2.0	0.66	ug/L			01/25/18 11:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*77 - 120*		*01/25/18 11:40*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*01/25/18 11:40*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*01/25/18 11:40*	*1*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(53-146)	(49-148)	(50-149)	(60-140)
480-130449-1	SB-1 (10-12)	92	105	102	95
480-130449-2	SB-3 (6-8)	98	103	101	98
480-130449-4	SB-7 (4-6)	96	102	101	98
480-130449-5	SB-7 (6-8)	101	106	104	97
480-130449-6	SB-8 (4-6)	95	107	105	94
480-130449-7	SB-11 (2-4)	97	105	101	93
LCS 480-397178/1-A	Lab Control Sample	96	107	103	105

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(80-120)	(75-123)
LCS 480-397236/6	Lab Control Sample	96	111	103	107
LCS 480-397428/5	Lab Control Sample	100	109	103	104
MB 480-397178/2-A	Method Blank	96	106	102	96
MB 480-397236/8	Method Blank	94	105	102	102
MB 480-397428/8	Method Blank	96	107	104	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Solid **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	TOL	DBFM
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(80-120)	(75-123)
480-130449-4	SB-7 (4-6)	100	104	104	104
480-130449-4 - DL	SB-7 (4-6)	98	106	103	99
LB 480-397113/1-A	Method Blank	103	103	104	108

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Surrogate Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)								
		DCA	BFB	TOL						
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(80-120)						
480-130449-8	TWW-1	99	101	97						
LCS 480-397230/5	Lab Control Sample	95	100	95						
MB 480-397230/8	Method Blank	100	102	97						

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
		TBP	FBP	2FP	PHL	TPHd14	NBZ		
Lab Sample ID	Client Sample ID	(54-120)	(60-120)	(52-120)	(54-120)	(65-121)	(53-120)		
480-130449-3	SB-4 (2-4)	89	83	75	74	93	75		
480-130449-3 MS	SB-4 (2-4)	97	89	75	77	93	82		
480-130449-3 MSD	SB-4 (2-4)	90	83	77	77	95	80		
LCS 480-397187/2-A	Lab Control Sample	93	85	75	74	100	78		
MB 480-397187/1-A	Method Blank	77	88	78	77	106	77		

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
PHL = Phenol-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
NBZ = Nitrobenzene-d5 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-397178/2-A
Matrix: Solid
Analysis Batch: 397378

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 397178

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		100	82	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
1,1,2,2-Tetrachloroethane	ND		100	21	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		100	31	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
1,1,2-Trichloroethane	ND		100	23	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
1,1-Dichloroethane	ND		100	38	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
1,2,4-Trichlorobenzene	ND		100	41	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
1,2,4-Trimethylbenzene	ND		100	75	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
1,2-Dibromo-3-Chloropropane	ND		100	39	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
1,2-Dichlorobenzene	ND		100	79	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
1,2-Dichloroethane	ND		0.10	0.021	mg/L		01/24/18 15:04	01/25/18 21:29	1
1,1-Dichloroethene	ND		0.10	0.029	mg/L		01/24/18 15:04	01/25/18 21:29	1
1,2-Dichloropropane	ND		100	72	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
1,3,5-Trimethylbenzene	ND		100	77	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
1,3-Dichlorobenzene	ND		100	78	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
1,4-Dichlorobenzene	ND		100	84	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
2-Butanone (MEK)	ND		0.50	0.13	mg/L		01/24/18 15:04	01/25/18 21:29	1
2-Hexanone	ND		500	120	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
4-Isopropyltoluene	ND		100	31	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
4-Methyl-2-pentanone (MIBK)	ND		500	210	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Acetone	ND		500	300	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Benzene	ND		0.10	0.041	mg/L		01/24/18 15:04	01/25/18 21:29	1
Bromoform	ND		100	26	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Bromomethane	ND		100	69	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Carbon disulfide	ND		100	19	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Carbon tetrachloride	ND		0.10	0.027	mg/L		01/24/18 15:04	01/25/18 21:29	1
Chlorobenzene	ND		0.10	0.075	mg/L		01/24/18 15:04	01/25/18 21:29	1
Chloroethane	ND		100	32	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Chloroform	ND		0.10	0.034	mg/L		01/24/18 15:04	01/25/18 21:29	1
Chloromethane	ND		100	34	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
cis-1,2-Dichloroethene	ND		100	81	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Bromodichloromethane	ND		100	38	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Cyclohexane	ND		100	18	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Dibromochloromethane	ND		100	32	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
1,2-Dibromoethane	ND		100	73	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Dichlorodifluoromethane	ND		100	68	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Ethylbenzene	ND		100	74	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Isopropylbenzene	ND		100	79	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Methyl acetate	ND		100	50	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Methyl tert-butyl ether	ND		100	16	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
m,p-Xylene	ND		200	66	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Methylcyclohexane	ND		100	16	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Methylene Chloride	72.4	J	100	44	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
n-Butylbenzene	ND		100	64	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
N-Propylbenzene	ND		100	69	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
o-Xylene	ND		100	76	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
sec-Butylbenzene	ND		100	75	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Tetrachloroethene	ND		0.10	0.036	mg/L		01/24/18 15:04	01/25/18 21:29	1
Toluene	ND		100	51	ug/Kg		01/24/18 15:04	01/25/18 21:29	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-397178/2-A
Matrix: Solid
Analysis Batch: 397378

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 397178

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		100	90	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
trans-1,3-Dichloropropene	ND		100	37	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Trichloroethene	ND		0.10	0.046	mg/L		01/24/18 15:04	01/25/18 21:29	1
Trichlorofluoromethane	ND		100	88	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
cis-1,3-Dichloropropene	ND		100	36	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Vinyl chloride	ND		0.10	0.090	mg/L		01/24/18 15:04	01/25/18 21:29	1
Styrene	ND		100	73	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
Xylenes, Total	ND		200	66	ug/Kg		01/24/18 15:04	01/25/18 21:29	1
tert-Butylbenzene	ND		100	81	ug/Kg		01/24/18 15:04	01/25/18 21:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*	*01/24/18 15:04*	*01/25/18 21:29*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*	*01/24/18 15:04*	*01/25/18 21:29*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*	*01/24/18 15:04*	*01/25/18 21:29*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 123*	*01/24/18 15:04*	*01/25/18 21:29*	*1*

Lab Sample ID: LCS 480-397178/1-A
Matrix: Solid
Analysis Batch: 397378

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 397178

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	2500	2380		ug/Kg		95	68 - 130
1,1,2,2-Tetrachloroethane	2500	2000		ug/Kg		80	73 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	2500	2800		ug/Kg		112	10 - 179
1,1,2-Trichloroethane	2500	2460		ug/Kg		98	80 - 120
1,1-Dichloroethane	2500	2630		ug/Kg		105	78 - 121
1,2,4-Trichlorobenzene	2500	2470		ug/Kg		99	70 - 140
1,2,4-Trimethylbenzene	2500	2290		ug/Kg		92	77 - 127
1,2-Dibromo-3-Chloropropane	2500	1360	*	ug/Kg		54	56 - 122
1,2-Dichlorobenzene	2500	2480		ug/Kg		99	78 - 125
1,2-Dichloroethane	2500	2460		ug/Kg		98	74 - 127
1,1-Dichloroethene	2500	2710		ug/Kg		108	48 - 133
1,2-Dichloropropane	2500	2650		ug/Kg		106	80 - 120
1,3,5-Trimethylbenzene	2500	2310		ug/Kg		92	79 - 120
1,3-Dichlorobenzene	2500	2450		ug/Kg		98	80 - 120
1,4-Dichlorobenzene	2500	2440		ug/Kg		98	80 - 120
2-Butanone (MEK)	12500	11400		ug/Kg		91	54 - 149
2-Hexanone	12500	10300		ug/Kg		82	59 - 127
4-Isopropyltoluene	2500	2400		ug/Kg		96	80 - 120
4-Methyl-2-pentanone (MIBK)	12500	10600		ug/Kg		85	74 - 120
Acetone	12500	10500		ug/Kg		84	47 - 141
Benzene	2500	2700		ug/Kg		108	77 - 125
Bromoform	2500	1830		ug/Kg		73	48 - 125
Bromomethane	2500	2540		ug/Kg		102	39 - 149
Carbon disulfide	2500	2330		ug/Kg		93	40 - 136
Carbon tetrachloride	2500	2180		ug/Kg		87	54 - 135
Chlorobenzene	2500	2660		ug/Kg		106	76 - 126

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-397178/1-A
Matrix: Solid
Analysis Batch: 397378

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 397178

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	2500	3020		ug/Kg		121	23 - 150
Chloroform	2500	2630		ug/Kg		105	78 - 120
Chloromethane	2500	2290		ug/Kg		92	61 - 124
cis-1,2-Dichloroethene	2500	2710		ug/Kg		108	79 - 124
Bromodichloromethane	2500	2310		ug/Kg		93	71 - 121
Cyclohexane	2500	2540		ug/Kg		102	49 - 129
Dibromochloromethane	2500	2030		ug/Kg		81	64 - 120
1,2-Dibromoethane	2500	2420		ug/Kg		97	80 - 120
Dichlorodifluoromethane	2500	2300		ug/Kg		92	10 - 150
Ethylbenzene	2500	2550		ug/Kg		102	78 - 124
Isopropylbenzene	2500	2330		ug/Kg		93	76 - 120
Methyl acetate	5000	4310		ug/Kg		86	71 - 123
Methyl tert-butyl ether	2500	2460		ug/Kg		98	67 - 137
m,p-Xylene	2500	2570		ug/Kg		103	77 - 125
Methylcyclohexane	2500	2760		ug/Kg		111	50 - 130
Methylene Chloride	2500	2520		ug/Kg		101	75 - 118
Naphthalene	2500	2220		ug/Kg		89	65 - 142
n-Butylbenzene	2500	2340		ug/Kg		93	80 - 120
N-Propylbenzene	2500	2300		ug/Kg		92	76 - 120
o-Xylene	2500	2680		ug/Kg		107	80 - 124
sec-Butylbenzene	2500	2370		ug/Kg		95	79 - 120
Tetrachloroethene	2500	2830		ug/Kg		113	73 - 133
Toluene	2500	2540		ug/Kg		102	75 - 124
trans-1,2-Dichloroethene	2500	2740		ug/Kg		109	74 - 129
trans-1,3-Dichloropropene	2500	2210		ug/Kg		88	73 - 120
Trichloroethene	2500	2710		ug/Kg		108	75 - 131
Trichlorofluoromethane	2500	2960		ug/Kg		118	29 - 158
cis-1,3-Dichloropropene	2500	2500		ug/Kg		100	75 - 121
Vinyl chloride	2500	2400		ug/Kg		96	59 - 124
Styrene	2500	2560		ug/Kg		102	80 - 120
tert-Butylbenzene	2500	2410		ug/Kg		96	78 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*53 - 146*
4-Bromofluorobenzene (Surr)	*107*		*49 - 148*
Toluene-d8 (Surr)	*103*		*50 - 149*
Dibromofluoromethane (Surr)	*105*		*60 - 140*

Lab Sample ID: MB 480-397230/8
Matrix: Water
Analysis Batch: 397230

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			01/25/18 10:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			01/25/18 10:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			01/25/18 10:43	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			01/25/18 10:43	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			01/25/18 10:43	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-397230/8
Matrix: Water
Analysis Batch: 397230

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			01/25/18 10:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			01/25/18 10:43	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			01/25/18 10:43	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			01/25/18 10:43	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			01/25/18 10:43	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			01/25/18 10:43	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			01/25/18 10:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			01/25/18 10:43	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			01/25/18 10:43	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			01/25/18 10:43	1
2-Butanone (MEK)	ND		10	1.3	ug/L			01/25/18 10:43	1
2-Hexanone	ND		5.0	1.2	ug/L			01/25/18 10:43	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			01/25/18 10:43	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			01/25/18 10:43	1
Acetone	ND		10	3.0	ug/L			01/25/18 10:43	1
Benzene	ND		1.0	0.41	ug/L			01/25/18 10:43	1
Bromoform	ND		1.0	0.26	ug/L			01/25/18 10:43	1
Bromomethane	ND		1.0	0.69	ug/L			01/25/18 10:43	1
Carbon disulfide	ND		1.0	0.19	ug/L			01/25/18 10:43	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			01/25/18 10:43	1
Chlorobenzene	ND		1.0	0.75	ug/L			01/25/18 10:43	1
Chloroethane	ND		1.0	0.32	ug/L			01/25/18 10:43	1
Chloroform	ND		1.0	0.34	ug/L			01/25/18 10:43	1
Chloromethane	ND		1.0	0.35	ug/L			01/25/18 10:43	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			01/25/18 10:43	1
Bromodichloromethane	ND		1.0	0.39	ug/L			01/25/18 10:43	1
Cyclohexane	ND		1.0	0.18	ug/L			01/25/18 10:43	1
Dibromochloromethane	ND		1.0	0.32	ug/L			01/25/18 10:43	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			01/25/18 10:43	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			01/25/18 10:43	1
Ethylbenzene	ND		1.0	0.74	ug/L			01/25/18 10:43	1
Isopropylbenzene	ND		1.0	0.79	ug/L			01/25/18 10:43	1
Methyl acetate	ND		2.5	1.3	ug/L			01/25/18 10:43	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			01/25/18 10:43	1
m,p-Xylene	ND		2.0	0.66	ug/L			01/25/18 10:43	1
Methylcyclohexane	ND		1.0	0.16	ug/L			01/25/18 10:43	1
Methylene Chloride	ND		1.0	0.44	ug/L			01/25/18 10:43	1
n-Butylbenzene	ND		1.0	0.64	ug/L			01/25/18 10:43	1
N-Propylbenzene	ND		1.0	0.69	ug/L			01/25/18 10:43	1
o-Xylene	ND		1.0	0.76	ug/L			01/25/18 10:43	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			01/25/18 10:43	1
Tetrachloroethene	ND		1.0	0.36	ug/L			01/25/18 10:43	1
Toluene	ND		1.0	0.51	ug/L			01/25/18 10:43	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			01/25/18 10:43	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			01/25/18 10:43	1
Trichloroethene	ND		1.0	0.46	ug/L			01/25/18 10:43	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			01/25/18 10:43	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			01/25/18 10:43	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-397230/8
Matrix: Water
Analysis Batch: 397230

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		1.0	0.90	ug/L			01/25/18 10:43	1
Styrene	ND		1.0	0.73	ug/L			01/25/18 10:43	1
Xylenes, Total	ND		2.0	0.66	ug/L			01/25/18 10:43	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			01/25/18 10:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*01/25/18 10:43*	*1*
4-Bromofluorobenzene (Surr)	*102*		*73 - 120*		*01/25/18 10:43*	*1*
Toluene-d8 (Surr)	*97*		*80 - 120*		*01/25/18 10:43*	*1*

Lab Sample ID: LCS 480-397230/5
Matrix: Water
Analysis Batch: 397230

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	26.1		ug/L		104	73 - 126
1,1,2,2-Tetrachloroethane	25.0	22.8		ug/L		91	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	28.2		ug/L		113	61 - 148
1,1,2-Trichloroethane	25.0	23.1		ug/L		92	76 - 122
1,1-Dichloroethane	25.0	25.9		ug/L		103	77 - 120
1,2,4-Trichlorobenzene	25.0	25.5		ug/L		102	79 - 122
1,2,4-Trimethylbenzene	25.0	24.1		ug/L		96	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	22.5		ug/L		90	56 - 134
1,2-Dichlorobenzene	25.0	25.4		ug/L		102	80 - 124
1,2-Dichloroethane	25.0	24.1		ug/L		96	75 - 120
1,1-Dichloroethene	25.0	25.1		ug/L		100	66 - 127
1,2-Dichloropropane	25.0	23.8		ug/L		95	76 - 120
1,3,5-Trimethylbenzene	25.0	24.2		ug/L		97	77 - 121
1,3-Dichlorobenzene	25.0	25.4		ug/L		102	77 - 120
1,4-Dichlorobenzene	25.0	24.9		ug/L		100	80 - 120
2-Butanone (MEK)	125	233	*	ug/L		186	57 - 140
2-Hexanone	125	114		ug/L		91	65 - 127
4-Isopropyltoluene	25.0	25.4		ug/L		102	73 - 120
4-Methyl-2-pentanone (MIBK)	125	113		ug/L		90	71 - 125
Acetone	125	145		ug/L		116	56 - 142
Benzene	25.0	25.4		ug/L		102	71 - 124
Bromoform	25.0	23.3		ug/L		93	61 - 132
Bromomethane	25.0	22.1		ug/L		89	55 - 144
Carbon disulfide	25.0	25.1		ug/L		100	59 - 134
Carbon tetrachloride	25.0	26.2		ug/L		105	72 - 134
Chlorobenzene	25.0	24.5		ug/L		98	80 - 120
Chloroethane	25.0	21.3		ug/L		85	69 - 136
Chloroform	25.0	23.5		ug/L		94	73 - 127
Chloromethane	25.0	21.4		ug/L		86	68 - 124
cis-1,2-Dichloroethene	25.0	24.2		ug/L		97	74 - 124
Bromodichloromethane	25.0	25.2		ug/L		101	80 - 122
Cyclohexane	25.0	25.6		ug/L		102	59 - 135

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-397230/5
Matrix: Water
Analysis Batch: 397230

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromochloromethane	25.0	23.9		ug/L		95	75 - 125
1,2-Dibromoethane	25.0	23.9		ug/L		96	77 - 120
Dichlorodifluoromethane	25.0	20.5		ug/L		82	59 - 135
Ethylbenzene	25.0	24.1		ug/L		96	77 - 123
Isopropylbenzene	25.0	24.6		ug/L		99	77 - 122
Methyl acetate	50.0	48.0		ug/L		96	74 - 133
Methyl tert-butyl ether	25.0	24.7		ug/L		99	77 - 120
m,p-Xylene	25.0	23.9		ug/L		96	76 - 122
Methylcyclohexane	25.0	25.8		ug/L		103	68 - 134
Methylene Chloride	25.0	25.4		ug/L		101	75 - 124
n-Butylbenzene	25.0	24.1		ug/L		97	71 - 128
N-Propylbenzene	25.0	24.4		ug/L		98	75 - 127
o-Xylene	25.0	24.5		ug/L		98	76 - 122
sec-Butylbenzene	25.0	24.8		ug/L		99	74 - 127
Tetrachloroethene	25.0	27.8		ug/L		111	74 - 122
Toluene	25.0	24.5		ug/L		98	80 - 122
trans-1,2-Dichloroethene	25.0	25.2		ug/L		101	73 - 127
trans-1,3-Dichloropropene	25.0	23.1		ug/L		93	80 - 120
Trichloroethene	25.0	25.1		ug/L		100	74 - 123
Trichlorofluoromethane	25.0	24.3		ug/L		97	62 - 150
cis-1,3-Dichloropropene	25.0	24.9		ug/L		100	74 - 124
Vinyl chloride	25.0	22.0		ug/L		88	65 - 133
Styrene	25.0	24.2		ug/L		97	80 - 120
tert-Butylbenzene	25.0	25.2		ug/L		101	75 - 123

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*
4-Bromofluorobenzene (Surr)	*100*		*73 - 120*
Toluene-d8 (Surr)	*95*		*80 - 120*

Lab Sample ID: MB 480-397236/8
Matrix: Solid
Analysis Batch: 397236

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.0010	0.00021	mg/L			01/25/18 11:30	1
1,1-Dichloroethene	ND		0.0010	0.00029	mg/L			01/25/18 11:30	1
2-Butanone (MEK)	ND		0.0050	0.0013	mg/L			01/25/18 11:30	1
Benzene	ND		0.0010	0.00041	mg/L			01/25/18 11:30	1
Carbon tetrachloride	ND		0.0010	0.00027	mg/L			01/25/18 11:30	1
Chlorobenzene	ND		0.0010	0.00075	mg/L			01/25/18 11:30	1
Chloroform	ND		0.0010	0.00034	mg/L			01/25/18 11:30	1
Tetrachloroethene	ND		0.0010	0.00036	mg/L			01/25/18 11:30	1
Trichloroethene	ND		0.0010	0.00046	mg/L			01/25/18 11:30	1
Vinyl chloride	ND		0.0010	0.00090	mg/L			01/25/18 11:30	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-397236/8
Matrix: Solid
Analysis Batch: 397236

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*		*01/25/18 11:30*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*01/25/18 11:30*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*01/25/18 11:30*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 123*		*01/25/18 11:30*	*1*

Lab Sample ID: LCS 480-397236/6
Matrix: Solid
Analysis Batch: 397236

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	0.0250	0.0256		mg/L		102	75 - 120
1,1-Dichloroethene	0.0250	0.0279		mg/L		111	66 - 127
2-Butanone (MEK)	0.125	0.130		mg/L		104	57 - 140
Benzene	0.0250	0.0274		mg/L		110	71 - 124
Carbon tetrachloride	0.0250	0.0225		mg/L		90	72 - 134
Chlorobenzene	0.0250	0.0278		mg/L		111	80 - 120
Chloroform	0.0250	0.0268		mg/L		107	73 - 127
Tetrachloroethene	0.0250	0.0296		mg/L		118	74 - 122
Trichloroethene	0.0250	0.0273		mg/L		109	74 - 123
Vinyl chloride	0.0250	0.0214		mg/L		86	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*
4-Bromofluorobenzene (Surr)	*111*		*73 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*107*		*75 - 123*

Lab Sample ID: MB 480-397428/8
Matrix: Solid
Analysis Batch: 397428

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.0010	0.00021	mg/L			01/26/18 12:32	1
1,1-Dichloroethene	ND		0.0010	0.00029	mg/L			01/26/18 12:32	1
2-Butanone (MEK)	ND		0.0050	0.0013	mg/L			01/26/18 12:32	1
Benzene	ND		0.0010	0.00041	mg/L			01/26/18 12:32	1
Carbon tetrachloride	ND		0.0010	0.00027	mg/L			01/26/18 12:32	1
Chlorobenzene	ND		0.0010	0.00075	mg/L			01/26/18 12:32	1
Chloroform	ND		0.0010	0.00034	mg/L			01/26/18 12:32	1
Tetrachloroethene	ND		0.0010	0.00036	mg/L			01/26/18 12:32	1
Trichloroethene	ND		0.0010	0.00046	mg/L			01/26/18 12:32	1
Vinyl chloride	ND		0.0010	0.00090	mg/L			01/26/18 12:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*		*01/26/18 12:32*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*01/26/18 12:32*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*01/26/18 12:32*	*1*

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-397428/8
Matrix: Solid
Analysis Batch: 397428

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	*97*		*75 - 123*		*01/26/18 12:32*	*1*

Lab Sample ID: LCS 480-397428/5
Matrix: Solid
Analysis Batch: 397428

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	0.0250	0.0252		mg/L		101	75 - 120
1,1-Dichloroethene	0.0250	0.0268		mg/L		107	66 - 127
2-Butanone (MEK)	0.125	0.131		mg/L		104	57 - 140
Benzene	0.0250	0.0271		mg/L		108	71 - 124
Carbon tetrachloride	0.0250	0.0229		mg/L		92	72 - 134
Chlorobenzene	0.0250	0.0272		mg/L		109	80 - 120
Chloroform	0.0250	0.0259		mg/L		104	73 - 127
Tetrachloroethene	0.0250	0.0290		mg/L		116	74 - 122
Trichloroethene	0.0250	0.0266		mg/L		106	74 - 123
Vinyl chloride	0.0250	0.0252		mg/L		101	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*
4-Bromofluorobenzene (Surr)	*109*		*73 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*104*		*75 - 123*

Lab Sample ID: LB 480-397113/1-A
Matrix: Solid
Analysis Batch: 397236

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.010	0.0021	mg/L			01/25/18 12:35	10
1,1-Dichloroethene	ND		0.010	0.0029	mg/L			01/25/18 12:35	10
2-Butanone (MEK)	ND		0.050	0.013	mg/L			01/25/18 12:35	10
Benzene	ND		0.010	0.0041	mg/L			01/25/18 12:35	10
Carbon tetrachloride	ND		0.010	0.0027	mg/L			01/25/18 12:35	10
Chlorobenzene	ND		0.010	0.0075	mg/L			01/25/18 12:35	10
Chloroform	ND		0.010	0.0034	mg/L			01/25/18 12:35	10
Tetrachloroethene	0.00383	J	0.010	0.0036	mg/L			01/25/18 12:35	10
Trichloroethene	ND		0.010	0.0046	mg/L			01/25/18 12:35	10
Vinyl chloride	ND		0.010	0.0090	mg/L			01/25/18 12:35	10

Surrogate	LB %Recovery	LB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*103*		*77 - 120*		*01/25/18 12:35*	*10*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*01/25/18 12:35*	*10*
Toluene-d8 (Surr)	*104*		*80 - 120*		*01/25/18 12:35*	*10*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*01/25/18 12:35*	*10*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-397187/1-A
Matrix: Solid
Analysis Batch: 397295

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 397187

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		170	25	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Acenaphthylene	ND		170	22	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Anthracene	ND		170	42	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Benzo[a]anthracene	ND		170	17	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Benzo[a]pyrene	ND		170	25	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Benzo[b]fluoranthene	ND		170	27	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Benzo[g,h,i]perylene	ND		170	18	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Benzo[k]fluoranthene	ND		170	22	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Chrysene	ND		170	38	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Dibenz(a,h)anthracene	ND		170	30	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Fluoranthene	ND		170	18	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Fluorene	ND		170	20	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Indeno[1,2,3-cd]pyrene	ND		170	21	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Naphthalene	ND		170	22	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Pyrene	ND		170	20	ug/Kg		01/24/18 16:05	01/25/18 22:22	1
Phenanthrene	ND		170	25	ug/Kg		01/24/18 16:05	01/25/18 22:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*77*		*54 - 120*	*01/24/18 16:05*	*01/25/18 22:22*	*1*
2-Fluorobiphenyl	*88*		*60 - 120*	*01/24/18 16:05*	*01/25/18 22:22*	*1*
2-Fluorophenol (Surr)	*78*		*52 - 120*	*01/24/18 16:05*	*01/25/18 22:22*	*1*
Phenol-d5 (Surr)	*77*		*54 - 120*	*01/24/18 16:05*	*01/25/18 22:22*	*1*
p-Terphenyl-d14 (Surr)	*106*		*65 - 121*	*01/24/18 16:05*	*01/25/18 22:22*	*1*
Nitrobenzene-d5 (Surr)	*77*		*53 - 120*	*01/24/18 16:05*	*01/25/18 22:22*	*1*

Lab Sample ID: LCS 480-397187/2-A
Matrix: Solid
Analysis Batch: 397295

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 397187

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	1640	1420		ug/Kg		87	62 - 120
Acenaphthylene	1640	1400		ug/Kg		85	58 - 121
Anthracene	1640	1480		ug/Kg		90	62 - 120
Benzo[a]anthracene	1640	1590		ug/Kg		97	65 - 120
Benzo[a]pyrene	1640	1420		ug/Kg		86	64 - 120
Benzo[b]fluoranthene	1640	1510		ug/Kg		92	64 - 120
Benzo[g,h,i]perylene	1640	1470		ug/Kg		90	45 - 145
Benzo[k]fluoranthene	1640	1380		ug/Kg		84	65 - 120
Chrysene	1640	1570		ug/Kg		95	64 - 120
Dibenz(a,h)anthracene	1640	1470		ug/Kg		90	54 - 132
Fluoranthene	1640	1500		ug/Kg		91	62 - 120
Fluorene	1640	1450		ug/Kg		88	63 - 120
Indeno[1,2,3-cd]pyrene	1640	1460		ug/Kg		89	56 - 134
Naphthalene	1640	1350		ug/Kg		82	55 - 120
Pyrene	1640	1600		ug/Kg		98	61 - 133
Phenanthrene	1640	1510		ug/Kg		92	60 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-397187/2-A
Matrix: Solid
Analysis Batch: 397295

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 397187

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*93*		*54 - 120*
2-Fluorobiphenyl	*85*		*60 - 120*
2-Fluorophenol (Surr)	*75*		*52 - 120*
Phenol-d5 (Surr)	*74*		*54 - 120*
p-Terphenyl-d14 (Surr)	*100*		*65 - 121*
Nitrobenzene-d5 (Surr)	*78*		*53 - 120*

Lab Sample ID: 480-130449-3 MS
Matrix: Solid
Analysis Batch: 397295

Client Sample ID: SB-4 (2-4)
Prep Type: Total/NA
Prep Batch: 397187

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	ND		1830	1610		ug/Kg	☼	88	60 - 120
Acenaphthylene	ND		1830	1600		ug/Kg	☼	88	58 - 121
Anthracene	ND		1830	1680		ug/Kg	☼	92	62 - 120
Benzo[a]anthracene	ND		1830	1720		ug/Kg	☼	94	65 - 120
Benzo[a]pyrene	ND		1830	1580		ug/Kg	☼	86	64 - 120
Benzo[b]fluoranthene	ND		1830	1600		ug/Kg	☼	87	64 - 120
Benzo[g,h,i]perylene	ND		1830	1710		ug/Kg	☼	94	45 - 145
Benzo[k]fluoranthene	ND		1830	1550		ug/Kg	☼	85	65 - 120
Chrysene	ND		1830	1740		ug/Kg	☼	95	64 - 120
Dibenz(a,h)anthracene	ND		1830	1660		ug/Kg	☼	91	54 - 132
Fluoranthene	ND		1830	1610		ug/Kg	☼	88	62 - 120
Fluorene	ND		1830	1620		ug/Kg	☼	89	63 - 120
Indeno[1,2,3-cd]pyrene	ND		1830	1670		ug/Kg	☼	91	56 - 134
Naphthalene	ND		1830	1470		ug/Kg	☼	81	46 - 120
Pyrene	ND		1830	1730		ug/Kg	☼	95	61 - 133
Phenanthrene	ND		1830	1690		ug/Kg	☼	92	60 - 122

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*97*		*54 - 120*
2-Fluorobiphenyl	*89*		*60 - 120*
2-Fluorophenol (Surr)	*75*		*52 - 120*
Phenol-d5 (Surr)	*77*		*54 - 120*
p-Terphenyl-d14 (Surr)	*93*		*65 - 121*
Nitrobenzene-d5 (Surr)	*82*		*53 - 120*

Lab Sample ID: 480-130449-3 MSD
Matrix: Solid
Analysis Batch: 397295

Client Sample ID: SB-4 (2-4)
Prep Type: Total/NA
Prep Batch: 397187

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acenaphthene	ND		1830	1560		ug/Kg	☼	85	60 - 120	3	35
Acenaphthylene	ND		1830	1550		ug/Kg	☼	85	58 - 121	3	18
Anthracene	ND		1830	1680		ug/Kg	☼	92	62 - 120	0	15
Benzo[a]anthracene	ND		1830	1780		ug/Kg	☼	97	65 - 120	3	15
Benzo[a]pyrene	ND		1830	1590		ug/Kg	☼	87	64 - 120	1	15
Benzo[b]fluoranthene	ND		1830	1590		ug/Kg	☼	87	64 - 120	0	15

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 480-130449-3 MSD
Matrix: Solid
Analysis Batch: 397295

Client Sample ID: SB-4 (2-4)
Prep Type: Total/NA
Prep Batch: 397187

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[g,h,i]perylene	ND		1830	1750		ug/Kg	☼	96	45 - 145	2	15
Benzo[k]fluoranthene	ND		1830	1570		ug/Kg	☼	86	65 - 120	2	22
Chrysene	ND		1830	1780		ug/Kg	☼	98	64 - 120	2	15
Dibenz(a,h)anthracene	ND		1830	1710		ug/Kg	☼	94	54 - 132	3	15
Fluoranthene	ND		1830	1640		ug/Kg	☼	90	62 - 120	2	15
Fluorene	ND		1830	1620		ug/Kg	☼	89	63 - 120	0	15
Indeno[1,2,3-cd]pyrene	ND		1830	1710		ug/Kg	☼	93	56 - 134	2	15
Naphthalene	ND		1830	1470		ug/Kg	☼	80	46 - 120	0	29
Pyrene	ND		1830	1730		ug/Kg	☼	95	61 - 133	0	35
Phenanthrene	ND		1830	1690		ug/Kg	☼	93	60 - 122	0	15

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*90*		*54 - 120*
2-Fluorobiphenyl	*83*		*60 - 120*
2-Fluorophenol (Surr)	*77*		*52 - 120*
Phenol-d5 (Surr)	*77*		*54 - 120*
p-Terphenyl-d14 (Surr)	*95*		*65 - 121*
Nitrobenzene-d5 (Surr)	*80*		*53 - 120*

GC/MS VOA

Leach Batch: 397113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-130449-4	SB-7 (4-6)	TCLP	Solid	1311	
480-130449-4 - DL	SB-7 (4-6)	TCLP	Solid	1311	
LB 480-397113/1-A	Method Blank	TCLP	Solid	1311	

Prep Batch: 397178

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-130449-1	SB-1 (10-12)	Total/NA	Solid	5035A_H	
480-130449-2	SB-3 (6-8)	Total/NA	Solid	5035A_H	
480-130449-4	SB-7 (4-6)	Total/NA	Solid	5035A_H	
480-130449-5	SB-7 (6-8)	Total/NA	Solid	5035A_H	
480-130449-6	SB-8 (4-6)	Total/NA	Solid	5035A_H	
480-130449-7	SB-11 (2-4)	Total/NA	Solid	5035A_H	
MB 480-397178/2-A	Method Blank	Total/NA	Solid	5035A_H	
LCS 480-397178/1-A	Lab Control Sample	Total/NA	Solid	5035A_H	

Analysis Batch: 397230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-130449-8	TWW-1	Total/NA	Water	8260C	
MB 480-397230/8	Method Blank	Total/NA	Water	8260C	
LCS 480-397230/5	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 397236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-130449-4	SB-7 (4-6)	TCLP	Solid	8260C	397113
LB 480-397113/1-A	Method Blank	TCLP	Solid	8260C	397113
MB 480-397236/8	Method Blank	Total/NA	Solid	8260C	
LCS 480-397236/6	Lab Control Sample	Total/NA	Solid	8260C	

Analysis Batch: 397378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-130449-1	SB-1 (10-12)	Total/NA	Solid	8260C	397178
480-130449-2	SB-3 (6-8)	Total/NA	Solid	8260C	397178
480-130449-4	SB-7 (4-6)	Total/NA	Solid	8260C	397178
480-130449-5	SB-7 (6-8)	Total/NA	Solid	8260C	397178
480-130449-6	SB-8 (4-6)	Total/NA	Solid	8260C	397178
480-130449-7	SB-11 (2-4)	Total/NA	Solid	8260C	397178
MB 480-397178/2-A	Method Blank	Total/NA	Solid	8260C	397178
LCS 480-397178/1-A	Lab Control Sample	Total/NA	Solid	8260C	397178

Analysis Batch: 397428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-130449-4 - DL	SB-7 (4-6)	TCLP	Solid	8260C	397113
MB 480-397428/8	Method Blank	Total/NA	Solid	8260C	
LCS 480-397428/5	Lab Control Sample	Total/NA	Solid	8260C	

GC/MS Semi VOA

Prep Batch: 397187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-130449-3	SB-4 (2-4)	Total/NA	Solid	3550C	

GC/MS Semi VOA (Continued)

Prep Batch: 397187 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-397187/1-A	Method Blank	Total/NA	Solid	3550C	
LCS 480-397187/2-A	Lab Control Sample	Total/NA	Solid	3550C	
480-130449-3 MS	SB-4 (2-4)	Total/NA	Solid	3550C	
480-130449-3 MSD	SB-4 (2-4)	Total/NA	Solid	3550C	

Analysis Batch: 397295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-130449-3	SB-4 (2-4)	Total/NA	Solid	8270D	397187
MB 480-397187/1-A	Method Blank	Total/NA	Solid	8270D	397187
LCS 480-397187/2-A	Lab Control Sample	Total/NA	Solid	8270D	397187
480-130449-3 MS	SB-4 (2-4)	Total/NA	Solid	8270D	397187
480-130449-3 MSD	SB-4 (2-4)	Total/NA	Solid	8270D	397187

General Chemistry

Analysis Batch: 397013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-130449-3	SB-4 (2-4)	Total/NA	Solid	Moisture	

Analysis Batch: 397144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-130449-1	SB-1 (10-12)	Total/NA	Solid	Moisture	
480-130449-2	SB-3 (6-8)	Total/NA	Solid	Moisture	
480-130449-4	SB-7 (4-6)	Total/NA	Solid	Moisture	
480-130449-5	SB-7 (6-8)	Total/NA	Solid	Moisture	
480-130449-6	SB-8 (4-6)	Total/NA	Solid	Moisture	
480-130449-7	SB-11 (2-4)	Total/NA	Solid	Moisture	

Client Sample ID: SB-1 (10-12) — **Lab Sample ID: 480-130449-1**
Date Collected: 01/22/18 08:45 — **Matrix: Solid**
Date Received: 01/23/18 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	397144	01/24/18 13:16	CDC	TAL BUF

Client Sample ID: SB-1 (10-12) — **Lab Sample ID: 480-130449-1**
Date Collected: 01/22/18 08:45 — **Matrix: Solid**
Date Received: 01/23/18 15:15 — **Percent Solids: 84.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035A_H			397178	01/24/18 15:46	MXS	TAL BUF
Total/NA	Analysis	8260C		1	397378	01/26/18 00:11	AEM	TAL BUF

Client Sample ID: SB-3 ~~(6-8)~~ — **Lab Sample ID: 480-130449-2**
Date Collected: 01/22/18 09:30 — **Matrix: Solid**
Date Received: 01/23/18 15:15

Note: Actual Sample was taken from 4'-4.5'

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	397144	01/24/18 13:16	CDC	TAL BUF

Client Sample ID: SB-3 (6-8) — **Lab Sample ID: 480-130449-2**
Date Collected: 01/22/18 09:30 — **Matrix: Solid**
Date Received: 01/23/18 15:15 — **Percent Solids: 92.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035A_H			397178	01/24/18 15:46	MXS	TAL BUF
Total/NA	Analysis	8260C		4	397378	01/26/18 00:34	AEM	TAL BUF

Client Sample ID: SB-4 (2-4) — **Lab Sample ID: 480-130449-3**
Date Collected: 01/22/18 10:00 — **Matrix: Solid**
Date Received: 01/23/18 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	397013	01/24/18 07:02	CSW	TAL BUF

Client Sample ID: SB-4 (2-4) — **Lab Sample ID: 480-130449-3**
Date Collected: 01/22/18 10:00 — **Matrix: Solid**
Date Received: 01/23/18 15:15 — **Percent Solids: 90.6**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550C			397187	01/24/18 16:05	ATG	TAL BUF
Total/NA	Analysis	8270D		1	397295	01/26/18 00:10	PJQ	TAL BUF

Client Sample ID: SB-7 (4-6) — **Lab Sample ID: 480-130449-4**
Date Collected: 01/22/18 11:15 — **Matrix: Solid**
Date Received: 01/23/18 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			397113	01/24/18 11:13	NMC	TAL BUF
TCLP	Analysis	8260C		10	397236	01/25/18 13:21	ARS	TAL BUF
TCLP	Leach	1311	DL		397113	01/24/18 11:13	NMC	TAL BUF
TCLP	Analysis	8260C	DL	50	397428	01/26/18 13:34	KMN	TAL BUF
Total/NA	Analysis	Moisture		1	397144	01/24/18 13:16	CDC	TAL BUF

Client Sample ID: SB-7 (4-6) — **Lab Sample ID: 480-130449-4**
Date Collected: 01/22/18 11:15 — **Matrix: Solid**
Date Received: 01/23/18 15:15 — **Percent Solids: 84.9**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035A_H			397178	01/24/18 15:46	MXS	TAL BUF
Total/NA	Analysis	8260C		20	397378	01/26/18 00:57	AEM	TAL BUF

Client Sample ID: SB-7 (6-8) — **Lab Sample ID: 480-130449-5**
Date Collected: 01/22/18 11:15 — **Matrix: Solid**
Date Received: 01/23/18 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	397144	01/24/18 13:16	CDC	TAL BUF

Client Sample ID: SB-7 (6-8) — **Lab Sample ID: 480-130449-5**
Date Collected: 01/22/18 11:15 — **Matrix: Solid**
Date Received: 01/23/18 15:15 — **Percent Solids: 92.5**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035A_H			397178	01/24/18 15:46	MXS	TAL BUF
Total/NA	Analysis	8260C		2	397378	01/26/18 01:20	AEM	TAL BUF

Client Sample ID: SB-8 (4-6) — **Lab Sample ID: 480-130449-6**
Date Collected: 01/22/18 11:30 — **Matrix: Solid**
Date Received: 01/23/18 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	397144	01/24/18 13:16	CDC	TAL BUF

Client Sample ID: SB-8 (4-6) — **Lab Sample ID: 480-130449-6**
Date Collected: 01/22/18 11:30 — **Matrix: Solid**
Date Received: 01/23/18 15:15 — **Percent Solids: 83.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035A_H			397178	01/24/18 15:46	MXS	TAL BUF

Lab Chronicle

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Client Sample ID: SB-8 (4-6)

Lab Sample ID: 480-130449-6

Date Collected: 01/22/18 11:30
Matrix: Solid
Date Received: 01/23/18 15:15
Percent Solids: 83.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	397378	01/26/18 01:43	AEM	TAL BUF

Client Sample ID: SB-11 (2-4)

Lab Sample ID: 480-130449-7

Date Collected: 01/22/18 13:15
Matrix: Solid
Date Received: 01/23/18 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	397144	01/24/18 13:16	CDC	TAL BUF

Client Sample ID: SB-11 (2-4)

Lab Sample ID: 480-130449-7

Date Collected: 01/22/18 13:15
Matrix: Solid
Date Received: 01/23/18 15:15
Percent Solids: 88.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035A_H			397178	01/24/18 15:46	MXS	TAL BUF
Total/NA	Analysis	8260C		2	397378	01/26/18 02:07	AEM	TAL BUF

Client Sample ID: TWW-1

Lab Sample ID: 480-130449-8

Date Collected: 01/22/18 16:00
Matrix: Water
Date Received: 01/23/18 15:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	397230	01/25/18 11:40	KMN	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-18

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids

Method Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL BUF
Moisture	Percent Moisture	EPA	TAL BUF

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130449-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-130449-1	SB-1 (10-12)	Solid	01/22/18 08:45	01/23/18 15:15
480-130449-2	SB-3 (6-8)	Solid	01/22/18 09:30	01/23/18 15:15
480-130449-3	SB-4 (2-4)	Solid	01/22/18 10:00	01/23/18 15:15
480-130449-4	SB-7 (4-6)	Solid	01/22/18 11:15	01/23/18 15:15
480-130449-5	SB-7 (6-8)	Solid	01/22/18 11:15	01/23/18 15:15
480-130449-6	SB-8 (4-6)	Solid	01/22/18 11:30	01/23/18 15:15
480-130449-7	SB-11 (2-4)	Solid	01/22/18 13:15	01/23/18 15:15
480-130449-8	TWW-1	Water	01/22/18 16:00	01/23/18 15:15

Note: Actual Sample for SB-3was taken from 4'-4.5'

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228
Phone: 716.691.2600 Fax: 716.691.7991

Chain of Custody Record

239905

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

480-130449 COC

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: BRYAN MAYBACK	Site Contact:	Date: 1/23
Company Name: TURNKEY ENVIRONMENTAL REST.	Tel/Fax: 716-856-0599	Lab Contact: BRIAN FISCHER	Carrier:
Address: 2558 HAMBURG TURNPIKE	Analysis Turnaround Time		
City/State/Zip: BUFFALO, NY 14218	☐ CALENDAR DAYS ☐ WORKING DAYS		
Phone: 716 856-0599	TAT if different from Below _____		
Fax:	☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day (Std. (see email from Brian Fischer))		
Project Name: 3077-3097 UNION RD			
Site:			
PO # T0105-017-010			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	CP51 + TCL VOCs 8260	CP51 SVOCs 8270	TCLP VOCs
SB-1 (10-12)	1/22	845	G	SOIL	2	N	N	X		
SB-3 ~~(6-8)~~		950			2			X		
SB-4 (2-4)		1000			1				X	
SB-7 (4-6)		1115			2			X		X
SB-7 (6-8)		1115			2			X		
SB-8 (4-6)		1130			2			X		
SB-11 (2-4)		1315			2			X		
TWW-1		1600		AQUA	3			X		

Note: Actual Sample for SB-3 was taken from 4'-4.5'

Sample Specific Notes:

Hold Extra Sample Volume for Potential Additional Analysis

Job / SDG No.: 130449 *17437

Lab Use Only: Walk-in Client: Lab Sampling:

COC No: _____ of _____ COCs

Sampler: CHAD SCHUSTER

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 0.5 Corr'd: _____ | Therm ID No.: 4

	Company	Date/Time		Company	Date/Time
Relinquished by: Chad M Schuster	TURNKEY	1/22/18 1630	Received by:	TA	01/23/18 1200
Relinquished by:	TA	01/23/18 1515	Received by:		1/23/18 1515
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Login Sample Receipt Checklist

Client: Benchmark Env. Eng. & Science, PLLC

Job Number: 480-130449-1

Login Number: 130449

List Source: TestAmerica Buffalo

List Number: 1

Creator: Kinecki, Kenneth P

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	Turnkey
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-130541-1
Client Project/Site: Benchmark - 3077-3097 Union Rd
Revision: 1

For:
Benchmark Env. Eng. & Science, PLLC
2558 Hamburg Turnpike
Lackawanna, New York 14218

Attn: Bryan Mayback

Joseph V. Giacomazza

Authorized for release by:
1/30/2018 12:13:10 PM
Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Brian Fischer, Manager of Project Management
(716)504-9835
brian.fischer@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-130541-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-130541-1

Revision I
Report was revised to change the sample ID's as per client request.

Receipt
The samples were received on 1/24/2018 3:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice.

GC/MS VOA
Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-397236 recovered outside acceptance criteria, low biased, for Chloromethane. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. The following samples are impacted: MW-6 (480-130541-1), MW-7 (480-130541-2), MW-8 (480-130541-3) and MW-10 (480-130541-4).

Method(s) 8260C: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for analytical batch 480-397236 recovered outside control limits for the following analyte(s): Dichlorodifluoromethane. This analyte has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. The following samples are impacted: MW-6 (480-130541-1), MW-7 (480-130541-2), MW-8 (480-130541-3) and MW-10 (480-130541-4).

Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-7 (480-130541-2). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: MW-6 (480-130541-1) and MW-8 (480-130541-3).
The sample was analyzed within 7 days per EPA recommendation.

Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-7 (480-130541-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Client Sample ID: TMW-2 — Lab Sample ID: 480-130541-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	7.3	J	10	3.0	ug/L	1		8260C	Total/NA
Carbon disulfide	0.66	J	1.0	0.19	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	9.8		1.0	0.81	ug/L	1		8260C	Total/NA
Cyclohexane	0.39	J	1.0	0.18	ug/L	1		8260C	Total/NA
Ethylbenzene	4.5		1.0	0.74	ug/L	1		8260C	Total/NA
m,p-Xylene	21		2.0	0.66	ug/L	1		8260C	Total/NA
Methylcyclohexane	0.36	J	1.0	0.16	ug/L	1		8260C	Total/NA
o-Xylene	9.0		1.0	0.76	ug/L	1		8260C	Total/NA
Vinyl chloride	3.6		1.0	0.90	ug/L	1		8260C	Total/NA
Xylenes, Total	30		2.0	0.66	ug/L	1		8260C	Total/NA

Client Sample ID: TMW-3 — Lab Sample ID: 480-130541-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2200		500	410	ug/L	500		8260C	Total/NA
Methylene Chloride	220	J	500	220	ug/L	500		8260C	Total/NA
Trichloroethene	2600		500	230	ug/L	500		8260C	Total/NA
Tetrachloroethene - DL	51000		1000	360	ug/L	1000		8260C	Total/NA

Client Sample ID: TMW-4 — Lab Sample ID: 480-130541-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	37		1.0	0.81	ug/L	1		8260C	Total/NA
Cyclohexane	0.29	J	1.0	0.18	ug/L	1		8260C	Total/NA
Methylcyclohexane	0.43	J	1.0	0.16	ug/L	1		8260C	Total/NA
Tetrachloroethene	22		1.0	0.36	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	3.0		1.0	0.90	ug/L	1		8260C	Total/NA
Trichloroethene	61		1.0	0.46	ug/L	1		8260C	Total/NA
Vinyl chloride	7.7		1.0	0.90	ug/L	1		8260C	Total/NA

Client Sample ID: TMW-5 — Lab Sample ID: 480-130541-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.2	J	10	3.0	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	0.90	J	1.0	0.81	ug/L	1		8260C	Total/NA
Tetrachloroethene	0.66	J	1.0	0.36	ug/L	1		8260C	Total/NA
Trichloroethene	2.3		1.0	0.46	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Client Sample ID: TMW-2
Date Collected: 01/23/18 12:50
Date Received: 01/24/18 15:50

Lab Sample ID: 480-130541-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			01/25/18 16:10	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			01/25/18 16:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			01/25/18 16:10	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			01/25/18 16:10	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			01/25/18 16:10	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			01/25/18 16:10	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			01/25/18 16:10	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			01/25/18 16:10	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			01/25/18 16:10	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			01/25/18 16:10	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			01/25/18 16:10	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			01/25/18 16:10	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			01/25/18 16:10	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			01/25/18 16:10	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			01/25/18 16:10	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			01/25/18 16:10	1
2-Butanone (MEK)	ND		10	1.3	ug/L			01/25/18 16:10	1
2-Hexanone	ND		5.0	1.2	ug/L			01/25/18 16:10	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			01/25/18 16:10	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			01/25/18 16:10	1
Acetone	**7.3**	**J**	10	3.0	ug/L			01/25/18 16:10	1
Benzene	ND		1.0	0.41	ug/L			01/25/18 16:10	1
Bromodichloromethane	ND		1.0	0.39	ug/L			01/25/18 16:10	1
Bromoform	ND		1.0	0.26	ug/L			01/25/18 16:10	1
Bromomethane	ND		1.0	0.69	ug/L			01/25/18 16:10	1
Carbon disulfide	**0.66**	**J**	1.0	0.19	ug/L			01/25/18 16:10	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			01/25/18 16:10	1
Chlorobenzene	ND		1.0	0.75	ug/L			01/25/18 16:10	1
Chloroethane	ND		1.0	0.32	ug/L			01/25/18 16:10	1
Chloroform	ND		1.0	0.34	ug/L			01/25/18 16:10	1
Chloromethane	ND		1.0	0.35	ug/L			01/25/18 16:10	1
cis-1,2-Dichloroethene	**9.8**		1.0	0.81	ug/L			01/25/18 16:10	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			01/25/18 16:10	1
Cyclohexane	**0.39**	**J**	1.0	0.18	ug/L			01/25/18 16:10	1
Dibromochloromethane	ND		1.0	0.32	ug/L			01/25/18 16:10	1
Dichlorodifluoromethane	ND	*	1.0	0.68	ug/L			01/25/18 16:10	1
Ethylbenzene	**4.5**		1.0	0.74	ug/L			01/25/18 16:10	1
Isopropylbenzene	ND		1.0	0.79	ug/L			01/25/18 16:10	1
m,p-Xylene	**21**		2.0	0.66	ug/L			01/25/18 16:10	1
Methyl acetate	ND		2.5	1.3	ug/L			01/25/18 16:10	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			01/25/18 16:10	1
Methylcyclohexane	**0.36**	**J**	1.0	0.16	ug/L			01/25/18 16:10	1
Methylene Chloride	ND		1.0	0.44	ug/L			01/25/18 16:10	1
n-Butylbenzene	ND		1.0	0.64	ug/L			01/25/18 16:10	1
N-Propylbenzene	ND		1.0	0.69	ug/L			01/25/18 16:10	1
o-Xylene	**9.0**		1.0	0.76	ug/L			01/25/18 16:10	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			01/25/18 16:10	1
Styrene	ND		1.0	0.73	ug/L			01/25/18 16:10	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			01/25/18 16:10	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Client Sample ID: TMW-2
Date Collected: 01/23/18 12:50
Date Received: 01/24/18 15:50

Lab Sample ID: 480-130541-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	0.36	ug/L			01/25/18 16:10	1
Toluene	ND		1.0	0.51	ug/L			01/25/18 16:10	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			01/25/18 16:10	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			01/25/18 16:10	1
Trichloroethene	ND		1.0	0.46	ug/L			01/25/18 16:10	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			01/25/18 16:10	1
Vinyl chloride	**3.6**		1.0	0.90	ug/L			01/25/18 16:10	1
Xylenes, Total	**30**		2.0	0.66	ug/L			01/25/18 16:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*01/25/18 16:10*	*1*
4-Bromofluorobenzene (Surr)	*101*		*73 - 120*		*01/25/18 16:10*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*01/25/18 16:10*	*1*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Client Sample ID: TMW-3
Date Collected: 01/23/18 13:35
Date Received: 01/24/18 15:50

Lab Sample ID: 480-130541-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		500	410	ug/L			01/25/18 16:33	500
1,1,2,2-Tetrachloroethane	ND		500	110	ug/L			01/25/18 16:33	500
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		500	160	ug/L			01/25/18 16:33	500
1,1,2-Trichloroethane	ND		500	120	ug/L			01/25/18 16:33	500
1,1-Dichloroethane	ND		500	190	ug/L			01/25/18 16:33	500
1,1-Dichloroethene	ND		500	150	ug/L			01/25/18 16:33	500
1,2,4-Trichlorobenzene	ND		500	210	ug/L			01/25/18 16:33	500
1,2,4-Trimethylbenzene	ND		500	380	ug/L			01/25/18 16:33	500
1,2-Dibromo-3-Chloropropane	ND		500	200	ug/L			01/25/18 16:33	500
1,2-Dibromoethane	ND		500	370	ug/L			01/25/18 16:33	500
1,2-Dichlorobenzene	ND		500	400	ug/L			01/25/18 16:33	500
1,2-Dichloroethane	ND		500	110	ug/L			01/25/18 16:33	500
1,2-Dichloropropane	ND		500	360	ug/L			01/25/18 16:33	500
1,3,5-Trimethylbenzene	ND		500	390	ug/L			01/25/18 16:33	500
1,3-Dichlorobenzene	ND		500	390	ug/L			01/25/18 16:33	500
1,4-Dichlorobenzene	ND		500	420	ug/L			01/25/18 16:33	500
2-Butanone (MEK)	ND		5000	660	ug/L			01/25/18 16:33	500
2-Hexanone	ND		2500	620	ug/L			01/25/18 16:33	500
4-Isopropyltoluene	ND		500	160	ug/L			01/25/18 16:33	500
4-Methyl-2-pentanone (MIBK)	ND		2500	1100	ug/L			01/25/18 16:33	500
Acetone	ND		5000	1500	ug/L			01/25/18 16:33	500
Benzene	ND		500	210	ug/L			01/25/18 16:33	500
Bromodichloromethane	ND		500	200	ug/L			01/25/18 16:33	500
Bromoform	ND		500	130	ug/L			01/25/18 16:33	500
Bromomethane	ND		500	350	ug/L			01/25/18 16:33	500
Carbon disulfide	ND		500	95	ug/L			01/25/18 16:33	500
Carbon tetrachloride	ND		500	140	ug/L			01/25/18 16:33	500
Chlorobenzene	ND		500	380	ug/L			01/25/18 16:33	500
Chloroethane	ND		500	160	ug/L			01/25/18 16:33	500
Chloroform	ND		500	170	ug/L			01/25/18 16:33	500
Chloromethane	ND		500	180	ug/L			01/25/18 16:33	500
cis-1,2-Dichloroethene	**2200**		500	410	ug/L			01/25/18 16:33	500
cis-1,3-Dichloropropene	ND		500	180	ug/L			01/25/18 16:33	500
Cyclohexane	ND		500	90	ug/L			01/25/18 16:33	500
Dibromochloromethane	ND		500	160	ug/L			01/25/18 16:33	500
Dichlorodifluoromethane	ND	*	500	340	ug/L			01/25/18 16:33	500
Ethylbenzene	ND		500	370	ug/L			01/25/18 16:33	500
Isopropylbenzene	ND		500	400	ug/L			01/25/18 16:33	500
m,p-Xylene	ND		1000	330	ug/L			01/25/18 16:33	500
Methyl acetate	ND		1300	650	ug/L			01/25/18 16:33	500
Methyl tert-butyl ether	ND		500	80	ug/L			01/25/18 16:33	500
Methylcyclohexane	ND		500	80	ug/L			01/25/18 16:33	500
Methylene Chloride	**220**	**J**	500	220	ug/L			01/25/18 16:33	500
n-Butylbenzene	ND		500	320	ug/L			01/25/18 16:33	500
N-Propylbenzene	ND		500	350	ug/L			01/25/18 16:33	500
o-Xylene	ND		500	380	ug/L			01/25/18 16:33	500
sec-Butylbenzene	ND		500	380	ug/L			01/25/18 16:33	500
Styrene	ND		500	370	ug/L			01/25/18 16:33	500
tert-Butylbenzene	ND		500	410	ug/L			01/25/18 16:33	500

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Client Sample ID: TMW-3
Date Collected: 01/23/18 13:35
Date Received: 01/24/18 15:50

Lab Sample ID: 480-130541-2
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		500	260	ug/L			01/25/18 16:33	500
trans-1,2-Dichloroethene	ND		500	450	ug/L			01/25/18 16:33	500
trans-1,3-Dichloropropene	ND		500	190	ug/L			01/25/18 16:33	500
Trichloroethene	**2600**		500	230	ug/L			01/25/18 16:33	500
Trichlorofluoromethane	ND		500	440	ug/L			01/25/18 16:33	500
Vinyl chloride	ND		500	450	ug/L			01/25/18 16:33	500
Xylenes, Total	ND		1000	330	ug/L			01/25/18 16:33	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*01/25/18 16:33*	*500*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*01/25/18 16:33*	*500*
Toluene-d8 (Surr)	*102*		*80 - 120*		*01/25/18 16:33*	*500*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**51000**		1000	360	ug/L			01/26/18 02:53	1000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*77 - 120*		*01/26/18 02:53*	*1000*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*01/26/18 02:53*	*1000*
Toluene-d8 (Surr)	*102*		*80 - 120*		*01/26/18 02:53*	*1000*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Client Sample ID: TMW-4
Date Collected: 01/23/18 14:15
Date Received: 01/24/18 15:50

Lab Sample ID: 480-130541-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			01/25/18 16:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			01/25/18 16:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			01/25/18 16:57	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			01/25/18 16:57	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			01/25/18 16:57	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			01/25/18 16:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			01/25/18 16:57	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			01/25/18 16:57	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			01/25/18 16:57	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			01/25/18 16:57	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			01/25/18 16:57	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			01/25/18 16:57	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			01/25/18 16:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			01/25/18 16:57	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			01/25/18 16:57	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			01/25/18 16:57	1
2-Butanone (MEK)	ND		10	1.3	ug/L			01/25/18 16:57	1
2-Hexanone	ND		5.0	1.2	ug/L			01/25/18 16:57	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			01/25/18 16:57	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			01/25/18 16:57	1
Acetone	ND		10	3.0	ug/L			01/25/18 16:57	1
Benzene	ND		1.0	0.41	ug/L			01/25/18 16:57	1
Bromodichloromethane	ND		1.0	0.39	ug/L			01/25/18 16:57	1
Bromoform	ND		1.0	0.26	ug/L			01/25/18 16:57	1
Bromomethane	ND		1.0	0.69	ug/L			01/25/18 16:57	1
Carbon disulfide	ND		1.0	0.19	ug/L			01/25/18 16:57	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			01/25/18 16:57	1
Chlorobenzene	ND		1.0	0.75	ug/L			01/25/18 16:57	1
Chloroethane	ND		1.0	0.32	ug/L			01/25/18 16:57	1
Chloroform	ND		1.0	0.34	ug/L			01/25/18 16:57	1
Chloromethane	ND		1.0	0.35	ug/L			01/25/18 16:57	1
cis-1,2-Dichloroethene	**37**		1.0	0.81	ug/L			01/25/18 16:57	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			01/25/18 16:57	1
Cyclohexane	**0.29**	**J**	1.0	0.18	ug/L			01/25/18 16:57	1
Dibromochloromethane	ND		1.0	0.32	ug/L			01/25/18 16:57	1
Dichlorodifluoromethane	ND	*	1.0	0.68	ug/L			01/25/18 16:57	1
Ethylbenzene	ND		1.0	0.74	ug/L			01/25/18 16:57	1
Isopropylbenzene	ND		1.0	0.79	ug/L			01/25/18 16:57	1
m,p-Xylene	ND		2.0	0.66	ug/L			01/25/18 16:57	1
Methyl acetate	ND		2.5	1.3	ug/L			01/25/18 16:57	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			01/25/18 16:57	1
Methylcyclohexane	**0.43**	**J**	1.0	0.16	ug/L			01/25/18 16:57	1
Methylene Chloride	ND		1.0	0.44	ug/L			01/25/18 16:57	1
n-Butylbenzene	ND		1.0	0.64	ug/L			01/25/18 16:57	1
N-Propylbenzene	ND		1.0	0.69	ug/L			01/25/18 16:57	1
o-Xylene	ND		1.0	0.76	ug/L			01/25/18 16:57	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			01/25/18 16:57	1
Styrene	ND		1.0	0.73	ug/L			01/25/18 16:57	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			01/25/18 16:57	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Client Sample ID: TMW-4
Date Collected: 01/23/18 14:15
Date Received: 01/24/18 15:50

Lab Sample ID: 480-130541-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**22**		1.0	0.36	ug/L			01/25/18 16:57	1
Toluene	ND		1.0	0.51	ug/L			01/25/18 16:57	1
trans-1,2-Dichloroethene	**3.0**		1.0	0.90	ug/L			01/25/18 16:57	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			01/25/18 16:57	1
Trichloroethene	**61**		1.0	0.46	ug/L			01/25/18 16:57	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			01/25/18 16:57	1
Vinyl chloride	**7.7**		1.0	0.90	ug/L			01/25/18 16:57	1
Xylenes, Total	ND		2.0	0.66	ug/L			01/25/18 16:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*77 - 120*		*01/25/18 16:57*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*01/25/18 16:57*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*01/25/18 16:57*	*1*

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Client Sample ID: TMW-5
Date Collected: 01/23/18 15:15
Date Received: 01/24/18 15:50

Lab Sample ID: 480-130541-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			01/25/18 17:20	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			01/25/18 17:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			01/25/18 17:20	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			01/25/18 17:20	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			01/25/18 17:20	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			01/25/18 17:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			01/25/18 17:20	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			01/25/18 17:20	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			01/25/18 17:20	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			01/25/18 17:20	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			01/25/18 17:20	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			01/25/18 17:20	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			01/25/18 17:20	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			01/25/18 17:20	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			01/25/18 17:20	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			01/25/18 17:20	1
2-Butanone (MEK)	ND		10	1.3	ug/L			01/25/18 17:20	1
2-Hexanone	ND		5.0	1.2	ug/L			01/25/18 17:20	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			01/25/18 17:20	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			01/25/18 17:20	1
Acetone	**3.2**	**J**	10	3.0	ug/L			01/25/18 17:20	1
Benzene	ND		1.0	0.41	ug/L			01/25/18 17:20	1
Bromodichloromethane	ND		1.0	0.39	ug/L			01/25/18 17:20	1
Bromoform	ND		1.0	0.26	ug/L			01/25/18 17:20	1
Bromomethane	ND		1.0	0.69	ug/L			01/25/18 17:20	1
Carbon disulfide	ND		1.0	0.19	ug/L			01/25/18 17:20	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			01/25/18 17:20	1
Chlorobenzene	ND		1.0	0.75	ug/L			01/25/18 17:20	1
Chloroethane	ND		1.0	0.32	ug/L			01/25/18 17:20	1
Chloroform	ND		1.0	0.34	ug/L			01/25/18 17:20	1
Chloromethane	ND		1.0	0.35	ug/L			01/25/18 17:20	1
cis-1,2-Dichloroethene	**0.90**	**J**	1.0	0.81	ug/L			01/25/18 17:20	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			01/25/18 17:20	1
Cyclohexane	ND		1.0	0.18	ug/L			01/25/18 17:20	1
Dibromochloromethane	ND		1.0	0.32	ug/L			01/25/18 17:20	1
Dichlorodifluoromethane	ND	*	1.0	0.68	ug/L			01/25/18 17:20	1
Ethylbenzene	ND		1.0	0.74	ug/L			01/25/18 17:20	1
Isopropylbenzene	ND		1.0	0.79	ug/L			01/25/18 17:20	1
m,p-Xylene	ND		2.0	0.66	ug/L			01/25/18 17:20	1
Methyl acetate	ND		2.5	1.3	ug/L			01/25/18 17:20	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			01/25/18 17:20	1
Methylcyclohexane	ND		1.0	0.16	ug/L			01/25/18 17:20	1
Methylene Chloride	ND		1.0	0.44	ug/L			01/25/18 17:20	1
n-Butylbenzene	ND		1.0	0.64	ug/L			01/25/18 17:20	1
N-Propylbenzene	ND		1.0	0.69	ug/L			01/25/18 17:20	1
o-Xylene	ND		1.0	0.76	ug/L			01/25/18 17:20	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			01/25/18 17:20	1
Styrene	ND		1.0	0.73	ug/L			01/25/18 17:20	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			01/25/18 17:20	1

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Client Sample ID: TMW-5
Date Collected: 01/23/18 15:15
Date Received: 01/24/18 15:50

Lab Sample ID: 480-130541-4
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**0.66**	**J**	1.0	0.36	ug/L			01/25/18 17:20	1
Toluene	ND		1.0	0.51	ug/L			01/25/18 17:20	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			01/25/18 17:20	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			01/25/18 17:20	1
Trichloroethene	**2.3**		1.0	0.46	ug/L			01/25/18 17:20	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			01/25/18 17:20	1
Vinyl chloride	ND		1.0	0.90	ug/L			01/25/18 17:20	1
Xylenes, Total	ND		2.0	0.66	ug/L			01/25/18 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*77 - 120*		*01/25/18 17:20*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*01/25/18 17:20*	*1*
Toluene-d8 (Surr)	*103*		*80 - 120*		*01/25/18 17:20*	*1*

Surrogate Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		DCA	BFB	TOL
Lab Sample ID	Client Sample ID	(77-120)	(73-120)	(80-120)
480-130541-1	TMW-2	98	101	99
480-130541-2	TMW-3	95	103	102
480-130541-2 - DL	TMW-3	97	103	102
480-130541-3	TMW-4	100	103	102
480-130541-4	TMW-5	92	106	103
LCS 480-397236/6	Lab Control Sample	96	111	103
LCS 480-397378/4	Lab Control Sample	94	106	104
MB 480-397236/8	Method Blank	94	105	102
MB 480-397378/6	Method Blank	98	104	102

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-397236/8
Matrix: Water
Analysis Batch: 397236

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			01/25/18 11:30	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			01/25/18 11:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			01/25/18 11:30	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			01/25/18 11:30	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			01/25/18 11:30	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			01/25/18 11:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			01/25/18 11:30	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			01/25/18 11:30	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			01/25/18 11:30	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			01/25/18 11:30	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			01/25/18 11:30	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			01/25/18 11:30	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			01/25/18 11:30	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			01/25/18 11:30	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			01/25/18 11:30	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			01/25/18 11:30	1
2-Butanone (MEK)	ND		10	1.3	ug/L			01/25/18 11:30	1
2-Hexanone	ND		5.0	1.2	ug/L			01/25/18 11:30	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			01/25/18 11:30	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			01/25/18 11:30	1
Acetone	ND		10	3.0	ug/L			01/25/18 11:30	1
Benzene	ND		1.0	0.41	ug/L			01/25/18 11:30	1
Bromodichloromethane	ND		1.0	0.39	ug/L			01/25/18 11:30	1
Bromoform	ND		1.0	0.26	ug/L			01/25/18 11:30	1
Bromomethane	ND		1.0	0.69	ug/L			01/25/18 11:30	1
Carbon disulfide	ND		1.0	0.19	ug/L			01/25/18 11:30	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			01/25/18 11:30	1
Chlorobenzene	ND		1.0	0.75	ug/L			01/25/18 11:30	1
Chloroethane	ND		1.0	0.32	ug/L			01/25/18 11:30	1
Chloroform	ND		1.0	0.34	ug/L			01/25/18 11:30	1
Chloromethane	ND		1.0	0.35	ug/L			01/25/18 11:30	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			01/25/18 11:30	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			01/25/18 11:30	1
Cyclohexane	ND		1.0	0.18	ug/L			01/25/18 11:30	1
Dibromochloromethane	ND		1.0	0.32	ug/L			01/25/18 11:30	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			01/25/18 11:30	1
Ethylbenzene	ND		1.0	0.74	ug/L			01/25/18 11:30	1
Isopropylbenzene	ND		1.0	0.79	ug/L			01/25/18 11:30	1
m,p-Xylene	ND		2.0	0.66	ug/L			01/25/18 11:30	1
Methyl acetate	ND		2.5	1.3	ug/L			01/25/18 11:30	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			01/25/18 11:30	1
Methylcyclohexane	ND		1.0	0.16	ug/L			01/25/18 11:30	1
Methylene Chloride	ND		1.0	0.44	ug/L			01/25/18 11:30	1
n-Butylbenzene	ND		1.0	0.64	ug/L			01/25/18 11:30	1
N-Propylbenzene	ND		1.0	0.69	ug/L			01/25/18 11:30	1
o-Xylene	ND		1.0	0.76	ug/L			01/25/18 11:30	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			01/25/18 11:30	1
Styrene	ND		1.0	0.73	ug/L			01/25/18 11:30	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-397236/8
Matrix: Water
Analysis Batch: 397236

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		1.0	0.81	ug/L			01/25/18 11:30	1
Tetrachloroethene	ND		1.0	0.36	ug/L			01/25/18 11:30	1
Toluene	ND		1.0	0.51	ug/L			01/25/18 11:30	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			01/25/18 11:30	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			01/25/18 11:30	1
Trichloroethene	ND		1.0	0.46	ug/L			01/25/18 11:30	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			01/25/18 11:30	1
Vinyl chloride	ND		1.0	0.90	ug/L			01/25/18 11:30	1
Xylenes, Total	ND		2.0	0.66	ug/L			01/25/18 11:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*		*01/25/18 11:30*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*01/25/18 11:30*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*01/25/18 11:30*	*1*

Lab Sample ID: LCS 480-397236/6
Matrix: Water
Analysis Batch: 397236

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.4		ug/L		102	73 - 126
1,1,2,2-Tetrachloroethane	25.0	22.6		ug/L		90	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.6		ug/L		99	61 - 148
1,1,2-Trichloroethane	25.0	25.7		ug/L		103	76 - 122
1,1-Dichloroethane	25.0	27.3		ug/L		109	77 - 120
1,1-Dichloroethene	25.0	27.9		ug/L		111	66 - 127
1,2,4-Trichlorobenzene	25.0	25.6		ug/L		103	79 - 122
1,2,4-Trimethylbenzene	25.0	24.2		ug/L		97	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	14.8		ug/L		59	56 - 134
1,2-Dibromoethane	25.0	25.9		ug/L		104	77 - 120
1,2-Dichlorobenzene	25.0	25.8		ug/L		103	80 - 124
1,2-Dichloroethane	25.0	25.6		ug/L		102	75 - 120
1,2-Dichloropropane	25.0	26.5		ug/L		106	76 - 120
1,3,5-Trimethylbenzene	25.0	24.0		ug/L		96	77 - 121
1,3-Dichlorobenzene	25.0	25.6		ug/L		102	77 - 120
1,4-Dichlorobenzene	25.0	25.6		ug/L		103	80 - 120
2-Butanone (MEK)	125	130		ug/L		104	57 - 140
2-Hexanone	125	120		ug/L		96	65 - 127
4-Isopropyltoluene	25.0	25.0		ug/L		100	73 - 120
4-Methyl-2-pentanone (MIBK)	125	122		ug/L		98	71 - 125
Acetone	125	124		ug/L		99	56 - 142
Benzene	25.0	27.4		ug/L		110	71 - 124
Bromodichloromethane	25.0	24.8		ug/L		99	80 - 122
Bromoform	25.0	21.0		ug/L		84	61 - 132
Bromomethane	25.0	23.5		ug/L		94	55 - 144
Carbon disulfide	25.0	26.4		ug/L		105	59 - 134
Carbon tetrachloride	25.0	22.5		ug/L		90	72 - 134

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-397236/6
Matrix: Water
Analysis Batch: 397236

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chlorobenzene	25.0	27.8		ug/L		111	80 - 120
Chloroethane	25.0	24.7		ug/L		99	69 - 136
Chloroform	25.0	26.8		ug/L		107	73 - 127
Chloromethane	25.0	18.5		ug/L		74	68 - 124
cis-1,2-Dichloroethene	25.0	28.3		ug/L		113	74 - 124
cis-1,3-Dichloropropene	25.0	26.2		ug/L		105	74 - 124
Cyclohexane	25.0	26.5		ug/L		106	59 - 135
Dibromochloromethane	25.0	23.0		ug/L		92	75 - 125
Dichlorodifluoromethane	25.0	14.1	*	ug/L		56	59 - 135
Ethylbenzene	25.0	26.9		ug/L		108	77 - 123
Isopropylbenzene	25.0	24.1		ug/L		96	77 - 122
m,p-Xylene	25.0	26.9		ug/L		108	76 - 122
Methyl acetate	50.0	53.8		ug/L		108	74 - 133
Methyl tert-butyl ether	25.0	25.5		ug/L		102	77 - 120
Methylcyclohexane	25.0	27.1		ug/L		109	68 - 134
Methylene Chloride	25.0	26.1		ug/L		105	75 - 124
n-Butylbenzene	25.0	24.0		ug/L		96	71 - 128
N-Propylbenzene	25.0	24.2		ug/L		97	75 - 127
o-Xylene	25.0	28.2		ug/L		113	76 - 122
sec-Butylbenzene	25.0	24.7		ug/L		99	74 - 127
Styrene	25.0	27.0		ug/L		108	80 - 120
tert-Butylbenzene	25.0	25.0		ug/L		100	75 - 123
Tetrachloroethene	25.0	29.6		ug/L		118	74 - 122
Toluene	25.0	26.7		ug/L		107	80 - 122
trans-1,2-Dichloroethene	25.0	27.4		ug/L		110	73 - 127
trans-1,3-Dichloropropene	25.0	24.4		ug/L		97	80 - 120
Trichloroethene	25.0	27.3		ug/L		109	74 - 123
Trichlorofluoromethane	25.0	26.4		ug/L		106	62 - 150
Vinyl chloride	25.0	21.4		ug/L		86	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*77 - 120*
4-Bromofluorobenzene (Surr)	*111*		*73 - 120*
Toluene-d8 (Surr)	*103*		*80 - 120*

Lab Sample ID: MB 480-397378/6
Matrix: Water
Analysis Batch: 397378

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			01/25/18 21:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			01/25/18 21:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1.0	0.31	ug/L			01/25/18 21:06	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			01/25/18 21:06	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			01/25/18 21:06	1
1,1-Dichloroethene	ND		1.0	0.29	ug/L			01/25/18 21:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.41	ug/L			01/25/18 21:06	1
1,2,4-Trimethylbenzene	ND		1.0	0.75	ug/L			01/25/18 21:06	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-397378/6
Matrix: Water
Analysis Batch: 397378

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		1.0	0.39	ug/L			01/25/18 21:06	1
1,2-Dibromoethane	ND		1.0	0.73	ug/L			01/25/18 21:06	1
1,2-Dichlorobenzene	ND		1.0	0.79	ug/L			01/25/18 21:06	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			01/25/18 21:06	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			01/25/18 21:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.77	ug/L			01/25/18 21:06	1
1,3-Dichlorobenzene	ND		1.0	0.78	ug/L			01/25/18 21:06	1
1,4-Dichlorobenzene	ND		1.0	0.84	ug/L			01/25/18 21:06	1
2-Butanone (MEK)	ND		10	1.3	ug/L			01/25/18 21:06	1
2-Hexanone	ND		5.0	1.2	ug/L			01/25/18 21:06	1
4-Isopropyltoluene	ND		1.0	0.31	ug/L			01/25/18 21:06	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.1	ug/L			01/25/18 21:06	1
Acetone	ND		10	3.0	ug/L			01/25/18 21:06	1
Benzene	ND		1.0	0.41	ug/L			01/25/18 21:06	1
Bromodichloromethane	ND		1.0	0.39	ug/L			01/25/18 21:06	1
Bromoform	ND		1.0	0.26	ug/L			01/25/18 21:06	1
Bromomethane	ND		1.0	0.69	ug/L			01/25/18 21:06	1
Carbon disulfide	ND		1.0	0.19	ug/L			01/25/18 21:06	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			01/25/18 21:06	1
Chlorobenzene	ND		1.0	0.75	ug/L			01/25/18 21:06	1
Chloroethane	ND		1.0	0.32	ug/L			01/25/18 21:06	1
Chloroform	ND		1.0	0.34	ug/L			01/25/18 21:06	1
Chloromethane	ND		1.0	0.35	ug/L			01/25/18 21:06	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			01/25/18 21:06	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			01/25/18 21:06	1
Cyclohexane	ND		1.0	0.18	ug/L			01/25/18 21:06	1
Dibromochloromethane	ND		1.0	0.32	ug/L			01/25/18 21:06	1
Dichlorodifluoromethane	ND		1.0	0.68	ug/L			01/25/18 21:06	1
Ethylbenzene	ND		1.0	0.74	ug/L			01/25/18 21:06	1
Isopropylbenzene	ND		1.0	0.79	ug/L			01/25/18 21:06	1
m,p-Xylene	ND		2.0	0.66	ug/L			01/25/18 21:06	1
Methyl acetate	ND		2.5	1.3	ug/L			01/25/18 21:06	1
Methyl tert-butyl ether	ND		1.0	0.16	ug/L			01/25/18 21:06	1
Methylcyclohexane	ND		1.0	0.16	ug/L			01/25/18 21:06	1
Methylene Chloride	0.496	J	1.0	0.44	ug/L			01/25/18 21:06	1
n-Butylbenzene	ND		1.0	0.64	ug/L			01/25/18 21:06	1
N-Propylbenzene	ND		1.0	0.69	ug/L			01/25/18 21:06	1
o-Xylene	ND		1.0	0.76	ug/L			01/25/18 21:06	1
sec-Butylbenzene	ND		1.0	0.75	ug/L			01/25/18 21:06	1
Styrene	ND		1.0	0.73	ug/L			01/25/18 21:06	1
tert-Butylbenzene	ND		1.0	0.81	ug/L			01/25/18 21:06	1
Tetrachloroethene	ND		1.0	0.36	ug/L			01/25/18 21:06	1
Toluene	ND		1.0	0.51	ug/L			01/25/18 21:06	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			01/25/18 21:06	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			01/25/18 21:06	1
Trichloroethene	ND		1.0	0.46	ug/L			01/25/18 21:06	1
Trichlorofluoromethane	ND		1.0	0.88	ug/L			01/25/18 21:06	1
Vinyl chloride	ND		1.0	0.90	ug/L			01/25/18 21:06	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-397378/6
Matrix: Water
Analysis Batch: 397378

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		2.0	0.66	ug/L			01/25/18 21:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*01/25/18 21:06*	*1*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*01/25/18 21:06*	*1*
Toluene-d8 (Surr)	*102*		*80 - 120*		*01/25/18 21:06*	*1*

Lab Sample ID: LCS 480-397378/4
Matrix: Water
Analysis Batch: 397378

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	23.0		ug/L		92	73 - 126
1,1,2,2-Tetrachloroethane	25.0	23.2		ug/L		93	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	26.2		ug/L		105	61 - 148
1,1,2-Trichloroethane	25.0	26.6		ug/L		106	76 - 122
1,1-Dichloroethane	25.0	24.9		ug/L		100	77 - 120
1,1-Dichloroethene	25.0	25.7		ug/L		103	66 - 127
1,2,4-Trichlorobenzene	25.0	25.9		ug/L		103	79 - 122
1,2,4-Trimethylbenzene	25.0	23.6		ug/L		94	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	17.5		ug/L		70	56 - 134
1,2-Dibromoethane	25.0	26.7		ug/L		107	77 - 120
1,2-Dichlorobenzene	25.0	25.4		ug/L		102	80 - 124
1,2-Dichloroethane	25.0	25.0		ug/L		100	75 - 120
1,2-Dichloropropane	25.0	25.3		ug/L		101	76 - 120
1,3,5-Trimethylbenzene	25.0	23.3		ug/L		93	77 - 121
1,3-Dichlorobenzene	25.0	25.1		ug/L		100	77 - 120
1,4-Dichlorobenzene	25.0	24.8		ug/L		99	80 - 120
2-Butanone (MEK)	125	134		ug/L		107	57 - 140
2-Hexanone	125	123		ug/L		98	65 - 127
4-Isopropyltoluene	25.0	24.3		ug/L		97	73 - 120
4-Methyl-2-pentanone (MIBK)	125	127		ug/L		102	71 - 125
Acetone	125	124		ug/L		99	56 - 142
Benzene	25.0	25.8		ug/L		103	71 - 124
Bromodichloromethane	25.0	22.9		ug/L		92	80 - 122
Bromoform	25.0	22.7		ug/L		91	61 - 132
Bromomethane	25.0	26.6		ug/L		106	55 - 144
Carbon disulfide	25.0	22.7		ug/L		91	59 - 134
Carbon tetrachloride	25.0	20.9		ug/L		84	72 - 134
Chlorobenzene	25.0	26.5		ug/L		106	80 - 120
Chloroethane	25.0	26.7		ug/L		107	69 - 136
Chloroform	25.0	25.2		ug/L		101	73 - 127
Chloromethane	25.0	24.1		ug/L		97	68 - 124
cis-1,2-Dichloroethene	25.0	26.4		ug/L		106	74 - 124
cis-1,3-Dichloropropene	25.0	24.5		ug/L		98	74 - 124
Cyclohexane	25.0	22.9		ug/L		92	59 - 135
Dibromochloromethane	25.0	23.5		ug/L		94	75 - 125

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-397378/4
Matrix: Water
Analysis Batch: 397378

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	25.0	24.4		ug/L		98	59 - 135
Ethylbenzene	25.0	25.3		ug/L		101	77 - 123
Isopropylbenzene	25.0	22.9		ug/L		92	77 - 122
m,p-Xylene	25.0	25.9		ug/L		103	76 - 122
Methyl acetate	50.0	49.5		ug/L		99	74 - 133
Methyl tert-butyl ether	25.0	25.5		ug/L		102	77 - 120
Methylcyclohexane	25.0	25.6		ug/L		102	68 - 134
Methylene Chloride	25.0	25.5		ug/L		102	75 - 124
n-Butylbenzene	25.0	23.1		ug/L		92	71 - 128
N-Propylbenzene	25.0	23.0		ug/L		92	75 - 127
o-Xylene	25.0	26.2		ug/L		105	76 - 122
sec-Butylbenzene	25.0	23.4		ug/L		94	74 - 127
Styrene	25.0	26.1		ug/L		105	80 - 120
tert-Butylbenzene	25.0	23.4		ug/L		94	75 - 123
Tetrachloroethene	25.0	27.8		ug/L		111	74 - 122
Toluene	25.0	25.8		ug/L		103	80 - 122
trans-1,2-Dichloroethene	25.0	25.8		ug/L		103	73 - 127
trans-1,3-Dichloropropene	25.0	24.4		ug/L		98	80 - 120
Trichloroethene	25.0	24.6		ug/L		98	74 - 123
Trichlorofluoromethane	25.0	27.4		ug/L		109	62 - 150
Vinyl chloride	25.0	25.9		ug/L		104	65 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*
Toluene-d8 (Surr)	*104*		*80 - 120*

QC Association Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

GC/MS VOA

Analysis Batch: 397236

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-130541-1	TMW-2	Total/NA	Water	8260C	
480-130541-2	TMW-3	Total/NA	Water	8260C	
480-130541-3	TMW-4	Total/NA	Water	8260C	
480-130541-4	TMW-5	Total/NA	Water	8260C	
MB 480-397236/8	Method Blank	Total/NA	Water	8260C	
LCS 480-397236/6	Lab Control Sample	Total/NA	Water	8260C	

Analysis Batch: 397378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-130541-2 - DL	TMW-3	Total/NA	Water	8260C	
MB 480-397378/6	Method Blank	Total/NA	Water	8260C	
LCS 480-397378/4	Lab Control Sample	Total/NA	Water	8260C	

Lab Chronicle

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Client Sample ID: TMW-2
Date Collected: 01/23/18 12:50
Date Received: 01/24/18 15:50

Lab Sample ID: 480-130541-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	397236	01/25/18 16:10	ARS	TAL BUF

Client Sample ID: TMW-3
Date Collected: 01/23/18 13:35
Date Received: 01/24/18 15:50

Lab Sample ID: 480-130541-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		500	397236	01/25/18 16:33	ARS	TAL BUF
Total/NA	Analysis	8260C	DL	1000	397378	01/26/18 02:53	AEM	TAL BUF

Client Sample ID: TMW-4
Date Collected: 01/23/18 14:15
Date Received: 01/24/18 15:50

Lab Sample ID: 480-130541-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	397236	01/25/18 16:57	ARS	TAL BUF

Client Sample ID: TMW-5
Date Collected: 01/23/18 15:15
Date Received: 01/24/18 15:50

Lab Sample ID: 480-130541-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	397236	01/25/18 17:20	ARS	TAL BUF

Laboratory References:
TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Laboratory: TestAmerica Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-18

Method Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: Benchmark Env. Eng. & Science, PLLC
Project/Site: Benchmark - 3077-3097 Union Rd

TestAmerica Job ID: 480-130541-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-130541-1	TMW-2	Water	01/23/18 12:50	01/24/18 15:50
480-130541-2	TMW-3	Water	01/23/18 13:35	01/24/18 15:50
480-130541-3	TMW-4	Water	01/23/18 14:15	01/24/18 15:50
480-130541-4	TMW-5	Water	01/23/18 15:15	01/24/18 15:50

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228
Phone: 716.691.2600 Fax: 716.691.7991

Chain of Custody Record

182421

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-5210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: B. May back	Site Contact:	Date: 1/23/18	COC No:
Company Name: Turkey Environmental	Tel/Fax: 716-884-1699	Lab Contact: Brian Fischer	Carrier:	of COCs
Address: 3556 Harlem Turkey Suite 360	Analysis Turnaround Time			Sampler:
City/State/Zip: Buffalo, NY 14218	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 716-856-0599	TAT if different from Below			Walk-in Client:
Fax: 716-856-0583	☐ 2 weeks Std. See			Lab Sampling:
Project Name: 3077-3097 Union Road Phase II	☐ 1 week Email to			Job / SDG No.:
Site:	☐ 2 days Brian Fischer			
PO# Tonawanda-010	☐ 1 day			

480-130541 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	TCL + CP51 VOCs	Sample Specific Notes:
TMW-2	1-23-18	1250	G	W	3	N	N	X	
TMW-3	1-23-18	1335	G	W	3	N	N	X	
TMW-4	1-23-18	1415	G	W	3	N	N	X	
TMW-5	1-23-18	1515	G	W	3	N	N	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments: send to BMayback@benchmarkturkey.com

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.:

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Hunter Wakefield	BMTC	1-23-18/1600		TAL	1-24-18 1130
	TAL	1-24-18 1150		TA BUF	1/24/18 1550
	Company	Date/Time	Received in Laboratory by:	Company	Date/Time

BLUE ICE 14.5 #1

TestAmerica Buffalo

10 Hazelwood Drive

Amherst, NY 14228

Phone: 716.691.2600 Fax: 716.691.7991

Chain of Custody Record 182421

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

TAL-8210 (0713)

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact	Project Manager: Bryan Mayback	Site Contact:	Date: 1/23/18	COC No:
Company Name: Turnkey Environmental	Tel/Fax: 716-844-1699	Lab Contact: Brian Fischer	Carrier:	____ of ____ COCs
Address: 2558 Hamburg Turnpike, Suite 300	Analysis Turnaround Time			Sampler:
City/State/Zip: Buffalo, New York, 14218	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 716-856-0599	TAT if different from Below ____			Walk-in Client:
Fax: 716-856-0583	☐ 2 weeks Std. See			Lab Sampling:
Project Name: 3077-3097 Union Road Phase II	☐ 1 week Email to			
Site:	☐ 2 days Brian Fischer			Job / SDG No.:
PO # To105-017-010	☐ 1 day			

480-130541 COC

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	TCL + CP51 VOCs	Sample Specific Notes:
MW-6	1-23-18	1250	G	W	3	N	N	X	
MW-7	1-23-18	1335	G	W	3	N	N	X	
MW-8	1-23-18	1415	G	W	3	N	N	X	
MW-10	1-23-18	1515	G	W	3	N	N	X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☒ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments: Send to BMayback@benchmarkturnkey.com

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ | Therm ID No.: ____

	Company	Date/Time		Company	Date/Time
Relinquished by: Chester Mackrestor	BMTK	1-23-18/1600	Received by:	TAL	1-24-18 1130
Relinquished by:	TAL	1-24-18 1650	Received by:	TA Buf	1/24/18 1550
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

BLUE ICE 14.5 #1

Login Sample Receipt Checklist

Client: Benchmark Env. Eng. & Science, PLLC

Job Number: 480-130541-1

Login Number: 130541

List Source: TestAmerica Buffalo

List Number: 1

Creator: Williams, Christopher S

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	TURNKEY
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	