LIMITED PHASE II ENVIRONMENTAL SITE INVESTIGATION REPORT – GROUP #13

Smokin' Joe's Native Center
333 1st Street and 217 Old Falls Street
Niagara Falls, New York
Tax Section, Block, and Lot No. 159.09-1-2.11 and 2.12

18-263-1342

Prepared for:

USA Niagara Development Corporation
222 1st Street #7
Niagara Falls, NY 14303

Prepared by:

LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, New York 14209

Final Report
February 6, 2019

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1.0 INTRODUCTION

On behalf of USA Niagara Development Corporation (USAN), LiRo Engineers, Inc. (LiRo) conducted a Limited Phase II Environmental Site Investigation (ESI) for the Downtown Property Acquisition Due Diligence project located at 333 1st Street and 217 Old Falls Street (the "Site") in Niagara Falls, New York (Figure 1). LiRo completed a Phase I Environmental Site Assessment (ESA) for the subject Site dated October 22, 2018. The Phase II ESI was being performed to evaluate the Site for the presence of hazardous substances relative to recognized environmental conditions (RECs) identified in the Phase I ESA findings.

1.1 Project Objectives

The objective of the Phase II ESI is to perform a limited evaluation of Site environmental conditions. The Phase II ESI has been designed to develop a base of data sufficient to determine the presence of contaminants in soil and soil gas. Groundwater was not encountered during this Phase II ESI and consequently groundwater samples were not collected. The Phase II ESI was implemented in accordance with ASTM E1903 – 11 - Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process. Sampling and analysis was conducted following guidelines published in New York State Department of Environmental Conservation (NYSDEC) *DER-10 – Technical Guidance for Site Investigation and Remediation* (DER-10).

2.0 BACKGROUND

2.1 Site Setting

The Site is located in a mixed residential/commercial area in the City of Niagara Falls, New York. The site is developed with a two-story commercial building which includes Smokin' Joe's Native Center retail store and graphics department. The remainder of the Site structure is unoccupied. The Site structure occupies nearly the entire property.

2.2 Site Background and Previous Investigations

LiRo prepared a Phase I ESA for 333 1st Street and 217 Old Falls Street, which was dated October 22, 2018. The Phase I ESA identified the following RECs associated with the Site.

- Based on historical records, two gas tanks were located in the northwest corner of the Site from at least 1950 through at least 1970. This former on-site feature may have resulted in environmental impacts to the Site.

Based on the findings in the Phase I ESA, a Phase II was warranted to assess whether the two former on-site gas tanks resulted in environmental impacts to the Site.

3.0 SITE INVESTIGATION PROGRAM

3.1 Scope of Work

The following sections detail the work elements conducted during the Phase II ESI. The Phase II ESI conducted at the Site included the following investigation activities:

- Subsurface soil investigation to evaluate possible presence of contaminated soil; and,
- Sub-Slab vapor investigation to evaluate possible soil vapor intrusion from below the concrete flooring.

A LiRo geologist observed the advancement of four GeoProbe borings on the northwest corner of the Site to evaluate subsurface soil quality. The GeoProbe boring activities were performed by Nature's Way Environmental Consultants and Contractors, Inc. (Nature's Way), a qualified GeoProbe contractor. Prior to any intrusive work, underground structures such as septic tanks, fuel storage tanks, tunnels, and utilities (i.e., gas, electric, oil pipelines, telephone, and sewer and water lines) were identified and the locations of the soil borings were adjusted to prevent damage to such structures and utilities. This clearance procedure utilized the resources of the New York "Call Center." Similarly, overhead power lines, buried utilities, or underground structures were avoided.

The four soil borings were placed on the northeastern portion of the property corresponding to the aforementioned historical features (to the extent possible). Sample locations are shown on Figure 2. Soil boring depths were advanced from grade to sampler refusal which occurred at depths ranging from 4.0 to 9.0 feet below grade surface (ft bgs). Soil samples were collected at each boring location.

At the completion of sample collection, the soil borings were back-filled with the excavated materials. Logs were prepared for each soil boring and are included in Appendix A.

In addition to the soil sampling, a LiRo technician drilled one $\frac{1}{8}^{th}$-inch diameter hole through the northwestern portion of the slab of the on-site structure to assess sub-slab vapor conditions under the structure. Tubing was installed in the hole, just below the slab, and surface was sealed with beeswax. A SUMMA canister with a four-hour regulator was attached to the tubing to collect the sub-slab vapor sample.

3.2 Soil Investigation

The soil borings were advanced in approximately 4-foot sections using a macro-core sampler. LiRo's supervising geologist screened the soil from each sample for the presence of organic vapors using a photoionization detector (PID) and recorded field descriptions of the soil as well as PID readings. LiRo collected one composite soil sample and one grab soil sample from each soil boring.

3.3 Soil Sampling and Analysis

Soil samples were collected and placed in laboratory supplied, pre-cleaned sample jars labeled with a unique sample identification code, packed in a cooler with ice, and shipped under chain-of-custody control to Hampton-Clarke, Inc. (Hampton-Clarke) of Fairfield, New Jersey, a New York State Certified Laboratory (Environmental Laboratory Approval Program [ELAP] Certification #11408). Field-derived Quality Assurance/Quality Control (QA/QC) samples (i.e., field blank, trip blank, etc.) were not collected for this project.

All grab soil samples were analyzed for Target Compound List (TCL) volatile organic compounds (VOCs) using United States Environmental Protection Agency (USEPA) Method 8260. All composite soil samples were analyzed for TCL semi volatile organic compounds (SVOCs) using USEPA Method 8270, and Target Analyte List (TAL) metals using USEPA Methods 6010/7439.

3.4 Sub-Slab Vapor Sampling and Analysis

The sub-slab vapor sample was collected in a SUMMA canister, labelled with a unique sample identification code, packed in a laboratory-supplied box and shipped under chain-of-custody control to TestAmerica Laboratories, Inc. of South Burlington, Vermont, a New York State Certified Laboratory (ELAP Certification # 10391).

The sub-slab vapor sample was analyzed for VOCs in air using USEPA Method TO-15.

3.5 Identification of Standards, Criteria, and Guidance

Soil sample analytical results were compared to the NYSDEC Part 375 SCOs for Restricted-Residential and Commercial use.

The soil vapor sample analytical results were compared to the New York State Department of Health's (NYSDOH) Air Guidance Values and vapor intrusion guidance values published in the decision matrixes of NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of NY.

4.0 GEOLOGY AND HYDROGEOLOGY

4.1 Site and Regional Topographic Setting

LiRo reviewed the United States Geologic Survey (USGS), Niagara Falls, New York 7.5' Quadrangle (2017). The elevation at the Site is approximately 575 feet above mean sea level (amsl). The area immediately surrounding the Site has a general slope toward the southwest.

4.2 Site and Regional Geology

Regional geology is based on information provided in the Geologic and Surficial Geologic Maps of New York State (Niagara Sheets). Based on these sources, the regional geology shows the Site being located within the Lockport Group. The Lockport Group is characterized by the Guelph, Oak Orchard, Eramosa, and Goat Island Dolostones and Gasport Limestone with a thickness between 45-60 meters. The surficial geology is characterized as till, with variable texture, sorting, and clast size. The till is characterized by a relatively impermeable loamy matrix with various thickness ranging from 1-50 meters.

Soil observations during the Phase II ESI indicated that fill material, which generally consisted of gray, brown, and black fine to medium sand and gravel with little silt was present from grade up to 4.2 ft bgs. Native soils that consisted of brown clayey silts with some sand and gravel were observed underlying the fill materials. GeoProbe sampler refusal, which was likely due to bedrock, was encountered at depths ranging between 4.0 ft bgs within SB-02 and 9 ft bgs within SB-03. Boring logs, which describe the Site soils, are included as Appendix A.

4.3 Site and Regional Hydrogeology

Groundwater was not encountered in any of the soil borings.

The closest water body, the Niagara River, is located approximately 1,600 ft. northwest of the Site.

5.0 NATURE AND EXTENT OF CONTAMINATION

Soil analytical data for TCL VOCs, TCL SVOCs, and TAL Metals were compared to the SCOs listed in 6 NYCRR Part 375 for Restricted-Residential and Commercial uses. Soil vapor analytical data for VOCs in air were compared to NYSDOH Air Guidance Values of Evaluating Soil Vapor Intrusion. Laboratory analytical reports are included in Appendix B.

5.1 Subsurface Soil Contamination

A total of four grab and four composite samples of subsurface soil were collected from the four borings advanced at the Site for chemical analysis. The subsurface soil analytical results for detected compounds are presented in Table 1 through Table 3. Figure 3 illustrates the subsurface soil sample locations where: (1) analytical results did not indicate any exceedances of the Restricted Residential Use SCOs; (2) analytical results indicated exceedances of Restricted Residential Use SCOs; or, (3) analytical results indicated exceedances of Commercial Use SCOs.

Four grab samples were collected for VOC analysis from the four soil boring locations. VOCs were detected in all four of the grab samples collected. In the sample collected from SB-01 at 8.1 ft bgs, m&p-xylenes were detected. In the sample collected from SB-02 at 4.0 ft bgs, tetrachloroethene was detected. In the sample collected from SB-03 at 8.0 ft bgs, ethlybenzene and m&p-xylenes were detected. In the sample collected from SB-04, chloroform, m&p-xylenes, methylene chloride, tetrachloroethene, and trichloroethene were detected. All of the reported VOC concentrations were below the Restricted-Residential Use SCOs. Table 1 presents a summary of VOC detections in subsurface soils.

SVOCs were detected in all four subsurface samples. The composite soil sample collected from SB-04 at 0-4.0 ft bgs had detections of benzo(b)fluoranthene and indeno[1,2,3-cd]pyrene in exceedance of the Restricted-Residential SCOs. All other SVOCs were detected at concentrations below the Restricted-Residential and Commercial Use SCOs. Table 2 presents a summary of the SVOC detections in subsurface soils.

Metals were detected in all four subsurface soil samples. The composite sample collected from SB-02 at 2.0-4.7 ft bgs reported cadmium at a concentration in exceedance of the Restricted-Residential Use SCO and barium at a concentration in exceedance of the Restricted-Residential and Commercial Use SCOs. The composite sample collected from SB-04 from 0-4.0 ft bgs reported lead at a concentration in exceedance of the Restricted-Residential Use SCO and

mercury at a concentration in exceedance of the Restricted-Residential and Commercial Use SCOs. Table 3 presents a summary of metals detections in subsurface soils.

5.2 Sub-Slab Vapor Contamination

One sub-slab vapor sample was collected for VOC in air analysis. The sub-slab vapor sample was collected below on the ground floor in the northwestern portion of the structure. Based on the analytical results, numerous VOCs were reported at concentrations above laboratory method detection limits. Tetrachloroethylene and trichloroethene are the only analytes detected that have NYSDOH Air Guidance Values (AGVs). In addition, the concentrations were below the sub-slab vapor concentration thresholds published in the NYSDOH decision matrices. The tetrachloroethylene and trichloroethene concentrations reported in the sample were far below the AGVs. There was no evidence from the laboratory results that the RECs identified had any significant impacts to air at the Site. Table 4 presents a summary of VOC detections in air.

6.0 CONCLUSIONS AND RECOMMENDATIONS

LiRo performed a Phase II ESI at the Site between December 10, 2018 and December 12, 2018 that consisted of subsurface soil sampling and soil vapor sampling to assess the RECs identified in the LiRo Phase I ESA report.

6.1 Conclusions

Based on the results of the Phase II ESI, the following conclusions are presented:

- The study area is underlain by fill material, which generally consisted of gray, brown, and black fine to medium sand and gravel with little silt from grade to up to 6.0 ft bgs. Native soils that consisted of brown clayey silts with some sand and gravel were observed underlying the fill materials. GeoProbe sampler refusal, which was likely due to bedrock, was encountered at depths ranging between 4.0 ft bgs within SB-02 and 9 ft bgs within SB-03;
- LiRo's field screening (i.e., PID readings and visual and olfactory observations) did not identify any observably impacted soils at the Site;
- Based on the analytical results, the former on-site gas station does not appear to have had any significant impact soil at the Site. Subsurface soil sample results indicated concentrations of select SVOCs and/or metals in exceedance of the applicable Part 375 Restricted Use – Restricted-Residential and/or Commercial SCOs in samples SB-02 and SB-04. These compounds are typical for urban fill;
- There was no evidence from the laboratory results that the REC identified has had any significant impacts to sub-slab vapor at the Site. Sub-slab vapor sample results did not exceed NYSDOH Air Guidance Values or action levels; and,
- Groundwater was not encountered in any of the soil borings.

6.2 Recommendations

The Site is not in any regulatory program and the soils are covered (with concrete or asphalt), therefore, no action is required relative to the soil conditions. If future construction or Site re-development work requires soil excavation/disturbance, the Contractor/Developer should be advised of the findings of this investigation. Any fill soil excavated from the Site must be managed in compliance with NYSDEC solid waste regulations (6 NYCRR Part 360).

TABLES

Table 1 - Summary of Target Compound List Volatile Organic Compound Detections in Subsurface Soil

Smokin' Joe's Native Center
333 1st Street and 217 Old Falls Street
Niagara Falls, NY
Group #13

VOCs	NYSDEC Part 375-6.8 (b) Restricted Use - Restricted Residential SCOs	NYSDEC Part 375-6.8 (b) Restricted Use - Commercial SCOs	Sample Location, Sample ID, Depth, and Date Collected			
			GROUP 13 SB-01	GROUP 13 SB-02	GROUP 13 SB-03	GROUP 13 SB-04
			333 1st SB-01 8.1'	333 1st SB-02 4.0'	333 1st SB-03 9.0'	333 1st SB-04 3.5'
			8.1'	4.0'	9.0'	3.5'
			12/10/2018	12/10/2018	12/10/2018	12/10/2018
Chloroform	49	350	ND	ND	ND	0.0029
Ethylbenzene	41	390	ND	ND	0.0012	ND
m&p-Xylenes	100	500	0.0026	ND	0.0018	0.0014
Methylene chloride	100	500	ND	ND	ND	0.007
Tetrachloroethene	19	150	ND	0.0066	ND	0.18
Trichloroethene	21	200	ND	ND	ND	0.18
Xylenes (Total)	100	500	0.0026	ND	0.0018	0.0014
Total VOCs	NS	NS	0.0052	0.0066	0.0048	0.3727

Notes:

All concentrations are reported in parts per million (ppm or mg/kg).

ND = Compound not detected above method detection limit (see attached lab report for mdl's).

NS = No Standard.

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006).

Bold = Concentration exceeds NYSDEC Part 375-6.8 (b) Restricted Use - Restricted Residential SCOs.

Shading = Concentration exceeds NYSDEC Part 375-6.8 (b) Restricted Use - Commercial SCOs.

Only detected parameters are included in the table above.

Table 2 - Summary of Target Compound List Semi-Volatile Organic Compound Detections in Subsurface Soil

Smokin' Joe's Native Center
333 1st Street and 217 Old Falls Street
Niagara Falls, NY
Group #13

SVOCs	NYSDEC Part 375-6.8 (b) Restricted Use - Restricted Residential SCOs	NYSDEC Part 375-6.8 (b) Restricted Use - Commercial SCOs	Sample Location, Sample ID, Depth, and Date Collected			
			GROUP 13 SB-01	GROUP 13 SB-02	GROUP 13 SB-03	GROUP 13 SB-04
			333 1st SB-01 1.8-3.1'	333 1st SB-02 2.0-3.7'	333 1st SB-03 0.8-4.0'	333 1st SB-04 0-4.0'
			1.8-3.1'	2.0-3.7'	0.8-4.0'	0-4.0'
			12/10/2018	12/10/2018	12/10/2018	12/10/2018
2-Methylnaphthalene	NS	NS	ND	ND	ND	0.15
Acenaphthylene	100	500	ND	ND	ND	0.13
Anthracene	100	500	ND	ND	ND	0.33
Benzo[a]anthracene	1	5.6	ND	ND	ND	0.95
Benzo[a]pyrene	1	1	ND	ND	ND	0.94
Benzo[b]fluoranthene	1	5.6	ND	ND	ND	**1.2**
Benzo[g,h,i]perylene	100	500	ND	ND	ND	0.61
Benzo[k]fluoranthene	3.9	56	ND	ND	ND	0.38
Carbazole	NS	NS	ND	ND	ND	0.12
Chrysene	3.9	56	ND	ND	ND	0.88
Dibenzo[a,h]anthracene	0.33	0.56	ND	ND	ND	0.15
Dibenzofuran	59	350	ND	ND	ND	0.063
Fluoranthene	100	500	ND	ND	ND	1.7
Hexachlorobutadiene	NS	NS	0.039	ND	0.12	0.18
Indeno[1,2,3-cd]pyrene	0.5	5.6	ND	ND	ND	**0.55**
Naphthalene	100	500	ND	ND	ND	0.073
Phenanthrene	100	500	ND	ND	ND	1.4
Pyrene	100	500	ND	ND	ND	1.8
Total SVOCs	NS	NS	0.039	ND	0.12	12

Notes:

All concentrations are reported in parts per million (ppm or mg/kg).

ND = Compound not detected above method detection limit (see attached lab report for mdl's).

NS = No Standard.

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006).

Bold = Concentration exceeds NYSDEC Part 375-6.8 (b) Restricted Use - Restricted Residential SCOs.

Shading = Concentration exceeds NYSDEC Part 375-6.8 (b) Restricted Use - Commercial SCOs.

Only detected parameters are included in the table above.

Table 3 - Summary of Target Analyte List Metal Detections in Subsurface Soil

Smokin' Joe's Native Center
333 1st Street and 217 Old Falls Street
Niagara Falls, NY
Group #13

Metals	NYSDEC Part 375-6.8 (b) Restricted Use - Restricted Residential SCOs	NYSDEC Part 375-6.8 (b) Restricted Use - Commercial SCOs	Sample Location, Sample ID, Depth, and Date Collected			
			GROUP 13 SB-01	GROUP 13 SB-02	GROUP 13 SB-03	GROUP 13 SB-04
			333 1st SB-01 1.8-3.1'	333 1st SB-02 2.0-3.7'	333 1st SB-03 0.8-4.0'	333 1st SB-04 0-4.0'
			1.8-3.1'	2.0-3.7'	0.8-4.0'	0-4.0'
			12/10/2018	12/10/2018	12/10/2018	12/10/2018
Mercury	0.81	2.8	0.18	ND	0.11	**20**
Aluminum	NS	NS	16,000	2,100	6,100	5,000
Barium	400	400	80	**590**	46	140
Calcium	NS	NS	180,000	490,000	200,000	680,000
Chromium	110	400	22	6.9	11	19
Cobalt	NS	NS	13	3.9	5.8	5.4
Copper	270	270	23	ND	11	37
Iron	NS	NS	30,000	15,000	14,000	18,000
Lead	400	1,000	190	140	140	**410**
Magnesium	NS	NS	110,000	290,000	110,000	400,000
Manganese	2,000	10,000	1,900	1,700	1,000	1,900
Nickel	310	310	29	13	13	18
Potassium	NS	NS	1,800	1,300	1,100	1,200
Sodium	NS	NS	1,900	880	1,000	1,700
Zinc	10,000	10,000	2,700	1,300	750	1,600
Arsenic	16	16	8	3.4	3.9	11
Cadmium	4.3	9.3	2.8	**5.5**	ND	ND

Notes:

All concentrations are in parts per million (ppm or mg/kg).

ND = Compound not detected above method detection limit (see attached lab report for mdl's).

NS = No Standard

SCOs = Soil Cleanup Objectives as per the NYSDEC Regulations 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (December 14, 2006).

Bold = Concentration exceeds NYSDEC Part 375-6.8 (b) Restricted Use - Restricted Residential SCOs.

Shading = Concentration exceeds NYSDEC Part 375-6.8 (b) Restricted Use - Commercial SCOs.

Only detected parameters are included on the table above.

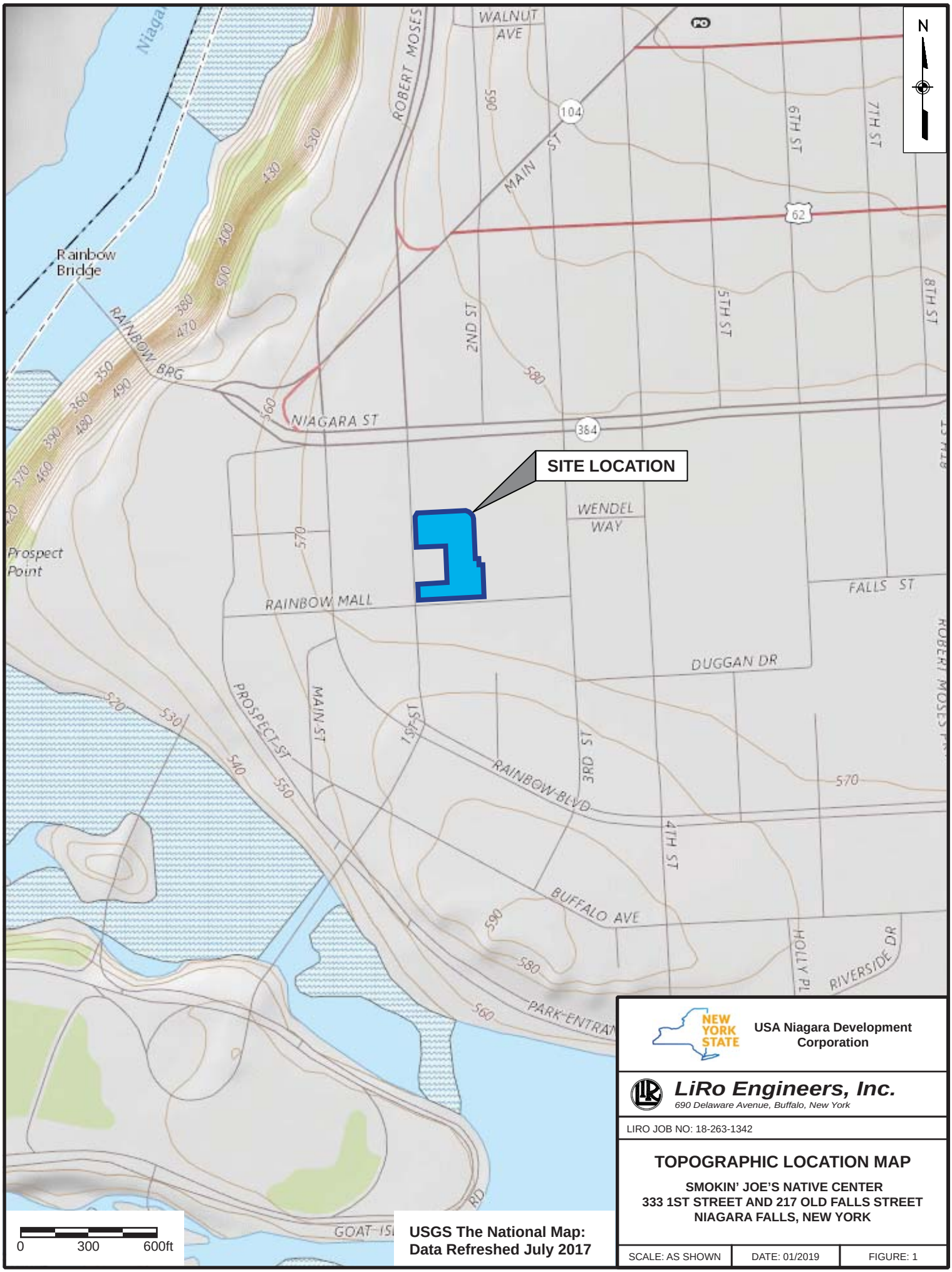
Table 4 - Summary of Volatile Organic Compounds in Sub-Slab Vapor

Smokin' Joe's Native Center
333 1st Street and 217 Old Falls Street
Niagara Falls, NY
Group #13

Parameters	Matrix Sub-Slab Vapor Concentration Range	New York State Department of Health Air Guidance Value	Sample ID	333 1st Street	
			Laboratory ID	200-46679-1	
			Date Collected	12/11/2018	
			Type	Sub-Slab Vapor	
			Matrix	Air	
Volatile Organic Compounds (VOCs)			Units		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	NC	NC	µg/m^3	0.9	J
1,2,4-Trimethylbenzene	NC	NC	µg/m^3	3.6	
1,3,5-Trimethylbenzene	NC	NC	µg/m^3	1.1	J
1,4-Dichlorobenzene	NC	NC	µg/m^3	28	
4-Ethyltoluene (p-Ethyltoluene)	NC	NC	µg/m^3	0.68	J
4-Isopropyltoluene	NC	NC	µg/m^3	0.81	J
Acetone	NC	NC	µg/m^3	23	J
Benzene	NC	NC	µg/m^3	1.1	J
n-Butane	NC	NC	µg/m^3	2.6	
Carbon disulfide	NC	NC	µg/m^3	2.6	J
Carbon tetrachloride	6 to <60	NC	µg/m^3	0.42	J
Chlorodifluoromethane (Freon 22)	NC	NC	µg/m^3	2.1	J
Chloroform	NC	NC	µg/m^3	0.86	J
Cyclohexane	NC	NC	µg/m^3	0.52	J
Dichlorodifluoromethane	NC	NC	µg/m^3	6	
Ethylbenzene	NC	NC	µg/m^3	1.4	J
m,p-Xylene	NC	NC	µg/m^3	6.4	
Methyl ethyl ketone	NC	NC	µg/m^3	3.7	
n-Butylbenzene	NC	NC	µg/m^3	0.87	J
n-Heptane	NC	NC	µg/m^3	2	
n-Hexane	NC	NC	µg/m^3	2	
o-Xylene	NC	NC	µg/m^3	2.3	
Styrene	NC	NC	µg/m^3	1	J
Tetrachloroethylene	100 to <1000	100	µg/m^3	11	
Toluene	NC	NC	µg/m^3	5.3	
Trichloroethene	6 to <60	5	µg/m^3	2.5	
Trichlorofluoromethane	NC	NC	µg/m^3	3	
Xylenes (Total)	NC	NC	µg/m^3	8.9	

Notes:
All concentrations are reported in micrograms per cubic meter (ug/m3)
NC = No Criteria
ND = Compound not detected above method detection limit (see attached lab report for detection limits)
J = Result is less than the reporting limit but greater or equal to the method detection limit and the concentration is an approximate value.

FIGURES



NEW YORK STATE

USA Niagara Development Corporation

LiRo Engineers, Inc.

690 Delaware Avenue, Buffalo, New York

LIRO JOB NO: 18-263-1342

TOPOGRAPHIC LOCATION MAP

SMOKIN' JOE'S NATIVE CENTER
333 1ST STREET AND 217 OLD FALLS STREET
NIAGARA FALLS, NEW YORK

SCALE: AS SHOWN	DATE: 01/2019	FIGURE: 1

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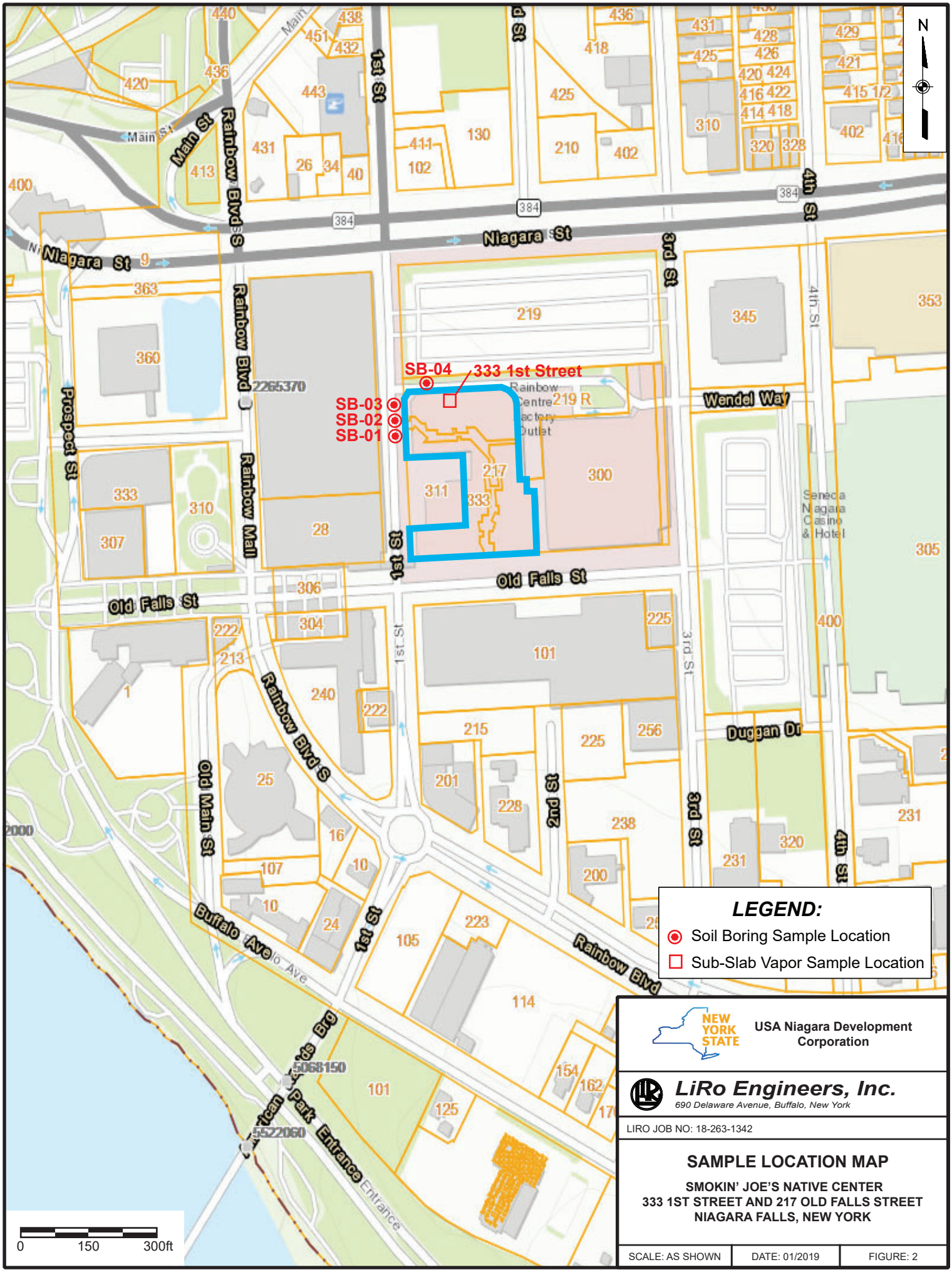

NEW YORK STATE

USA Niagara Development Corporation

LiRo Engineers, Inc.
690 Delaware Avenue, Buffalo, New York

LIRO JOB NO: 18-263-1342

SAMPLE LOCATION MAP

SMOKIN' JOE'S NATIVE CENTER
333 1ST STREET AND 217 OLD FALLS STREET
NIAGARA FALLS, NEW YORK

SCALE: AS SHOWN	DATE: 01/2019	FIGURE: 2

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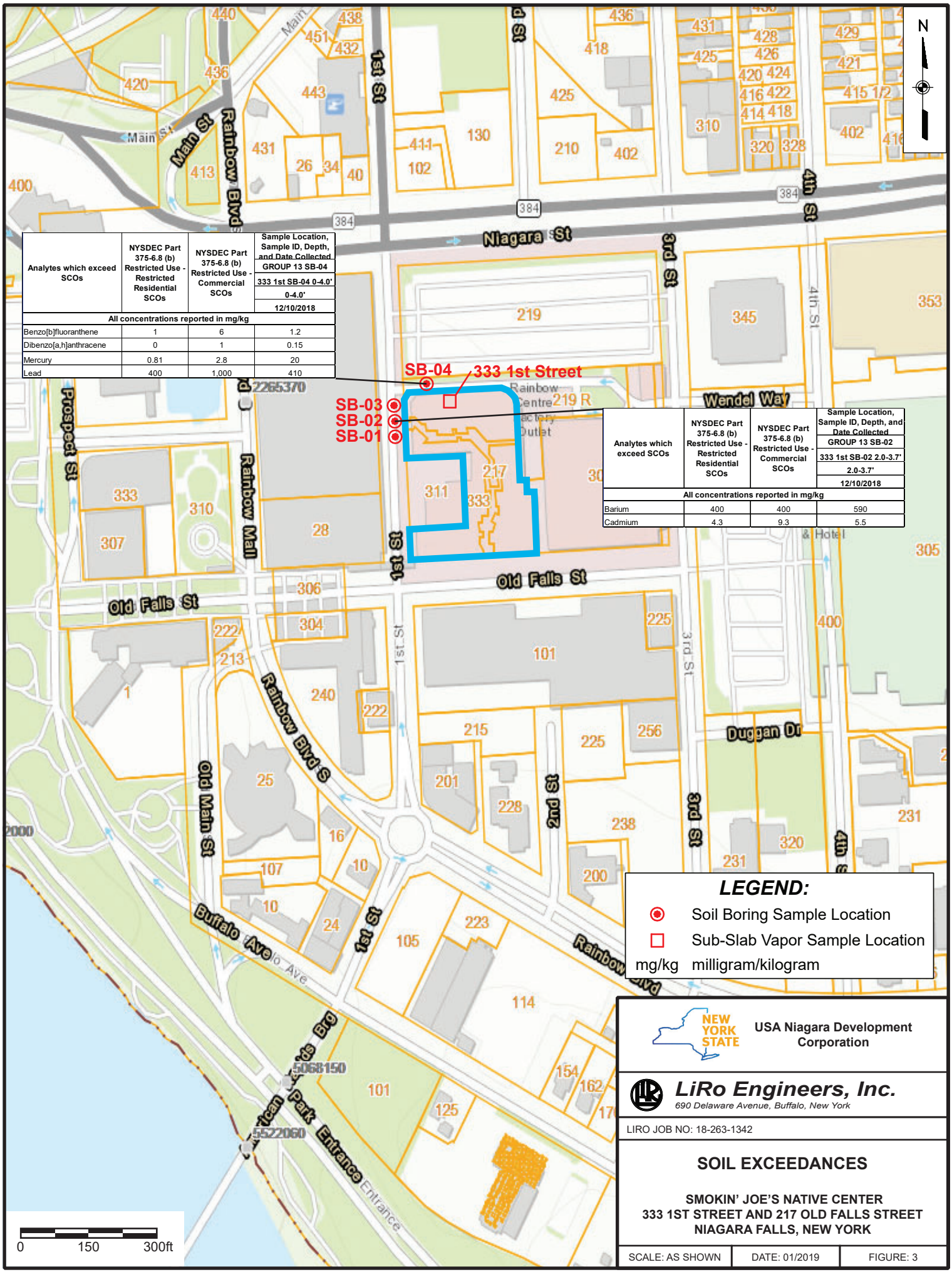

Analytes which exceed SCOs	NYSDEC Part 375-6.8 (b) Restricted Use - Restricted Residential SCOs	NYSDEC Part 375-6.8 (b) Restricted Use - Commercial SCOs	Sample Location, Sample ID, Depth, and Date Collected
			GROUP 13 SB-04
			333 1st SB-04 0-4.0'
			0-4.0'
			12/10/2018
All concentrations reported in mg/kg			
Benzo[b]fluoranthene	1	6	1.2
Dibenzo[a,h]anthracene	0	1	0.15
Mercury	0.81	2.8	20
Lead	400	1,000	410

Analytes which exceed SCOs	NYSDEC Part 375-6.8 (b) Restricted Use - Restricted Residential SCOs	NYSDEC Part 375-6.8 (b) Restricted Use - Commercial SCOs	Sample Location, Sample ID, Depth, and Date Collected
			GROUP 13 SB-02
			333 1st SB-02 2.0-3.7'
			2.0-3.7'
			12/10/2018
All concentrations reported in mg/kg			
Barium	400	400	590
Cadmium	4.3	9.3	5.5

LEGEND:

- Soil Boring Sample Location
- Sub-Slab Vapor Sample Location
- mg/kg milligram/kilogram

NEW YORK STATE

USA Niagara Development Corporation

LiRo Engineers, Inc.
690 Delaware Avenue, Buffalo, New York

LIRO JOB NO: 18-263-1342

SOIL EXCEEDANCES

SMOKIN' JOE'S NATIVE CENTER
333 1ST STREET AND 217 OLD FALLS STREET
NIAGARA FALLS, NEW YORK

SCALE: AS SHOWN	DATE: 01/2019	FIGURE: 3

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APPENDIX A

Soil Boring Logs

LiRo Engineers, Inc.

TEST BORING LOG

BORING ID:	SB-01
PROJECT:	USA Niagara
SHEET:	**1 of 1**
CLIENT:	USA Niagara Development Corporation
JOB NO.:	**18-263-1342**
BORING CONTRACTOR:	Nature's Way Environmental
LOCATION:	333 1st and 217 Old Falls
GROUNDWATER:	N/A
GROUND ELEVATION:	

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	TUBE
				TYPE			
				DIA.			
				WT.			
				FALL			

DATE STARTED:	December 10, 2018
DATE FINISHED:	December 10, 2018
DRILLER:	Nature's Way Environmental
GEOLOGIST:	Andrew Koons
REVIEWED BY:	

DEPTH FEET	SAMPLE STRATA	"S" NO.	"N" NO.	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	REMARKS
						Black		ASPHALT and CONCRETE (0-0.8')		PID
					70%	Gray		CRUSHED STONE (0.8-1.8")	FILL	0 ppm
						Brown and Gray		FILL: sand and gravel, little silt, trace brick (1.8-3.1')	FILL	0 ppm
5					80%	Brown		CLAYEY SILT, some sand and gravel (3.1-8.4')	ML	0 ppm
10								Refusal @ 8.4'		
15										
20										
25										
30										
35										

COMMENTS: Soil samples collected @ 8.1' for VOCs and 1.8-3.1' for SVOCs and Metals

PROJECT NO.:	**18-263-1342**
BORING NO.:	SB-01

LiRo Engineers, Inc.

TEST BORING LOG

BORING ID:	SB-02
PROJECT: USA Niagara	**SHEET:** 1 of 1
CLIENT: USA Niagara Development Corporation	**JOB NO.:** 18-263-1342
BORING CONTRACTOR: Nature's Way Environmental	**LOCATION:** 333 1st & 217 Old Falls
GROUNDWATER: N/A	**GROUND ELEVATION:**
DATE STARTED:	December 10, 2018
DATE FINISHED:	December 10, 2018
DRILLER:	Nature's Way Environmental
GEOLOGIST:	Andrew Koons
REVIEWED BY:	

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	TUBE
				TYPE			
				DIA.			
				WT.			
				FALL			

DEPTH FEET	SAMPLE STRATA	"S" NO.	"N" NO.	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	REMARKS
						Black		ASPHALT (0-0.8')		PID
					70%	Gray		CRUSHED STONE (0.8-2.0')	FILL	0 ppm
						Brown		FILL: sand and gravel, trace lay, trace organics (2.0-3.7')	FILL	0 ppm
						Brown		CLAYEY SILT, some sand and gravel (3.7-4.0')	ML	0 ppm
5								Refusal @ 4.0'		
10										
15										
20										
25										
30										
35										

COMMENTS: Soil samples collected @ 4.0' for VOCs and 2.0-3.7' for SVOCs and Metals

PROJECT NO.: 18-263-1342

BORING NO.: SB-02

LiRo Engineers, Inc.

TEST BORING LOG

BORING ID:	SB-03
PROJECT: USA Niagara	**SHEET:** 1 of 1
CLIENT: USA Niagara Development Corporation	**JOB NO.:** 18-263-1342
BORING CONTRACTOR: Nature's Way Environmental	**LOCATION:** 333 1st and 217 Old Falls
GROUNDWATER: N/A	**GROUND ELEVATION:**
DATE STARTED:	December 10, 2018
DATE FINISHED:	December 10, 2018
DRILLER:	Nature's Way Environmental
GEOLOGIST:	Andrew Koons
REVIEWED BY:	

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	TUBE
				TYPE			
				DIA.			
				WT.			
				FALL			

DEPTH FEET	SAMPLE STRATA	"S" NO.	"N" NO.	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	REMARKS
						Black		ASPHALT and CONCRETE (0-0.8')		PID
					70%	Brown and Gray		FILL: sand and gravel, trace clay, trace brick (0.8-6.0')	FILL	0 ppm
5					70%					
						Brown		CLAYEY SILT, some sand and gravel (6.0-9.0')	ML	0 ppm
					10%					
10								Refusal @ 9.0'		
15										
20										
25										
30										
35										

COMMENTS: Soil samples collected @ 9.0' for VOCs and 0.8-4.0' for SVOCs and Metals

PROJECT NO.: 18-263-1342

BORING NO.: SB-03

LiRo Engineers, Inc.

TEST BORING LOG

BORING ID:	SB-04
PROJECT:	USA Niagara
SHEET:	**1 of 1**
CLIENT:	USA Niagara Development Corporation
JOB NO.:	**18-263-1342**
BORING CONTRACTOR:	Nature's Way Environmental
LOCATION:	333 1st & 217 Old Falls
GROUNDWATER:	N/A
GROUND ELEVATION:	

DATE	TIME	LEVEL	TYPE		CAS.	SAMPLER	TUBE
				TYPE			
				DIA.			
				WT.			
				FALL			

DATE STARTED:	December 10, 2018
DATE FINISHED:	December 10, 2018
DRILLER:	Nature's Way Environmental
GEOLOGIST:	Andrew Koons
REVIEWED BY:	

DEPTH FEET	SAMPLE STRATA	"S" NO.	"N" NO.	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	REMARKS
						Black		ASPHALT and CONCRETE (0-0.4')		PID
					60%	Brown and Gray		FILL: sand and gravel, trace clay, trace brick (0.4-5.5')	FILL / ML	0 ppm
5					10%					
								Refusal @ 5.5'		
10										
15										
20										
25										
30										
35										

COMMENTS: Soil samples collected @ 3.5' for VOCs and 0.4-4.0' for SVOCs and Metals

PROJECT NO.:	**18-263-1342**
BORING NO.:	SB-04

APPENDIX B

Analytical Laboratory Reports

Hampton-Clarke
Analytical & Field Services

175 ROUTE 46 WEST, UNIT D · FAIRFIELD, NJ 07004
2 MADISON ROAD, FAIRFIELD, NJ 07004
800-426-9992 · 973-244-9770
FAX: 973-244-9787
WWW.HCVLAB.COM

Project: USA Niagara

Client PO: Not Available

Report To: LIRO Engineers, Inc.
690 Delaware Avenue
Buffalo, NY 14209

Attn: Steve Frank

Received Date: 12/12/2018

Report Date: 12/28/2018

Deliverables: NYDOH-R

Lab ID: AD08162

Lab Project No: 8121203

Robin Cousineau - Quality Assurance Director OR **Jean Revolus - Laboratory Director**

NJ (07071) NY (ELAP11408) CT (PH-0671)
PA (68-00463) KY (90124)

Sample ID: 333 1st-SB-01 8.1' | **Collection Date:** 12/10/2018
Lab#: AD08162-009 | **Receipt Date:** 12/12/2018
Matrix: Soil

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		92

Volatile Organics + 15 (8260)

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.988	mg/kg	0.0021	ND
1,1,2,2-Tetrachloroethane	0.988	mg/kg	0.0021	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.988	mg/kg	0.0021	ND
1,1,2-Trichloroethane	0.988	mg/kg	0.0021	ND
1,1-Dichloroethane	0.988	mg/kg	0.0021	ND
1,1-Dichloroethene	0.988	mg/kg	0.0021	ND
1,2,3-Trichlorobenzene	0.988	mg/kg	0.0021	ND
1,2,4-Trichlorobenzene	0.988	mg/kg	0.0021	ND
1,2-Dibromo-3-chloropropane	0.988	mg/kg	0.0021	ND
1,2-Dibromoethane	0.988	mg/kg	0.0021	ND
1,2-Dichlorobenzene	0.988	mg/kg	0.0021	ND
1,2-Dichloroethane	0.988	mg/kg	0.0021	ND
1,2-Dichloropropane	0.988	mg/kg	0.0021	ND
1,3-Dichlorobenzene	0.988	mg/kg	0.0021	ND
1,4-Dichlorobenzene	0.988	mg/kg	0.0021	ND
1,4-Dioxane	0.988	mg/kg	0.11	ND
2-Butanone	0.988	mg/kg	0.0021	ND
2-Hexanone	0.988	mg/kg	0.0021	ND
4-Methyl-2-pentanone	0.988	mg/kg	0.0021	ND
Acetone	0.988	mg/kg	0.011	ND
Benzene	0.988	mg/kg	0.0011	ND
Bromochloromethane	0.988	mg/kg	0.0021	ND
Bromodichloromethane	0.988	mg/kg	0.0021	ND
Bromoform	0.988	mg/kg	0.0021	ND
Bromomethane	0.988	mg/kg	0.0021	ND
Carbon disulfide	0.988	mg/kg	0.0021	ND
Carbon tetrachloride	0.988	mg/kg	0.0021	ND
Chlorobenzene	0.988	mg/kg	0.0021	ND
Chloroethane	0.988	mg/kg	0.0021	ND
Chloroform	0.988	mg/kg	0.0021	ND
Chloromethane	0.988	mg/kg	0.0021	ND
cis-1,2-Dichloroethene	0.988	mg/kg	0.0021	ND
cis-1,3-Dichloropropene	0.988	mg/kg	0.0021	ND
Cyclohexane	0.988	mg/kg	0.0021	ND
Dibromochloromethane	0.988	mg/kg	0.0021	ND
Dichlorodifluoromethane	0.988	mg/kg	0.0021	ND
Ethylbenzene	0.988	mg/kg	0.0011	ND
Isopropylbenzene	0.988	mg/kg	0.0011	ND
m&p-Xylenes	**0.988**	**mg/kg**	**0.0011**	**0.0026**
Methyl Acetate	0.988	mg/kg	0.0021	ND
Methylcyclohexane	0.988	mg/kg	0.0021	ND
Methylene chloride	0.988	mg/kg	0.0021	ND
Methyl-t-butyl ether	0.988	mg/kg	0.0011	ND
o-Xylene	0.988	mg/kg	0.0011	ND
Styrene	0.988	mg/kg	0.0021	ND
Tetrachloroethene	0.988	mg/kg	0.0021	ND
Toluene	0.988	mg/kg	0.0011	ND
trans-1,2-Dichloroethene	0.988	mg/kg	0.0021	ND
trans-1,3-Dichloropropene	0.988	mg/kg	0.0021	ND
Trichloroethene	0.988	mg/kg	0.0021	ND
Trichlorofluoromethane	0.988	mg/kg	0.0021	ND
Vinyl chloride	0.988	mg/kg	0.0021	ND
Xylenes (Total)	**0.988**	**mg/kg**	**0.0011**	**0.0026**

Surrogate	Conc.	Spike	Low Limit	High Limit	Recovery	Flags
Toluene-d8	27.72	30	68	122	92	
Dibromofluoromethane	32.20	30	63	140	107	
Bromofluorobenzene	32.49	30	64	129	108	
1,2-Dichloroethane-d4	30.18	30	63	143	101	

Volatile Organics + 15 (8260) Library Searches

Analyte	DF	Units	RT	Result
unknown	0.988	mg/kg	8.34	0.014J

NOTE: Soil Results are reported to Dry Weight

Sample ID:	333 1st-SB-01 8.1'	Collection Date:	12/10/2018
Lab#:	AD08162-009	Receipt Date:	12/12/2018
Matrix:	Soil		

1,3-Butadiene, 1,1,3,4-tetrachloro-	0.988	mg/kg	8.51	0.0044J
1,3-Butadiene, pentachloro-	0.988	mg/kg	8.75	0.0066J
1,3-Butadiene, 1,1,3,4-tetrachloro-	0.988	mg/kg	8.79	0.0044J
1,3-Butadiene, pentachloro-	0.988	mg/kg	8.94	0.089J
1,3-Butadiene, pentachloro-	0.988	mg/kg	9.05	0.022J
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	0.988	mg/kg	9.24	0.036J
TotalVolatileTic	0.988	mg/kg	NA	0.18J

Sample ID: 333 1st-SB-01 1.8-3.1' | **Collection Date:** 12/10/2018
Lab#: AD08162-010 | **Receipt Date:** 12/12/2018
Matrix: Soil

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		89

Mercury (Soil/Waste) 7471B

Analyte	DF	Units	RL	Result
Mercury	1	mg/kg	0.094	0.18

Semivolatile Organics + 15 (8270)

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	1	mg/kg	0.037	ND
1,2,4,5-Tetrachlorobenzene	1	mg/kg	0.037	ND
2,3,4,6-Tetrachlorophenol	1	mg/kg	0.037	ND
2,4,5-Trichlorophenol	1	mg/kg	0.037	ND
2,4,6-Trichlorophenol	1	mg/kg	0.037	ND
2,4-Dichlorophenol	1	mg/kg	0.0094	ND
2,4-Dimethylphenol	1	mg/kg	0.0094	ND
2,4-Dinitrophenol	1	mg/kg	0.19	ND
2,4-Dinitrotoluene	1	mg/kg	0.037	ND
2,6-Dinitrotoluene	1	mg/kg	0.037	ND
2-Chloronaphthalene	1	mg/kg	0.037	ND
2-Chlorophenol	1	mg/kg	0.037	ND
2-Methylnaphthalene	1	mg/kg	0.037	ND
2-Methylphenol	1	mg/kg	0.0094	ND
2-Nitroaniline	1	mg/kg	0.037	ND
2-Nitrophenol	1	mg/kg	0.037	ND
3&4-Methylphenol	1	mg/kg	0.0094	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.037	ND
3-Nitroaniline	1	mg/kg	0.037	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	0.037	ND
4-Bromophenyl-phenylether	1	mg/kg	0.037	ND
4-Chloro-3-methylphenol	1	mg/kg	0.037	ND
4-Chloroaniline	1	mg/kg	0.0094	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.037	ND
4-Nitroaniline	1	mg/kg	0.037	ND
4-Nitrophenol	1	mg/kg	0.037	ND
Acenaphthene	1	mg/kg	0.037	ND
Acenaphthylene	1	mg/kg	0.037	ND
Acetophenone	1	mg/kg	0.037	ND
Anthracene	1	mg/kg	0.037	ND
Atrazine	1	mg/kg	0.037	ND
Benzaldehyde	1	mg/kg	0.037	ND
Benzo[a]anthracene	1	mg/kg	0.037	ND
Benzo[a]pyrene	1	mg/kg	0.037	ND
Benzo[b]fluoranthene	1	mg/kg	0.037	ND
Benzo[g,h,i]perylene	1	mg/kg	0.037	ND
Benzo[k]fluoranthene	1	mg/kg	0.037	ND
bis(2-Chloroethoxy)methane	1	mg/kg	0.037	ND
bis(2-Chloroethyl)ether	1	mg/kg	0.0094	ND
bis(2-Chloroisopropyl)ether	1	mg/kg	0.037	ND
bis(2-Ethylhexyl)phthalate	1	mg/kg	0.037	ND
Butylbenzylphthalate	1	mg/kg	0.037	ND
Caprolactam	1	mg/kg	0.037	ND
Carbazole	1	mg/kg	0.037	ND
Chrysene	1	mg/kg	0.037	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.037	ND
Dibenzofuran	1	mg/kg	0.0094	ND
Diethylphthalate	1	mg/kg	0.037	ND
Dimethylphthalate	1	mg/kg	0.037	ND
Di-n-butylphthalate	1	mg/kg	0.0094	ND
Di-n-octylphthalate	1	mg/kg	0.037	ND
Fluoranthene	1	mg/kg	0.037	ND
Fluorene	1	mg/kg	0.037	ND
Hexachlorobenzene	1	mg/kg	0.037	ND
Hexachlorobutadiene	**1**	**mg/kg**	**0.037**	**0.039**
Hexachlorocyclopentadiene	1	mg/kg	0.037	ND
Hexachloroethane	1	mg/kg	0.037	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.037	ND

Sample ID: 333 1st-SB-01 1.8-3.1' | **Collection Date:** 12/10/2018
Lab#: AD08162-010 | **Receipt Date:** 12/12/2018
Matrix: Soil

Isophorone	1	mg/kg	0.037	ND	
Naphthalene	1	mg/kg	0.0094	ND	
Nitrobenzene	1	mg/kg	0.037	ND	
N-Nitroso-di-n-propylamine	1	mg/kg	0.0094	ND	
N-Nitrosodiphenylamine	1	mg/kg	0.037	ND	
Pentachlorophenol	1	mg/kg	0.080	ND	
Phenanthrene	1	mg/kg	0.037	ND	
Phenol	1	mg/kg	0.037	ND	
Pyrene	1	mg/kg	0.037	ND	

Surrogate	Conc.	Spike	Low Limit	High Limit	Recovery	Flags
Terphenyl-d14	34.75	50	58	148	69	
Phenol-d5	62.77	100	49	129	63	
Nitrobenzene-d5	30.68	50	52	129	61	
2-Fluorophenol	60.20	100	43	128	60	
2-Fluorobiphenyl	29.17	50	58	125	58	
2,4,6-Tribromophenol	66.71	100	54	145	67	

Semivolatile Organics + 15 (8270) Library Searches

Analyte	DF	Units	RT	Result
Taraxerol methyl ether	1	mg/kg	15.67	0.24J
unknown	1	mg/kg	3.9	0.23JB
2-Pentanone, 4-hydroxy-4-methyl-	1	mg/kg	4.2	8.0JAB
TotalSemiVolatileTic	1	mg/kg	NA	8.5J

TAL Metals 6010D

Analyte	DF	Units	RL	Result
Aluminum	1	mg/kg	220	16000
Barium	1	mg/kg	11	80
Calcium	5	mg/kg	5600	180000
Chromium	1	mg/kg	5.6	22
Cobalt	1	mg/kg	2.8	13
Copper	1	mg/kg	5.6	23
Iron	1	mg/kg	220	30000
Lead	1	mg/kg	5.6	190
Magnesium	5	mg/kg	2800	110000
Manganese	5	mg/kg	56	1900
Nickel	1	mg/kg	5.6	29
Potassium	1	mg/kg	560	1800
Sodium	1	mg/kg	280	1900
Vanadium	5	mg/kg	56	ND
Zinc	5	mg/kg	56	2700

TAL Metals 6020B

Analyte	DF	Units	RL	Result
Antimony	5	mg/kg	4.5	ND
Arsenic	5	mg/kg	1.1	8.0
Beryllium	5	mg/kg	1.1	ND
Cadmium	5	mg/kg	2.2	2.8
Selenium	5	mg/kg	11	ND
Silver	5	mg/kg	1.1	ND
Thallium	5	mg/kg	2.2	ND

Sample ID: 333 1st-SB-02 4.0' | **Collection Date:** 12/10/2018
Lab#: AD08162-011 | **Receipt Date:** 12/12/2018
Matrix: Soil

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		90

Volatile Organics + 15 (8260)

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.949	mg/kg	0.0021	ND
1,1,2,2-Tetrachloroethane	0.949	mg/kg	0.0021	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.949	mg/kg	0.0021	ND
1,1,2-Trichloroethane	0.949	mg/kg	0.0021	ND
1,1-Dichloroethane	0.949	mg/kg	0.0021	ND
1,1-Dichloroethene	0.949	mg/kg	0.0021	ND
1,2,3-Trichlorobenzene	0.949	mg/kg	0.0021	ND
1,2,4-Trichlorobenzene	0.949	mg/kg	0.0021	ND
1,2-Dibromo-3-chloropropane	0.949	mg/kg	0.0021	ND
1,2-Dibromoethane	0.949	mg/kg	0.0021	ND
1,2-Dichlorobenzene	0.949	mg/kg	0.0021	ND
1,2-Dichloroethane	0.949	mg/kg	0.0021	ND
1,2-Dichloropropane	0.949	mg/kg	0.0021	ND
1,3-Dichlorobenzene	0.949	mg/kg	0.0021	ND
1,4-Dichlorobenzene	0.949	mg/kg	0.0021	ND
1,4-Dioxane	0.949	mg/kg	0.11	ND
2-Butanone	0.949	mg/kg	0.0021	ND
2-Hexanone	0.949	mg/kg	0.0021	ND
4-Methyl-2-pentanone	0.949	mg/kg	0.0021	ND
Acetone	0.949	mg/kg	0.011	ND
Benzene	0.949	mg/kg	0.0011	ND
Bromochloromethane	0.949	mg/kg	0.0021	ND
Bromodichloromethane	0.949	mg/kg	0.0021	ND
Bromoform	0.949	mg/kg	0.0021	ND
Bromomethane	0.949	mg/kg	0.0021	ND
Carbon disulfide	0.949	mg/kg	0.0021	ND
Carbon tetrachloride	0.949	mg/kg	0.0021	ND
Chlorobenzene	0.949	mg/kg	0.0021	ND
Chloroethane	0.949	mg/kg	0.0021	ND
Chloroform	0.949	mg/kg	0.0021	ND
Chloromethane	0.949	mg/kg	0.0021	ND
cis-1,2-Dichloroethene	0.949	mg/kg	0.0021	ND
cis-1,3-Dichloropropene	0.949	mg/kg	0.0021	ND
Cyclohexane	0.949	mg/kg	0.0021	ND
Dibromochloromethane	0.949	mg/kg	0.0021	ND
Dichlorodifluoromethane	0.949	mg/kg	0.0021	ND
Ethylbenzene	0.949	mg/kg	0.0011	ND
Isopropylbenzene	0.949	mg/kg	0.0011	ND
m&p-Xylenes	0.949	mg/kg	0.0011	ND
Methyl Acetate	0.949	mg/kg	0.0021	ND
Methylcyclohexane	0.949	mg/kg	0.0021	ND
Methylene chloride	0.949	mg/kg	0.0021	ND
Methyl-t-butyl ether	0.949	mg/kg	0.0011	ND
o-Xylene	0.949	mg/kg	0.0011	ND
Styrene	0.949	mg/kg	0.0021	ND
Tetrachloroethene	**0.949**	**mg/kg**	**0.0021**	**0.0066**
Toluene	0.949	mg/kg	0.0011	ND
trans-1,2-Dichloroethene	0.949	mg/kg	0.0021	ND
trans-1,3-Dichloropropene	0.949	mg/kg	0.0021	ND
Trichloroethene	0.949	mg/kg	0.0021	ND
Trichlorofluoromethane	0.949	mg/kg	0.0021	ND
Vinyl chloride	0.949	mg/kg	0.0021	ND
Xylenes (Total)	0.949	mg/kg	0.0011	ND

Surrogate	Conc.	Spike	Low Limit	High Limit	Recovery	Flags
Toluene-d8	27.25	30	68	122	91	
Dibromofluoromethane	32.05	30	63	140	107	
Bromofluorobenzene	31.43	30	64	129	105	
1,2-Dichloroethane-d4	30.10	30	63	143	100	

Volatile Organics + 15 (8260) Library Searches

Analyte	DF	Units	RT	Result
No Unknown Compounds Detected	0.949	mg/kg	NA	ND

Sample ID:	**333 1st-SB-02 4.0'**			**Collection Date:**	**12/10/2018**
Lab#:	**AD08162-011**			**Receipt Date:**	**12/12/2018**
Matrix:	**Soil**				
TotalVolatileTic	0.949	mg/kg	NA	ND	

Sample ID: 333 1st-SB-02 2.0-3.7
Lab#: AD08162-012
Matrix: Soil

Collection Date: 12/10/2018
Receipt Date: 12/12/2018

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		96

Mercury (Soil/Waste) 7471B

Analyte	DF	Units	RL	Result
Mercury	1	mg/kg	0.087	ND

Semivolatile Organics + 15 (8270)

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	1	mg/kg	0.035	ND
1,2,4,5-Tetrachlorobenzene	1	mg/kg	0.035	ND
2,3,4,6-Tetrachlorophenol	1	mg/kg	0.035	ND
2,4,5-Trichlorophenol	1	mg/kg	0.035	ND
2,4,6-Trichlorophenol	1	mg/kg	0.035	ND
2,4-Dichlorophenol	1	mg/kg	0.0087	ND
2,4-Dimethylphenol	1	mg/kg	0.0087	ND
2,4-Dinitrophenol	1	mg/kg	0.17	ND
2,4-Dinitrotoluene	1	mg/kg	0.035	ND
2,6-Dinitrotoluene	1	mg/kg	0.035	ND
2-Chloronaphthalene	1	mg/kg	0.035	ND
2-Chlorophenol	1	mg/kg	0.035	ND
2-Methylnaphthalene	1	mg/kg	0.035	ND
2-Methylphenol	1	mg/kg	0.0087	ND
2-Nitroaniline	1	mg/kg	0.035	ND
2-Nitrophenol	1	mg/kg	0.035	ND
3&4-Methylphenol	1	mg/kg	0.0087	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.035	ND
3-Nitroaniline	1	mg/kg	0.035	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	0.035	ND
4-Bromophenyl-phenylether	1	mg/kg	0.035	ND
4-Chloro-3-methylphenol	1	mg/kg	0.035	ND
4-Chloroaniline	1	mg/kg	0.0087	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.035	ND
4-Nitroaniline	1	mg/kg	0.035	ND
4-Nitrophenol	1	mg/kg	0.035	ND
Acenaphthene	1	mg/kg	0.035	ND
Acenaphthylene	1	mg/kg	0.035	ND
Acetophenone	1	mg/kg	0.035	ND
Anthracene	1	mg/kg	0.035	ND
Atrazine	1	mg/kg	0.035	ND
Benzaldehyde	1	mg/kg	0.035	ND
Benzo[a]anthracene	1	mg/kg	0.035	ND
Benzo[a]pyrene	1	mg/kg	0.035	ND
Benzo[b]fluoranthene	1	mg/kg	0.035	ND
Benzo[g,h,i]perylene	1	mg/kg	0.035	ND
Benzo[k]fluoranthene	1	mg/kg	0.035	ND
bis(2-Chloroethoxy)methane	1	mg/kg	0.035	ND
bis(2-Chloroethyl)ether	1	mg/kg	0.0087	ND
bis(2-Chloroisopropyl)ether	1	mg/kg	0.035	ND
bis(2-Ethylhexyl)phthalate	1	mg/kg	0.035	ND
Butylbenzylphthalate	1	mg/kg	0.035	ND
Caprolactam	1	mg/kg	0.035	ND
Carbazole	1	mg/kg	0.035	ND
Chrysene	1	mg/kg	0.035	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.035	ND
Dibenzofuran	1	mg/kg	0.0087	ND
Diethylphthalate	1	mg/kg	0.035	ND
Dimethylphthalate	1	mg/kg	0.035	ND
Di-n-butylphthalate	1	mg/kg	0.0087	ND
Di-n-octylphthalate	1	mg/kg	0.035	ND
Fluoranthene	1	mg/kg	0.035	ND
Fluorene	1	mg/kg	0.035	ND
Hexachlorobenzene	1	mg/kg	0.035	ND
Hexachlorobutadiene	1	mg/kg	0.035	ND
Hexachlorocyclopentadiene	1	mg/kg	0.035	ND
Hexachloroethane	1	mg/kg	0.035	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.035	ND

Sample ID: 333 1st-SB-02 2.0-3.7 **Collection Date:** 12/10/2018
Lab#: AD08162-012 **Receipt Date:** 12/12/2018
Matrix: Soil

Isophorone	1	mg/kg	0.035	ND	
Naphthalene	1	mg/kg	0.0087	ND	
Nitrobenzene	1	mg/kg	0.035	ND	
N-Nitroso-di-n-propylamine	1	mg/kg	0.0087	ND	
N-Nitrosodiphenylamine	1	mg/kg	0.035	ND	
Pentachlorophenol	1	mg/kg	0.074	ND	
Phenanthrene	1	mg/kg	0.035	ND	
Phenol	1	mg/kg	0.035	ND	
Pyrene	1	mg/kg	0.035	ND	

Surrogate	Conc.	Spike	Low Limit	High Limit	Recovery	Flags
Terphenyl-d14	43.34	50	58	148	87	
Phenol-d5	76.50	100	49	129	76	
Nitrobenzene-d5	38.06	50	52	129	76	
2-Fluorophenol	74.31	100	43	128	74	
2-Fluorobiphenyl	37.30	50	58	125	75	
2,4,6-Tribromophenol	85.94	100	54	145	86	

Semivolatile Organics + 15 (8270) Library Searches

Analyte	DF	Units	RT	Result
Eicosane	1	mg/kg	10.4	0.31J
Eicosane	1	mg/kg	10.85	0.29J
Heptadecane	1	mg/kg	11.29	0.28J
Nonadecane	1	mg/kg	11.72	0.24J
Triacontane	1	mg/kg	12.14	0.27J
Tricosane	1	mg/kg	12.54	0.25J
Tricosane	1	mg/kg	12.92	0.23J
Octadecane	1	mg/kg	13.3	0.36J
2-Pentanone, 4-hydroxy-4-methyl-	1	mg/kg	4.21	7.9JAB
Tetradecane	1	mg/kg	7.64	0.24J
Pentadecane	1	mg/kg	8.08	0.34J
Hexadecane	1	mg/kg	8.54	0.34J
Tetradecane	1	mg/kg	9	0.44J
Octadecane	1	mg/kg	9.47	0.31J
Docosane	1	mg/kg	9.94	0.33J
TotalSemiVolatileTic	1	mg/kg	NA	12J

TAL Metals 6010D

Analyte	DF	Units	RL	Result
Aluminum	1	mg/kg	210	2100
Barium	1	mg/kg	10	590
Calcium	10	mg/kg	10000	490000
Chromium	1	mg/kg	5.2	6.9
Cobalt	1	mg/kg	2.6	3.9
Copper	1	mg/kg	5.2	ND
Iron	1	mg/kg	210	15000
Lead	1	mg/kg	5.2	140
Magnesium	10	mg/kg	5200	290000
Manganese	4	mg/kg	42	1700
Nickel	1	mg/kg	5.2	13
Potassium	1	mg/kg	520	1300
Sodium	1	mg/kg	260	880
Vanadium	10	mg/kg	100	ND
Zinc	4	mg/kg	42	1300

TAL Metals 6020B

Analyte	DF	Units	RL	Result
Antimony	5	mg/kg	4.2	ND
Arsenic	5	mg/kg	1.0	3.4
Beryllium	5	mg/kg	1.0	ND
Cadmium	5	mg/kg	2.1	5.5
Selenium	5	mg/kg	10	ND
Silver	5	mg/kg	1.0	ND
Thallium	5	mg/kg	2.1	ND

Sample ID: 333 1st-SB-03 9.0' | **Collection Date:** 12/10/2018
Lab#: AD08162-013 | **Receipt Date:** 12/12/2018
Matrix: Soil

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		91

Volatile Organics + 15 (8260)

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.984	mg/kg	0.0022	ND
1,1,2,2-Tetrachloroethane	0.984	mg/kg	0.0022	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.984	mg/kg	0.0022	ND
1,1,2-Trichloroethane	0.984	mg/kg	0.0022	ND
1,1-Dichloroethane	0.984	mg/kg	0.0022	ND
1,1-Dichloroethene	0.984	mg/kg	0.0022	ND
1,2,3-Trichlorobenzene	0.984	mg/kg	0.0022	ND
1,2,4-Trichlorobenzene	0.984	mg/kg	0.0022	ND
1,2-Dibromo-3-chloropropane	0.984	mg/kg	0.0022	ND
1,2-Dibromoethane	0.984	mg/kg	0.0022	ND
1,2-Dichlorobenzene	0.984	mg/kg	0.0022	ND
1,2-Dichloroethane	0.984	mg/kg	0.0022	ND
1,2-Dichloropropane	0.984	mg/kg	0.0022	ND
1,3-Dichlorobenzene	0.984	mg/kg	0.0022	ND
1,4-Dichlorobenzene	0.984	mg/kg	0.0022	ND
1,4-Dioxane	0.984	mg/kg	0.11	ND
2-Butanone	0.984	mg/kg	0.0022	ND
2-Hexanone	0.984	mg/kg	0.0022	ND
4-Methyl-2-pentanone	0.984	mg/kg	0.0022	ND
Acetone	0.984	mg/kg	0.011	ND
Benzene	0.984	mg/kg	0.0011	ND
Bromochloromethane	0.984	mg/kg	0.0022	ND
Bromodichloromethane	0.984	mg/kg	0.0022	ND
Bromoform	0.984	mg/kg	0.0022	ND
Bromomethane	0.984	mg/kg	0.0022	ND
Carbon disulfide	0.984	mg/kg	0.0022	ND
Carbon tetrachloride	0.984	mg/kg	0.0022	ND
Chlorobenzene	0.984	mg/kg	0.0022	ND
Chloroethane	0.984	mg/kg	0.0022	ND
Chloroform	0.984	mg/kg	0.0022	ND
Chloromethane	0.984	mg/kg	0.0022	ND
cis-1,2-Dichloroethene	0.984	mg/kg	0.0022	ND
cis-1,3-Dichloropropene	0.984	mg/kg	0.0022	ND
Cyclohexane	0.984	mg/kg	0.0022	ND
Dibromochloromethane	0.984	mg/kg	0.0022	ND
Dichlorodifluoromethane	0.984	mg/kg	0.0022	ND
Ethylbenzene	**0.984**	**mg/kg**	**0.0011**	**0.0012**
Isopropylbenzene	0.984	mg/kg	0.0011	ND
m&p-Xylenes	**0.984**	**mg/kg**	**0.0011**	**0.0018**
Methyl Acetate	0.984	mg/kg	0.0022	ND
Methylcyclohexane	0.984	mg/kg	0.0022	ND
Methylene chloride	0.984	mg/kg	0.0022	ND
Methyl-t-butyl ether	0.984	mg/kg	0.0011	ND
o-Xylene	0.984	mg/kg	0.0011	ND
Styrene	0.984	mg/kg	0.0022	ND
Tetrachloroethene	0.984	mg/kg	0.0022	ND
Toluene	0.984	mg/kg	0.0011	ND
trans-1,2-Dichloroethene	0.984	mg/kg	0.0022	ND
trans-1,3-Dichloropropene	0.984	mg/kg	0.0022	ND
Trichloroethene	0.984	mg/kg	0.0022	ND
Trichlorofluoromethane	0.984	mg/kg	0.0022	ND
Vinyl chloride	0.984	mg/kg	0.0022	ND
Xylenes (Total)	**0.984**	**mg/kg**	**0.0011**	**0.0018**

Surrogate	Conc.	Spike	Low Limit	High Limit	Recovery	Flags
Toluene-d8	27.93	30	68	122	93	
Dibromofluoromethane	32.27	30	63	140	108	
Bromofluorobenzene	35.26	30	64	129	118	
1,2-Dichloroethane-d4	30.13	30	63	143	100	

Volatile Organics + 15 (8260) Library Searches

Analyte	DF	Units	RT	Result
1,3-Butadiene, pentachloro-	**0.984**	**mg/kg**	**8.94**	**0.011J**

NOTE: Soil Results are reported to Dry Weight

Sample ID:	333 1st-SB-03 9.0'	Collection Date:	12/10/2018
Lab#:	AD08162-013	Receipt Date:	12/12/2018
Matrix:	Soil		

1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	0.984	mg/kg	9.25	0.0036J
TotalVolatileTic	0.984	mg/kg	NA	0.015J

Sample ID: 333 1st-SB-03 0.8-4.0' | **Collection Date:** 12/10/2018
Lab#: AD08162-014 | **Receipt Date:** 12/12/2018
Matrix: Soil

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		91

Mercury (Soil/Waste) 7471B

Analyte	DF	Units	RL	Result
Mercury	1	mg/kg	0.092	0.11

Semivolatile Organics + 15 (8270)

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	1	mg/kg	0.037	ND
1,2,4,5-Tetrachlorobenzene	1	mg/kg	0.037	ND
2,3,4,6-Tetrachlorophenol	1	mg/kg	0.037	ND
2,4,5-Trichlorophenol	1	mg/kg	0.037	ND
2,4,6-Trichlorophenol	1	mg/kg	0.037	ND
2,4-Dichlorophenol	1	mg/kg	0.0092	ND
2,4-Dimethylphenol	1	mg/kg	0.0092	ND
2,4-Dinitrophenol	1	mg/kg	0.18	ND
2,4-Dinitrotoluene	1	mg/kg	0.037	ND
2,6-Dinitrotoluene	1	mg/kg	0.037	ND
2-Chloronaphthalene	1	mg/kg	0.037	ND
2-Chlorophenol	1	mg/kg	0.037	ND
2-Methylnaphthalene	1	mg/kg	0.037	ND
2-Methylphenol	1	mg/kg	0.0092	ND
2-Nitroaniline	1	mg/kg	0.037	ND
2-Nitrophenol	1	mg/kg	0.037	ND
3&4-Methylphenol	1	mg/kg	0.0092	ND
3,3'-Dichlorobenzidine	1	mg/kg	0.037	ND
3-Nitroaniline	1	mg/kg	0.037	ND
4,6-Dinitro-2-methylphenol	1	mg/kg	0.037	ND
4-Bromophenyl-phenylether	1	mg/kg	0.037	ND
4-Chloro-3-methylphenol	1	mg/kg	0.037	ND
4-Chloroaniline	1	mg/kg	0.0092	ND
4-Chlorophenyl-phenylether	1	mg/kg	0.037	ND
4-Nitroaniline	1	mg/kg	0.037	ND
4-Nitrophenol	1	mg/kg	0.037	ND
Acenaphthene	1	mg/kg	0.037	ND
Acenaphthylene	1	mg/kg	0.037	ND
Acetophenone	1	mg/kg	0.037	ND
Anthracene	1	mg/kg	0.037	ND
Atrazine	1	mg/kg	0.037	ND
Benzaldehyde	1	mg/kg	0.037	ND
Benzo[a]anthracene	1	mg/kg	0.037	ND
Benzo[a]pyrene	1	mg/kg	0.037	ND
Benzo[b]fluoranthene	1	mg/kg	0.037	ND
Benzo[g,h,i]perylene	1	mg/kg	0.037	ND
Benzo[k]fluoranthene	1	mg/kg	0.037	ND
bis(2-Chloroethoxy)methane	1	mg/kg	0.037	ND
bis(2-Chloroethyl)ether	1	mg/kg	0.0092	ND
bis(2-Chloroisopropyl)ether	1	mg/kg	0.037	ND
bis(2-Ethylhexyl)phthalate	1	mg/kg	0.037	ND
Butylbenzylphthalate	1	mg/kg	0.037	ND
Caprolactam	1	mg/kg	0.037	ND
Carbazole	1	mg/kg	0.037	ND
Chrysene	1	mg/kg	0.037	ND
Dibenzo[a,h]anthracene	1	mg/kg	0.037	ND
Dibenzofuran	1	mg/kg	0.0092	ND
Diethylphthalate	1	mg/kg	0.037	ND
Dimethylphthalate	1	mg/kg	0.037	ND
Di-n-butylphthalate	1	mg/kg	0.0092	ND
Di-n-octylphthalate	1	mg/kg	0.037	ND
Fluoranthene	1	mg/kg	0.037	ND
Fluorene	1	mg/kg	0.037	ND
Hexachlorobenzene	1	mg/kg	0.037	ND
Hexachlorobutadiene	**1**	**mg/kg**	**0.037**	**0.12**
Hexachlorocyclopentadiene	1	mg/kg	0.037	ND
Hexachloroethane	1	mg/kg	0.037	ND
Indeno[1,2,3-cd]pyrene	1	mg/kg	0.037	ND

Sample ID: 333 1st-SB-03 0.8-4.0' **Collection Date:** 12/10/2018
Lab#: AD08162-014 **Receipt Date:** 12/12/2018
Matrix: Soil

Isophorone	1	mg/kg	0.037	ND	
Naphthalene	1	mg/kg	0.0092	ND	
Nitrobenzene	1	mg/kg	0.037	ND	
N-Nitroso-di-n-propylamine	1	mg/kg	0.0092	ND	
N-Nitrosodiphenylamine	1	mg/kg	0.037	ND	
Pentachlorophenol	1	mg/kg	0.078	ND	
Phenanthrene	1	mg/kg	0.037	ND	
Phenol	1	mg/kg	0.037	ND	
Pyrene	1	mg/kg	0.037	ND	

Surrogate	Conc.	Spike	Low Limit	High Limit	Recovery	Flags
Terphenyl-d14	43.54	50	58	148	87	
Phenol-d5	82.48	100	49	129	82	
Nitrobenzene-d5	37.66	50	52	129	75	
2-Fluorophenol	78.92	100	43	128	79	
2-Fluorobiphenyl	37.45	50	58	125	75	
2,4,6-Tribromophenol	82.02	100	54	145	82	

Semivolatile Organics + 15 (8270) Library Searches

Analyte	DF	Units	RT	Result
Eicosane	1	mg/kg	10.4	0.14J
Heneicosane	1	mg/kg	10.85	0.12J
Docosane	1	mg/kg	11.29	0.13J
Heneicosane	1	mg/kg	12.13	0.13J
Eicosane, 9-octyl-	1	mg/kg	14.01	0.13J
.alpha.-Gurjunene	1	mg/kg	15.66	0.12J
1,2-Propanediol	1	mg/kg	2.87	0.17J
unknown	1	mg/kg	3.91	0.25JB
2-Pentanone, 4-hydroxy-4-methyl-	1	mg/kg	4.2	8.9JAB
1,3-Butadiene, pentachloro-	1	mg/kg	6.59	0.11J
Pentadecane	1	mg/kg	8.08	0.16J
Hexadecane	1	mg/kg	8.54	0.16J
Heptadecane	1	mg/kg	9	0.21J
Hexadecane	1	mg/kg	9.47	0.13J
Nonadecane	1	mg/kg	9.94	0.13J
TotalSemiVolatileTic	1	mg/kg	NA	11J

TAL Metals 6010D

Analyte	DF	Units	RL	Result
Aluminum	1	mg/kg	220	6100
Barium	1	mg/kg	11	46
Calcium	4	mg/kg	4400	200000
Chromium	1	mg/kg	5.5	11
Cobalt	1	mg/kg	2.7	5.8
Copper	1	mg/kg	5.5	11
Iron	1	mg/kg	220	14000
Lead	1	mg/kg	5.5	140
Magnesium	4	mg/kg	2200	110000
Manganese	1	mg/kg	11	1000
Nickel	1	mg/kg	5.5	13
Potassium	1	mg/kg	550	1100
Sodium	1	mg/kg	270	1000
Vanadium	4	mg/kg	44	ND
Zinc	1	mg/kg	11	750

TAL Metals 6020B

Analyte	DF	Units	RL	Result
Antimony	5	mg/kg	4.4	ND
Arsenic	5	mg/kg	1.1	3.9
Beryllium	5	mg/kg	1.1	ND
Cadmium	5	mg/kg	2.2	ND
Selenium	5	mg/kg	11	ND
Silver	5	mg/kg	1.1	ND
Thallium	5	mg/kg	2.2	ND

Sample ID: 333 1st-SB-04 3.5' | **Collection Date:** 12/10/2018
Lab#: AD08162-015 | **Receipt Date:** 12/12/2018
Matrix: Soil

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		83

Volatile Organics + 15 (8260)

Analyte	DF	Units	RL	Result
1,1,1-Trichloroethane	0.994	mg/kg	0.0024	ND
1,1,2,2-Tetrachloroethane	0.994	mg/kg	0.0024	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	0.994	mg/kg	0.0024	ND
1,1,2-Trichloroethane	0.994	mg/kg	0.0024	ND
1,1-Dichloroethane	0.994	mg/kg	0.0024	ND
1,1-Dichloroethene	0.994	mg/kg	0.0024	ND
1,2,3-Trichlorobenzene	0.994	mg/kg	0.0024	ND
1,2,4-Trichlorobenzene	0.994	mg/kg	0.0024	ND
1,2-Dibromo-3-chloropropane	0.994	mg/kg	0.0024	ND
1,2-Dibromoethane	0.994	mg/kg	0.0024	ND
1,2-Dichlorobenzene	0.994	mg/kg	0.0024	ND
1,2-Dichloroethane	0.994	mg/kg	0.0024	ND
1,2-Dichloropropane	0.994	mg/kg	0.0024	ND
1,3-Dichlorobenzene	0.994	mg/kg	0.0024	ND
1,4-Dichlorobenzene	0.994	mg/kg	0.0024	ND
1,4-Dioxane	0.994	mg/kg	0.12	ND
2-Butanone	0.994	mg/kg	0.0024	ND
2-Hexanone	0.994	mg/kg	0.0024	ND
4-Methyl-2-pentanone	0.994	mg/kg	0.0024	ND
Acetone	0.994	mg/kg	0.012	ND
Benzene	0.994	mg/kg	0.0012	ND
Bromochloromethane	0.994	mg/kg	0.0024	ND
Bromodichloromethane	0.994	mg/kg	0.0024	ND
Bromoform	0.994	mg/kg	0.0024	ND
Bromomethane	0.994	mg/kg	0.0024	ND
Carbon disulfide	0.994	mg/kg	0.0024	ND
Carbon tetrachloride	0.994	mg/kg	0.0024	ND
Chlorobenzene	0.994	mg/kg	0.0024	ND
Chloroethane	0.994	mg/kg	0.0024	ND
Chloroform	**0.994**	**mg/kg**	**0.0024**	**0.0029**
Chloromethane	0.994	mg/kg	0.0024	ND
cis-1,2-Dichloroethene	0.994	mg/kg	0.0024	ND
cis-1,3-Dichloropropene	0.994	mg/kg	0.0024	ND
Cyclohexane	0.994	mg/kg	0.0024	ND
Dibromochloromethane	0.994	mg/kg	0.0024	ND
Dichlorodifluoromethane	0.994	mg/kg	0.0024	ND
Ethylbenzene	0.994	mg/kg	0.0012	ND
Isopropylbenzene	0.994	mg/kg	0.0012	ND
m&p-Xylenes	**0.994**	**mg/kg**	**0.0012**	**0.0014**
Methyl Acetate	0.994	mg/kg	0.0024	ND
Methylcyclohexane	0.994	mg/kg	0.0024	ND
Methylene chloride	**0.994**	**mg/kg**	**0.0024**	**0.0070**
Methyl-t-butyl ether	0.994	mg/kg	0.0012	ND
o-Xylene	0.994	mg/kg	0.0012	ND
Styrene	0.994	mg/kg	0.0024	ND
Tetrachloroethene	**0.994**	**mg/kg**	**0.0024**	**0.18**
Toluene	0.994	mg/kg	0.0012	ND
trans-1,2-Dichloroethene	0.994	mg/kg	0.0024	ND
trans-1,3-Dichloropropene	0.994	mg/kg	0.0024	ND
Trichloroethene	**0.994**	**mg/kg**	**0.0024**	**0.18**
Trichlorofluoromethane	0.994	mg/kg	0.0024	ND
Vinyl chloride	0.994	mg/kg	0.0024	ND
Xylenes (Total)	**0.994**	**mg/kg**	**0.0012**	**0.0014**

Surrogate	Conc.	Spike	Low Limit	High Limit	Recovery	Flags
Toluene-d8	30.67	30	68	122	102	
Dibromofluoromethane	33.96	30	63	140	113	
Bromofluorobenzene	35.39	30	64	129	118	
1,2-Dichloroethane-d4	31.27	30	63	143	104	

Volatile Organics + 15 (8260) Library Searches

Analyte	DF	Units	RT	Result
1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	0.994	mg/kg	9.24	0.045J

Sample ID:	**333 1st-SB-04 3.5'**			**Collection Date:**	**12/10/2018**
Lab#:	**AD08162-015**			**Receipt Date:**	**12/12/2018**
Matrix:	**Soil**				
TotalVolatileTic	0.994	mg/kg	NA	0.045J	

Sample ID: 333 1st-SB-04 0-4.0' | **Collection Date:** 12/10/2018
Lab#: AD08162-016 | **Receipt Date:** 12/12/2018
Matrix: Soil

% Solids SM2540G

Analyte	DF	Units	RL	Result
% Solids	1	percent		89

Mercury (Soil/Waste) 7471B

Analyte	DF	Units	RL	Result
Mercury	10	mg/kg	0.94	20

Semivolatile Organics + 15 (8270)

Analyte	DF	Units	RL	Result
1,1'-Biphenyl	3	mg/kg	0.11	ND
1,2,4,5-Tetrachlorobenzene	3	mg/kg	0.11	ND
2,3,4,6-Tetrachlorophenol	3	mg/kg	0.11	ND
2,4,5-Trichlorophenol	3	mg/kg	0.11	ND
2,4,6-Trichlorophenol	3	mg/kg	0.11	ND
2,4-Dichlorophenol	3	mg/kg	0.028	ND
2,4-Dimethylphenol	3	mg/kg	0.028	ND
2,4-Dinitrophenol	3	mg/kg	0.56	ND
2,4-Dinitrotoluene	3	mg/kg	0.11	ND
2,6-Dinitrotoluene	3	mg/kg	0.11	ND
2-Chloronaphthalene	3	mg/kg	0.11	ND
2-Chlorophenol	3	mg/kg	0.11	ND
2-Methylnaphthalene	**3**	**mg/kg**	**0.11**	**0.15**
2-Methylphenol	3	mg/kg	0.028	ND
2-Nitroaniline	3	mg/kg	0.11	ND
2-Nitrophenol	3	mg/kg	0.11	ND
3&4-Methylphenol	3	mg/kg	0.028	ND
3,3'-Dichlorobenzidine	3	mg/kg	0.11	ND
3-Nitroaniline	3	mg/kg	0.11	ND
4,6-Dinitro-2-methylphenol	3	mg/kg	0.11	ND
4-Bromophenyl-phenylether	3	mg/kg	0.11	ND
4-Chloro-3-methylphenol	3	mg/kg	0.11	ND
4-Chloroaniline	3	mg/kg	0.028	ND
4-Chlorophenyl-phenylether	3	mg/kg	0.11	ND
4-Nitroaniline	3	mg/kg	0.11	ND
4-Nitrophenol	3	mg/kg	0.11	ND
Acenaphthene	3	mg/kg	0.11	ND
Acenaphthylene	**3**	**mg/kg**	**0.11**	**0.13**
Acetophenone	3	mg/kg	0.11	ND
Anthracene	**3**	**mg/kg**	**0.11**	**0.33**
Atrazine	3	mg/kg	0.11	ND
Benzaldehyde	3	mg/kg	0.11	ND
Benzo[a]anthracene	**3**	**mg/kg**	**0.11**	**0.95**
Benzo[a]pyrene	**3**	**mg/kg**	**0.11**	**0.94**
Benzo[b]fluoranthene	**3**	**mg/kg**	**0.11**	**1.2**
Benzo[g,h,i]perylene	**3**	**mg/kg**	**0.11**	**0.61**
Benzo[k]fluoranthene	**3**	**mg/kg**	**0.11**	**0.38**
bis(2-Chloroethoxy)methane	3	mg/kg	0.11	ND
bis(2-Chloroethyl)ether	3	mg/kg	0.028	ND
bis(2-Chloroisopropyl)ether	3	mg/kg	0.11	ND
bis(2-Ethylhexyl)phthalate	3	mg/kg	0.11	ND
Butylbenzylphthalate	3	mg/kg	0.11	ND
Caprolactam	3	mg/kg	0.11	ND
Carbazole	**3**	**mg/kg**	**0.11**	**0.12**
Chrysene	**3**	**mg/kg**	**0.11**	**0.88**
Dibenzo[a,h]anthracene	**3**	**mg/kg**	**0.11**	**0.15**
Dibenzofuran	**3**	**mg/kg**	**0.028**	**0.063**
Diethylphthalate	3	mg/kg	0.11	ND
Dimethylphthalate	3	mg/kg	0.11	ND
Di-n-butylphthalate	3	mg/kg	0.028	ND
Di-n-octylphthalate	3	mg/kg	0.11	ND
Fluoranthene	**3**	**mg/kg**	**0.11**	**1.7**
Fluorene	3	mg/kg	0.11	ND
Hexachlorobenzene	3	mg/kg	0.11	ND
Hexachlorobutadiene	**3**	**mg/kg**	**0.11**	**0.18**
Hexachlorocyclopentadiene	3	mg/kg	0.11	ND
Hexachloroethane	3	mg/kg	0.11	ND
Indeno[1,2,3-cd]pyrene	**3**	**mg/kg**	**0.11**	**0.55**

Sample ID:	333 1st-SB-04 0-4.0'	Collection Date:	12/10/2018
Lab#:	AD08162-016	Receipt Date:	12/12/2018
Matrix:	Soil		

Isophorone	3	mg/kg	0.11	ND	
Naphthalene	3	mg/kg	0.028	0.073	
Nitrobenzene	3	mg/kg	0.11	ND	
N-Nitroso-di-n-propylamine	3	mg/kg	0.028	ND	
N-Nitrosodiphenylamine	3	mg/kg	0.11	ND	
Pentachlorophenol	3	mg/kg	0.24	ND	
Phenanthrene	3	mg/kg	0.11	1.4	
Phenol	3	mg/kg	0.11	ND	
Pyrene	3	mg/kg	0.11	1.8	

Surrogate	Conc.	Spike	Low Limit	High Limit	Recovery	Flags
Terphenyl-d14	13.05	50	58	148	78	
Phenol-d5	23.51	100	49	129	71	
Nitrobenzene-d5	10.87	50	52	129	65	
2-Fluorophenol	22.01	100	43	128	66	
2-Fluorobiphenyl	11.26	50	58	125	68	
2,4,6-Tribromophenol	23.16	100	54	145	69	

Semivolatile Organics + 15 (8270) Library Searches

Analyte	DF	Units	RT	Result
Phenanthrene, 3-methyl-	3	mg/kg	10.14	0.34J
Anthracene, 2-methyl-	3	mg/kg	10.18	0.39J
4H-Cyclopenta[def]phenanthrene	3	mg/kg	10.27	0.63J
Pentadecane	3	mg/kg	10.85	0.41J
Benzo[e]pyrene	3	mg/kg	14.12	0.59J
2-Pentanone, 4-hydroxy-4-methyl-	3	mg/kg	4.19	11JAB
Pentadecane	3	mg/kg	8.08	0.35J
Hexadecane	3	mg/kg	8.54	0.45J
Pentadecane, 2,6,10,14-tetramethyl-	3	mg/kg	9.02	0.81J
Octadecane	3	mg/kg	9.47	0.45J
Hexadecane, 2,6,10,14-tetramethyl-	3	mg/kg	9.5	0.37J
Dodecane, 2-methyl-6-propyl-	3	mg/kg	9.94	0.39J
TotalSemiVolatileTic	3	mg/kg	NA	16J

TAL Metals 6010D

Analyte	DF	Units	RL	Result
Aluminum	1	mg/kg	220	5000
Barium	1	mg/kg	11	140
Calcium	20	mg/kg	22000	680000
Chromium	1	mg/kg	5.6	19
Cobalt	1	mg/kg	2.8	5.4
Copper	1	mg/kg	5.6	37
Iron	1	mg/kg	220	18000
Lead	1	mg/kg	5.6	410
Magnesium	20	mg/kg	11000	400000
Manganese	4	mg/kg	45	1900
Nickel	1	mg/kg	5.6	18
Potassium	1	mg/kg	560	1200
Sodium	1	mg/kg	280	1700
Vanadium	20	mg/kg	220	ND
Zinc	4	mg/kg	45	1600

TAL Metals 6020B

Analyte	DF	Units	RL	Result
Antimony	5	mg/kg	4.5	ND
Arsenic	5	mg/kg	1.1	11
Beryllium	5	mg/kg	1.1	ND
Cadmium	5	mg/kg	2.2	ND
Selenium	5	mg/kg	11	ND
Silver	5	mg/kg	1.1	ND
Thallium	5	mg/kg	2.2	ND

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 200-46679-1

SDG Number: 200-46679-1

Job Description: 8121205

For:
Hampton-Clarke Veritech
175 Rt 46 West
Fairfield, NJ 07004

Attention: Mr. Nick Yannacone

Approved for release.
Lori T Arnold
Manager of Project Management
12/27/2018 5:11 PM

Lori T Arnold, Manager of Project Management
30 Community Drive, South Burlington, VT, 05403
(802)923-1043
lori.arnold@testamericainc.com
12/27/2018

Detection Summary

Client: Hampton-Clarke Veritech
Project/S Results start here for Group 13

TestAmerica Job ID: 200-46679-1
SDG: 200-46679-1

Client Sample ID: 333 1ST STREET

Lab Sample ID: 200-46679-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	1.2		1.0	0.40	ppb v/v	2		TO-15	Total/NA
Freon 22	0.59	J	1.0	0.52	ppb v/v	2		TO-15	Total/NA
n-Butane	1.1		1.0	0.62	ppb v/v	2		TO-15	Total/NA
Trichlorofluoromethane	0.53		0.40	0.12	ppb v/v	2		TO-15	Total/NA
Freon TF	0.12	J	0.40	0.062	ppb v/v	2		TO-15	Total/NA
Acetone	9.8	J	10	5.2	ppb v/v	2		TO-15	Total/NA
Carbon disulfide	0.84	J	1.0	0.24	ppb v/v	2		TO-15	Total/NA
n-Hexane	0.56		0.40	0.32	ppb v/v	2		TO-15	Total/NA
Methyl Ethyl Ketone	1.3		1.0	0.40	ppb v/v	2		TO-15	Total/NA
Chloroform	0.18	J	0.40	0.10	ppb v/v	2		TO-15	Total/NA
Cyclohexane	0.15	J	0.40	0.13	ppb v/v	2		TO-15	Total/NA
Carbon tetrachloride	0.066	J	0.070	0.048	ppb v/v	2		TO-15	Total/NA
Benzene	0.34	J	0.40	0.14	ppb v/v	2		TO-15	Total/NA
n-Heptane	0.50		0.40	0.28	ppb v/v	2		TO-15	Total/NA
Trichloroethene	0.47		0.070	0.060	ppb v/v	2		TO-15	Total/NA
Toluene	1.4		0.40	0.14	ppb v/v	2		TO-15	Total/NA
Tetrachloroethene	1.6		0.40	0.058	ppb v/v	2		TO-15	Total/NA
Ethylbenzene	0.32	J	0.40	0.15	ppb v/v	2		TO-15	Total/NA
m,p-Xylene	1.5		1.0	0.14	ppb v/v	2		TO-15	Total/NA
o-Xylene	0.54		0.40	0.14	ppb v/v	2		TO-15	Total/NA
Xylene (total)	2.0		1.4	0.28	ppb v/v	2		TO-15	Total/NA
Styrene	0.25	J	0.40	0.17	ppb v/v	2		TO-15	Total/NA
4-Ethyltoluene	0.14	J	0.40	0.14	ppb v/v	2		TO-15	Total/NA
1,3,5-Trimethylbenzene	0.23	J	0.40	0.12	ppb v/v	2		TO-15	Total/NA
1,2,4-Trimethylbenzene	0.74		0.40	0.16	ppb v/v	2		TO-15	Total/NA
4-Isopropyltoluene	0.15	J	0.40	0.15	ppb v/v	2		TO-15	Total/NA
1,4-Dichlorobenzene	4.7		0.40	0.13	ppb v/v	2		TO-15	Total/NA
n-Butylbenzene	0.16	J	0.40	0.16	ppb v/v	2		TO-15	Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	6.0		4.9	2.0	ug/m3	2		TO-15	Total/NA
Freon 22	2.1	J	3.5	1.8	ug/m3	2		TO-15	Total/NA
n-Butane	2.6		2.4	1.5	ug/m3	2		TO-15	Total/NA
Trichlorofluoromethane	3.0		2.2	0.70	ug/m3	2		TO-15	Total/NA
Freon TF	0.90	J	3.1	0.48	ug/m3	2		TO-15	Total/NA
Acetone	23	J	24	12	ug/m3	2		TO-15	Total/NA
Carbon disulfide	2.6	J	3.1	0.75	ug/m3	2		TO-15	Total/NA
n-Hexane	2.0		1.4	1.1	ug/m3	2		TO-15	Total/NA
Methyl Ethyl Ketone	3.7		2.9	1.2	ug/m3	2		TO-15	Total/NA
Chloroform	0.86	J	2.0	0.51	ug/m3	2		TO-15	Total/NA
Cyclohexane	0.52	J	1.4	0.43	ug/m3	2		TO-15	Total/NA
Carbon tetrachloride	0.42	J	0.44	0.30	ug/m3	2		TO-15	Total/NA
Benzene	1.1	J	1.3	0.45	ug/m3	2		TO-15	Total/NA
n-Heptane	2.0		1.6	1.1	ug/m3	2		TO-15	Total/NA
Trichloroethene	2.5		0.38	0.32	ug/m3	2		TO-15	Total/NA
Toluene	5.3		1.5	0.52	ug/m3	2		TO-15	Total/NA
Tetrachloroethene	11		2.7	0.39	ug/m3	2		TO-15	Total/NA
Ethylbenzene	1.4	J	1.7	0.63	ug/m3	2		TO-15	Total/NA
m,p-Xylene	6.4		4.3	0.61	ug/m3	2		TO-15	Total/NA
o-Xylene	2.3		1.7	0.62	ug/m3	2		TO-15	Total/NA
Xylene (total)	8.9		6.1	1.2	ug/m3	2		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: 333 1ST STREET (Continued) — Lab Sample ID: 200-46679-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Styrene	1.0	J	1.7	0.73	ug/m3	2		TO-15	Total/NA
4-Ethyltoluene	0.68	J	2.0	0.68	ug/m3	2		TO-15	Total/NA
1,3,5-Trimethylbenzene	1.1	J	2.0	0.57	ug/m3	2		TO-15	Total/NA
1,2,4-Trimethylbenzene	3.6		2.0	0.79	ug/m3	2		TO-15	Total/NA
4-Isopropyltoluene	0.81	J	2.2	0.82	ug/m3	2		TO-15	Total/NA
1,4-Dichlorobenzene	28		2.4	0.78	ug/m3	2		TO-15	Total/NA
n-Butylbenzene	0.87	J	2.2	0.88	ug/m3	2		TO-15	Total/NA

Results end here for Group 13

Client Sample ID: 512 3RD STREET — Lab Sample ID: 200-46679-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	0.52		0.50	0.20	ppb v/v	1		TO-15	Total/NA
Freon 22	0.73		0.50	0.26	ppb v/v	1		TO-15	Total/NA
Trichlorofluoromethane	0.44		0.20	0.062	ppb v/v	1		TO-15	Total/NA
Freon TF	0.052	J	0.20	0.031	ppb v/v	1		TO-15	Total/NA
Acetone	3.3	J	5.0	2.6	ppb v/v	1		TO-15	Total/NA
Methylene Chloride	0.50		0.50	0.20	ppb v/v	1		TO-15	Total/NA
n-Hexane	0.17	J	0.20	0.16	ppb v/v	1		TO-15	Total/NA
Methyl Ethyl Ketone	0.42	J	0.50	0.20	ppb v/v	1		TO-15	Total/NA
Chloroform	0.26		0.20	0.052	ppb v/v	1		TO-15	Total/NA
Toluene	0.11	J	0.20	0.069	ppb v/v	1		TO-15	Total/NA
Tetrachloroethene	0.23		0.20	0.029	ppb v/v	1		TO-15	Total/NA
m,p-Xylene	0.14	J	0.50	0.070	ppb v/v	1		TO-15	Total/NA
Xylene (total)	0.14	J	0.70	0.14	ppb v/v	1		TO-15	Total/NA
Styrene	0.14	J	0.20	0.086	ppb v/v	1		TO-15	Total/NA
1,3,5-Trimethylbenzene	0.067	J	0.20	0.058	ppb v/v	1		TO-15	Total/NA
1,2,4-Trimethylbenzene	0.14	J	0.20	0.080	ppb v/v	1		TO-15	Total/NA
1,4-Dichlorobenzene	1.0		0.20	0.065	ppb v/v	1		TO-15	Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dichlorodifluoromethane	2.6		2.5	0.99	ug/m3	1		TO-15	Total/NA
Freon 22	2.6		1.8	0.92	ug/m3	1		TO-15	Total/NA
Trichlorofluoromethane	2.4		1.1	0.35	ug/m3	1		TO-15	Total/NA
Freon TF	0.40	J	1.5	0.24	ug/m3	1		TO-15	Total/NA
Acetone	7.8	J	12	6.2	ug/m3	1		TO-15	Total/NA
Methylene Chloride	1.7		1.7	0.69	ug/m3	1		TO-15	Total/NA
n-Hexane	0.61	J	0.70	0.56	ug/m3	1		TO-15	Total/NA
Methyl Ethyl Ketone	1.3	J	1.5	0.59	ug/m3	1		TO-15	Total/NA
Chloroform	1.3		0.98	0.25	ug/m3	1		TO-15	Total/NA
Toluene	0.42	J	0.75	0.26	ug/m3	1		TO-15	Total/NA
Tetrachloroethene	1.6		1.4	0.20	ug/m3	1		TO-15	Total/NA
m,p-Xylene	0.62	J	2.2	0.30	ug/m3	1		TO-15	Total/NA
Xylene (total)	0.61	J	3.0	0.61	ug/m3	1		TO-15	Total/NA
Styrene	0.59	J	0.85	0.37	ug/m3	1		TO-15	Total/NA
1,3,5-Trimethylbenzene	0.33	J	0.98	0.29	ug/m3	1		TO-15	Total/NA
1,2,4-Trimethylbenzene	0.68	J	0.98	0.39	ug/m3	1		TO-15	Total/NA
1,4-Dichlorobenzene	6.0		1.2	0.39	ug/m3	1		TO-15	Total/NA

Client Sample ID: 500 3RD STREET — Lab Sample ID: 200-46679-3

This Detection Summary does not include radiochemical test results.