December 2, 2019



Mr. Frank Chinnici Legacy Development 250 Ramsdell Avenue Buffalo, NY 14216

Re: Phase II Environmental Investigation

441 Ellicott Street and 324-334 North Oak Street

Buffalo, New York

Dear Mr. Chinnici:

TurnKey Environmental Restoration, LLC (TurnKey) has prepared this report to present the results of a Phase II Environmental Investigation performed at 441 Ellicott Street and 324-334 North Oak Street in the City of Buffalo, New York (Site). A Site Location and Vicinity Map is provided as Figure 1.

The Site, totaling 1.26 acres, is currently comprised of the four parcels further described in the table below:

Parcel Address	Size (acres)	Tax ID No.	Current Owner	Current Use
441 Ellicott	0.39	111.39-1-29		Commercial with one building
324 North Oak	0.09	111.39-1-13	Buffalo Properties Ltd.	Developed with one vacant commercial building
328 North Oak	0.20	111.39-1-12	Bullaio Properties Ltd.	Developed with one vacant commercial building
334 North Oak	0.58	111.39-1-11.1		Developed with one vacant commercial building

Remaining portions of the Site that are not covered by buildings are currently vacant land that are either covered by paving, gravel or vegetation.

### **BACKGROUND**

Based on TurnKey's review of Sanborn Fire Insurance Maps, historic operations at the Site included a packing corporation, a printing company, storefronts, a sausage factory, a milling operation with a carpenter shop, flour storage, grain elevators, automobile storage with ignition service, an automotive garage, a furniture factory, mattress/box spring manufacturing, and storefronts. Multiple former structures were observed.

Based on the Site's past industrial use and likely presence of urban fill in the area of former structures to fill the former building foundations, a Phase II Environmental Investigation was completed to confirm the presence of environmental impacts on-Site.

### **INVESTIGATION ACTIVITIES**

## Test Pit Investigation at 441 Ellicott Street

On September 18, 2019, ten (10) test pits identified as TP-1 through TP-10 were completed to approximately 2-6 feet below ground surface (fbgs) using a mini-excavator. The test pits were collected east of the building from the grass, soil, and gravel covered area surrounding the paved parking lot. Test pit locations are shown on Figure 2. Subsurface soil samples were collected from the soil/fill layer at TP-2 (1-2 ft), TP-5 (1.5-2.5 ft), TP-7 (2-3 ft), and TP-8 (4-5 ft). The sample collected from TP-7 was taken from a fill layer consisting entirely of ash. One (1) surface soil sample (SS-1) was collected due to a suspected petroleum sheen observed at the surface (see Figure 2). The soil/fill samples were screened for volatile organics using a MiniRae 3000 photoionization detector (PID), visual characteristics for each sample were classified using the ASTM D2488 Visual-Manual Procedure Description, and olfactory observations, if any, were noted.

The four (4) subsurface soil/fill samples were submitted to the laboratory for analysis of Environmental Protection Agency (EPA) Method 8270D PAHs and Resource Conservation and Recovery Act (RCRA) 8 Metals (EPA Method 6010D and 7471B). The surface soil sample was submitted to the laboratory for analysis of CP-51 volatile organic compounds (VOCs) and CP-51 semi-volatile organic compounds (SVOCs). All samples were collected in laboratory provided sample bottles and were cooled to 4°C prior to transport.

## Soil Boring Investigation at 324-334 North Oak Street

On October 31, 2019, 12 soil borings identified as SB-1 through SB-12 were completed to approximately 12 fbgs using a direct-push drill rig. The soil borings were completed on exterior portions of each parcel and within accessible interior portions of the 334 North Oak Street building. Soil boring locations are shown on Figure 2. Subsurface soil samples were collected from the soil/fill layers at SB-1 (0-1 ft), SB-2 (0-2 ft), SB-5 (0-4 ft), SB-7 (0-1 ft), SB-8 (0-2 ft), SB-9 (0-1 ft), SB-10 (0-2 ft), and SB-12 (0-2 ft). The soil/fill samples were screened for volatile organics using a MiniRae 3000 photoionization detector (PID), visual characteristics for each sample were classified using the ASTM D2488 Visual-Manual Procedure Description, and olfactory observations, if any, were noted.

Eight (8) subsurface soil/fill samples were submitted to the laboratory for analysis of Environmental Protection Agency (EPA) Method 8270D PAHs and Resource Conservation and Recovery Act (RCRA) 8 Metals (EPA Method 6010D and 7471B). All samples were collected in laboratory provided sample bottles and were cooled to 40 C prior to transport.

## FIELD OBSERVATIONS AND FINDINGS

In general, during the test pit investigation at 441 Ellicott Street, urban fill consisting of cinders, ash, slag, wood, asphalt, concrete, glass, plastic, brick, metal, paint cans, and metal piping was observed from the ground surface to approximately 2-5 fbgs. Sandy lean clay was observed underlying the fill along the south end of the Site and fine sand was observed underlying the fill along the north end. Subangular gravel was observed overlying the fill at the



north end, and topsoil was observed at TP-2. Refusal was met at TP-2 and TP-4 at 1-2 fbgs due to an old foundation and concrete floor.

The soil boring investigation at 324-334 North Oak Street was generally consistent with above with urban fill consisting of slag, cinders, limestone, brick, coal, and ash observed from the ground surface to depths ranging between approximately 1-8 fbgs. Fine sand and sandy lean clay were observed underling the fill across the Site. Refusal was met at SB-1 and SB-4 at 2 fbgs and 8 fbgs, respectively.

No elevated PID readings or olfactory concerns were noted during the work. Photographs taken during the work are included in Appendix A.

Investigation Location ID	Description	Sample Depth						
	TEST PIT INVESTIGATION							
TP-1	0-3.5 ft – Fill: Brown/black, moist, mostly fill, some medium sand, no odors 3.5-5 ft – Sandy lean clay: Reddish brown, moist, mostly medium plasticity fines, some fine sand, little sub rounded gravel, stiff, massive, no odors	No Sample						
TP-2	0-0.5 ft – Topsoil 0.5-1 ft – Subangular gravel 1-2 ft – Fill: Reddish brown, moist, mostly sand lean clay, some fill, old foundation and concrete floor encountered	1-2 ft						
TP-3	0-0.5 ft – Sub rounded gravel and sand: Brown, moist, mostly sub rounded gravel, little fine sand, no odors 0.5-4 ft – Fine sand: Tan, moist, mostly fine sand, little sub rounded gravel, no odors	No Sample						
TP-4	0-1 ft – Subangular gravel, concrete floor encountered	No Sample						
TP-5	0-1 ft – Subangular gravel 1-4 ft – Fill: Brown/black, moist, mostly fill, black fines, no odors 4-6 ft – Well graded sand: Tan, moist, mostly fine and medium sand, no odors	1.5-2.5 ft						
TP-6	0-3.5 ft – Fill: Brown/black, moist, mostly fill, little fine sand, no odors 3.5-5 ft – Sandy lean clay: Reddish brown, moist, mostly medium plasticity fines, some fine sand, little sub rounded gravel, stiff, massive, no odors	No Sample						
TP-7	0-2 ft – Fill: Brown/black, moist, mostly silty sand, some fill, no odors 2-3 ft – Ash layer 3-5 ft – As above fill 5-6 ft – Sandy lean clay: Reddish brown, moist, mostly medium plasticity fines, some fine sand, little sub rounded gravel, stiff, massive, no odors	2-3 ft						
TP-8	0-5 ft – Fill: Brown/black, moist, mostly silty sand, some fill, no odors	4-5 ft						
TP-9	0-5 ft – Reworked soil/fill: Brown, moist, mostly medium plasticity fines, some fine sand, some silt, some fill, reworked soils, no odors	No Sample						



Investigation Location ID	Description	Sample Depth				
TP-10	0-2 ft – Reworked soil/fill: Brown, moist, mostly medium plasticity fines, some fine sand, some silt, some fill, reworked soils, no odors 2-3.5 ft – Sandy lean clay – Reddish brown, moist, mostly medium plasticity fines, some fine sand, little sub rounded gravel, stiff, massive, no odors	No Sample				
	SOIL BORING INVESTIGATION					
SB-1	0-3 in Subangular gravel 3"-9" Fill- Black, moist, mostly fine sand, some cinders, gravel, coal, no odors 9"-2' Limestone and fine sand Equipment refusal at 2'	0-1 ft				
SB-2	0-3 in Fill- Black, moist, mostly fine sand, some brick, cinders, no odors 3 in- 4 ft Reworked clay- Reddish brown, moist, mostly medium plasticity fines, some limestone, some cinders, no odors 4 – 6 ft Fine sand- Tan, moist, mostly fine sand, little subangular gravel, no odors 6- 7 ft Fill- Black, moist, mostly brick, some cinders, some fine sand, no odors 7- 10 ft Silty sand- brown, moist mostly silty sand, some limestone, no odors 10-11 ft Fine sand- Tan, moist, mostly fine sand, no odors	0- <b>2</b> ft				
SB-3	0-3 in Subangular gravel 3-6 in Concrete 6-8 in Brick 8 in- 2 ft Silty sand- brown, moist mostly silty sand, some limestone, no odors 2 – 7 ft Fine sand- Tan, moist, mostly fine sand, little subangular gravel, no odors 7 -12 ft – Sandy lean clay – Reddish brown, moist, mostly medium plasticity fines, some fine sand, little sub rounded gravel, stiff, massive, no odors	No sample				
SB-4	0- 3 in Subangular gravel 3 in – 8 ft Fill- Black, moist, mostly subangular gravel, some cinders, fine sand, brick, ash, no odors	No sample				
SB-5	0-6 in Subangular gravel 6 in -1 ft Fill- Black, moist, mostly subangular gravel, some black fines, little sand, no odors 1 – 1.75 ft Fill- Tan/white, moist, mostly fine sand, some cinders, brick, subangular gravel, no odors 1.75-4.25 ft Brick 4.25 – 5 ft Fine sand- Tan, wet, mostly fine sand, little subangular gravel, no odors 5 -12 ft – Sandy lean clay – Reddish brown/ grey, moist, mostly medium plasticity fines, some fine sand, little sub rounded gravel, stiff, massive, no odors	0-4 ft				



Investigation Location ID	Description	Sample Depth
SB-6	0 – 4 in Concrete 4 in- 1.5 ft Fill- Brown, moist, mostly silty sand, some brick, cinders, concrete, loose when disturbed, no odors 1.5- 5.5 ft Fine sand- Tan, moist to wet (4'), mostly fine sand, few silt, medium dense, no odors 5.5 – 12 ft Sandy lean clay- Reddish brown, moist, mostly medium plasticity fines, some fine sand, stiff, massive, no odors	No sample
SB-7	0 – 4 in Concrete 4- 8 in Fill- Brown, moist, mostly silty sand, some brick, cinders, concrete, loose when disturbed, no odors 8 in- 6 ft Fine sand- Tan, moist to wet (4'), mostly fine sand, few silt, medium dense, no odors 6 – 12 ft Sandy lean clay- Reddish brown, moist, mostly medium plasticity fines, some fine sand, stiff, massive, no odors	0-1 ft
SB-8	0 – 4 in Concrete 4 in- 2.25 ft Fill- Black, moist, mostly cinders, black sand, slag, subangular gravel, ash., brick, loose when disturbed, no odors 2.25 - 6 ft Fine sand- Tan, moist to wet (3'), mostly fine sand, few silt, medium dense, no odors 6 – 12 ft Sandy lean clay- Reddish brown, moist, mostly medium plasticity fines, some fine sand, stiff, massive, no odors	0-2 ft
SB-9	0 – 4 in Concrete 4 in- 1 ft Fill- Black, moist, mostly slag, cinders, fine sand, loose when disturbed, no odors 1- 2.5 ft Silty sand- Brown, moist, mostly silty sand, some sub rounded gravel, no odors 2.5 – 6 ft Fine sand- Tan, moist to wet (4'), mostly fine sand, some sub rounded gravel, no odors 6-12 ft Sandy lean clay- Reddish brown, moist, mostly medium plasticity fines, some fine sand, stiff, massive, no odors	0-1 ft
SB-10	0 – 4 in Concrete 4 in- 4 ft Fill- Black, moist, mostly slag, cinders, fine sand, limestone, brick, loose when disturbed, no odors 4 – 7.5 ft Fine sand- Tan, moist to wet (4'), mostly fine sand, some sub rounded gravel, no odors 7.5-12 ft Sandy lean clay- Reddish brown, moist, mostly medium plasticity fines, some fine sand, stiff, massive, no odors	0-2 ft
SB-11	0 – 4 in Concrete 4 in- 1 ft Fill- Black, moist, mostly slag, cinders, fine sand, limestone, brick, loose when disturbed, no odors 1– 7 ft Fine sand- Tan, moist to wet (4'), mostly fine sand, some sub rounded gravel, no odors 7-12 ft Sandy lean clay- Reddish brown, moist, mostly medium plasticity fines, some fine sand, stiff, massive, no odors	No sample
SB-12	0 – 4 in Concrete 4 in – 1 ft Subangular gravel 1- 2 ft Fill- Black, moist, mostly slag, cinders, fine sand, limestone, brick, loose when disturbed, no odors 2– 8 ft Fine sand- Tan, moist to wet (4'), mostly fine sand, some sub rounded gravel, no odors 8-12 ft Sandy lean clay- Reddish brown, moist, mostly medium plasticity fines, some fine sand, stiff, massive, no odors	0-2 ft



One surface soil sample (SS-1) was also collected and sampled for CP-51 VOCs and SVOCs due to a suspected petroleum sheen. No elevated PID readings were noted.

## **LABORATORY ANALYTICAL RESULTS**

Laboratory analytical results were provided by Alpha Analytical in two reports dated September 27, 2019 and November 8, 2019. The analytical reports are provided in Appendix B. Analytical results were compared to 6 NYCRR Part 375 Unrestricted use Soil Cleanup Objectives (USCOs) and Restricted-Residential use Soil Cleanup Objectives (RRSCOs).

As summarized on Table 1, PAHs including Acenaphthene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Chrysene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and/or Pyrene were detected above their respective USCOs and/or RRSCOs at three (3) of the four (4) test pit locations (TP-2, TP-7, and TP-8) and six (6) of the eight (8) soil borings (SB-1, SB-2, SB-5, SB-7, SB-9 and SB-12). Lead was detected above its RRSCO at one (1) test pit location (TP-2) and three (3) soil boring locations (SB-1, SB-2 and SB-12), and above its USCO at three (3) test pit locations (TP-5, TP-7, and TP-8) and four (4) soil boring locations (SB-7 through SB-10). Mercury was detected above its USCO and/or RRSCOs at three (3) test pit locations (TP-2, TP-7, and TP-8) and four soil borings (SB-1, SB-2, SB-9 and SB-12), and cadmium was detected above its USCO at one (1) test pit location (TP-2) and one soil boring (SB-1). In addition, arsenic was detected above its USCO at SB-8 and above its RRSCO at SB-1 and SB-2. Barium was identified above its RRSCO at SB-1 and chromium above its USCO at SB-12. The highest metal concentrations were identified at SB-1 (arsenic at 36.8 mg/kg and lead at 7,860 mg/kg) and SB-2 (arsenic at 27.8 mg/kg and mercury at 20 mg/kg). No petroleum VOCs or SVOCs exceeding USCOs were observed at the surface soil location (SS-1).

### **CONCLUSIONS**

The Site soil/fill is impacted by PAHs and metals. Based on evidence of urban fill observed in the majority of test pit and soil boring locations, it is likely that PAH- and/or metals-impacted soil/fill is present across the Site.

We understand the subject property is being considered for redevelopment in a residential reuse scenario. The least restrictive applicable SCOs to attain would be RRSCOs, based on the planned use of the Site. Based on the findings detailed above, the Site is a potential candidate for the New York State Brownfield Cleanup Program (BCP). Regardless of whether the BCP is pursued, PAHs- and metals-impacted soil/fill materials present on-Site will require exposure control, remediation, and/or proper soil management either prior to or during the redevelopment project.

## **DECLARATIONS/LIMITATIONS**

This report has been prepared for the exclusive use of Legacy Development. The contents of this report are limited to information available at the time of the subject site investigation. Data provided by others as referenced herein is assumed to be accurate and reliable. The findings herein may be relied upon only at the discretion of Legacy Development and are



limited to the terms and conditions identified in the agreement between TurnKey and its client. Use of or reliance upon this report or its findings by any other person or entity is prohibited without written permission of TurnKey Environmental Restoration, LLC.

Please contact us if you have any questions or require additional information.

Sincerely,

TurnKey Environmental Restoration, LLC

Michael A. Lesakowski

Principal

Bryan W. Mayback Bryan W. Mayback Sr. Project Scientist



## **TABLE**





### TABLE 1

#### SUMMARY OF SOIL/FILL ANALYTICAL DATA PHASE II ENVIRONMENTAL INVESTIGATION 441 ELLICOTT STREET & 324-334 OAK STREET **BUFFALO, NEW YORK**

		Restricted							Sample Location						
PARAMETER <sup>1</sup>	Unrestricted Use SCOs <sup>2</sup>	Residential Use SCOs <sup>2</sup>	TP-2 (1-2 FT)	TP-5 (1.5-2.5 FT)	TP-7 (2-3 FT)	TP-8 (4-5 FT)	SS-1	SB-1 0-1 ft	SB-2 0-2 ft	SB-5 0-4 ft	SB-7 0-1 ft	SB-8 0-2 ft	SB-9 0-1 ft	SB-10 0-2 ft	SB-12 0-2 ft
		300 5555	9/18/2019	9/18/2019	9/18/2019	9/18/2019	9/18/2019	10/31/2019	10/31/2019	10/31/2019	10/31/2019	10/31/2019	10/31/2019	10/31/2019	10/31/2019
Volatile Organic Compounds (Vo															
Methyl tert butyl ether (MTBE)	0.93	100					0.0032								
Polycyclic Aromatic Hydrocarbo															
Acenaphthene	20	100	0.21	ND	21	0.93 J	ND	ND	0.079 J	0.12 J	0.54	0.044 J	0.054 J	ND	0.98
Acenaphthylene	100	100	0.32	0.04 J	1 J	1.5	0.06 J	ND	0.19	0.15	1.3	0.14 J	0.14 J	ND	0.9
Anthracene	100	100	0.7	ND	78	4.5	0.087 J	ND	0.47	0.34	1.7	0.14	0.17	0.037 J	3
Benzo(a)anthracene	1	1	1.7	0.14	130	8.9	0.43	11 J	1.4	1.2	5.7	0.54	0.79	0.15	7.7
Benzo(a)pyrene	1	1	1.4	0.13 J	110	7.1	0.44	14 J	1	0.96	4.9	0.46	0.69	0.094 J	6.2
Benzo(b)fluoranthene	1	1	2	0.21	140	9.6	0.71	13 J	1.4	1.4	7.5	0.59	0.91	0.14	8.6
Benzo(ghi)perylene	100	100	1.1	0.1 J	55	3.9	0.43	17 J	0.68	0.69	3.6	0.3	0.47	0.068 J	4.2
Benzo(k)fluoranthene	8.0	3.9	0.7	0.062 J	46	2.8	0.22	ND	0.48	0.45	1.3	0.2	0.33	0.043 J	2.5
Chrysene	1	3.9	1.7	0.16	110	7.9	0.49	9.3 J	1.1	1	5.5	0.55	0.81	0.15	5.7
Dibenzo(a,h)anthracene	0.33	0.33	0.24	0.025 J	15	1 J	0.08 J	ND	0.25	0.16	1	0.071 J	0.11 J	0.023 J	1.2
Fluoranthene	100	100	4.3	0.26	350 D	20	0.7	16 J	2.1	2.1	10	1.1	1.6	0.22	13
Fluorene	30	100	0.25	ND	28	1.4 J	0.025 J	ND	0.13 J	0.14 J	0.74	0.08 J	0.074 J	0.025 J	1.4
Indeno(1,2,3-cd)pyrene	0.5	0.5	1	0.1 J	63	4.1	0.38	16 J	0.76	0.78	3.9	0.31	0.54	0.066 J	5
Naphthalene	12	100	0.26	ND	3.8 J	0.34 J	ND	ND	0.18 J	0.1 J	0.8	0.17 J	0.083 J	0.031 J	0.45
Phenanthrene	100	100	3	0.15	260 D	14	0.28	9.1 J	1.5	1.4	7.2	0.95	1.1	0.25	9.8
Pyrene	100	100	3.6	0.22	270 D	16	0.61	16 J	1.7	1.6	8.8	0.93	1.3	0.17	11
Metals - mg/Kg															
Arsenic	13	16	8.81	6.07	5.06	6.61		36.8	27.8	10.3	10.6	14.9	7.84	8.94	4.08
Barium	350	400	334	78.8	70.8	176		494	128	44.2	146	146	124	41.5	194
Cadmium	2.5	4.3	2.57	1.08	1.1	1.36		2.93	ND	0.097 J	0.266 J	1.1	ND	ND	ND
Chromium	30	180	14.3	10.4	9.48	12		24.5	14	3.91	7.9	4.39	8.56	4.64	111
Lead	63	400	1800	191	182	234		7860	546	61.5	238	86.8	221	86.3	592
Mercury	0.18	0.81	0.311	0.094	0.232	0.246		0.629	20	ND	0.174	ND	0.909	ND	0.382
Selenium	3.9	180	0.724 J	0.569 J	0.332 J	0.613 J		2.44	8.12	0.265 J	1.2	2.72	1.33	1.21	2.05
Silver	2	180	0.429 J	ND	0.149 J	0.2 J		0.742	0.22 J	ND	0.336 J	0.952	ND	ND	1.74

- Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
   Values per 6 NYCRR Part 375 Soil Cleanup Objectives (SCOs).
   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. Or parameter not analysed for.

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

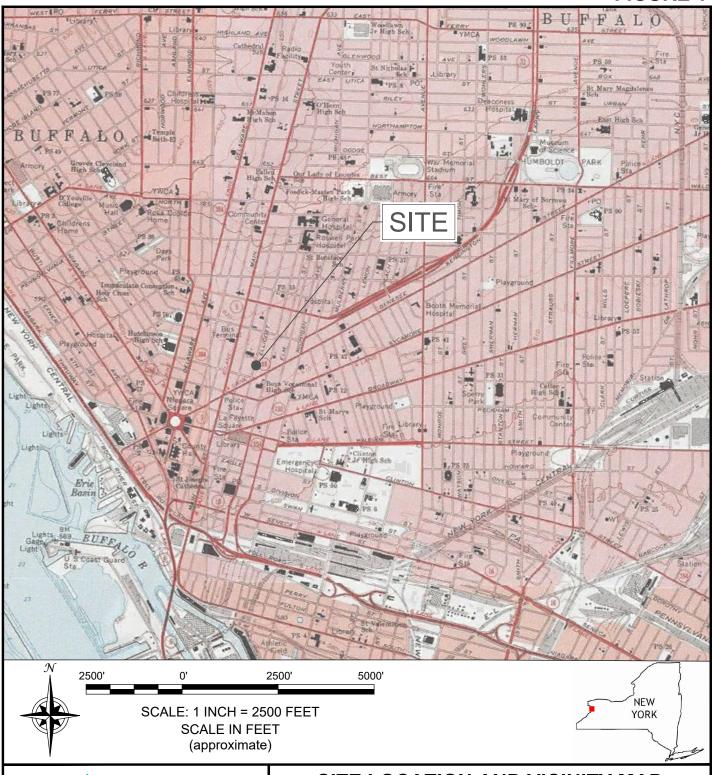
  D = Compounds were identified in an analyisis at the secondary dilution factor.

= Result exceeds Unrestricted Use SCOs. = Result exceeds Restricted Residential Use SCOs.

## **FIGURES**



## FIGURE 1





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

PROJECT NO.: 0395-019-001

DATE: NOVEMBER 2019

DRAFTED BY: CEH

## SITE LOCATION AND VICINITY MAP

PHASE II ENVIRONMENTAL SITE INVESTIGATION
441 ELLICOTT STREET & 324-334 NORTH OAK STREET

BUFFALO, NEW YORK
PREPARED FOR
LEGACY DEVELOPMENT

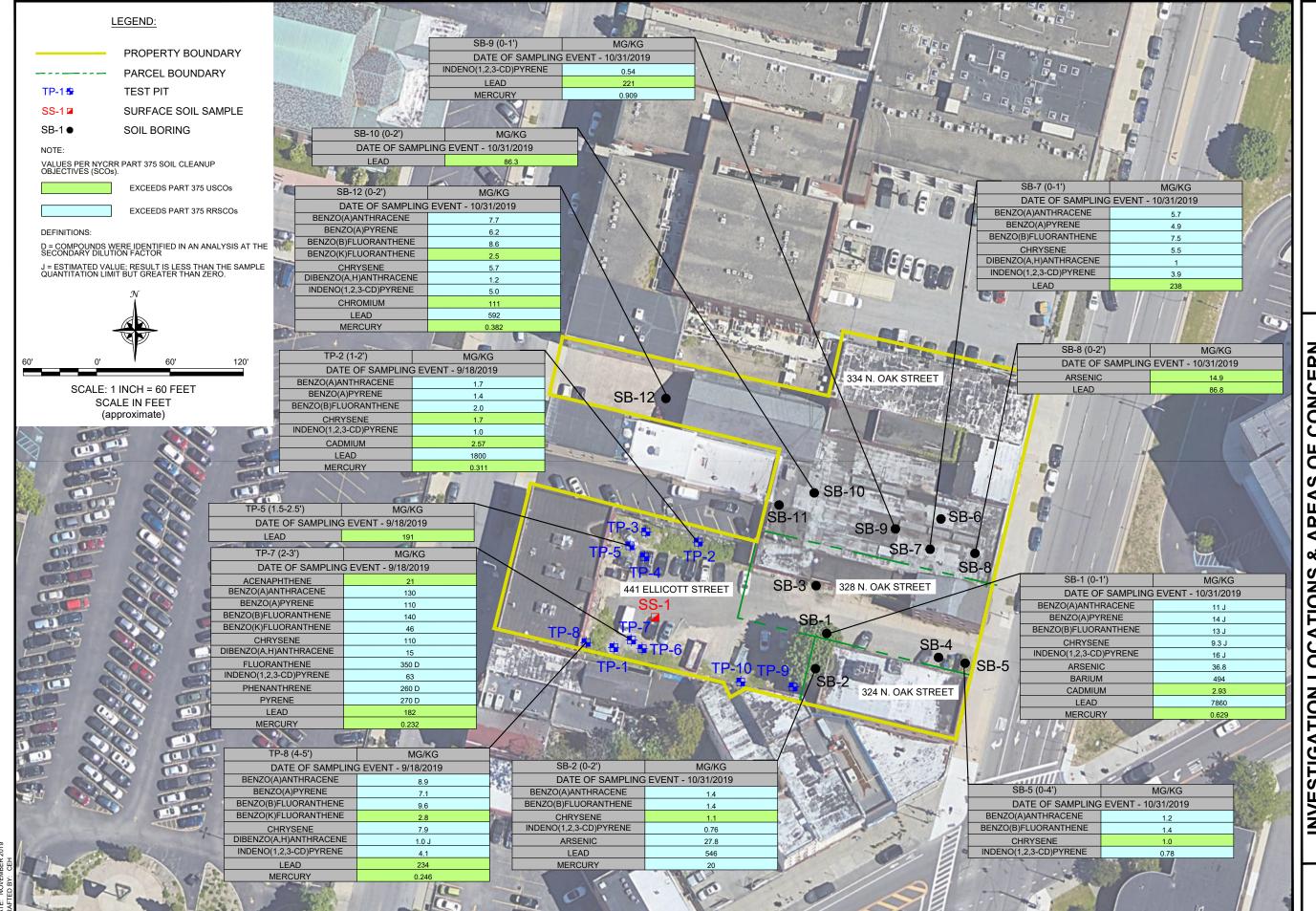
#### DISCLAIMER:

PROPERTY OF TURNKEY ENVIRONMENTAL RESTORATION, LLC. IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF TURNKEY ENVIRONMENTAL RESTORATION, LLC.

## FIGURE 2



PROPERTY OF TURNKEY ENVIRONMENTAL RESTORATION, LLC. IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO PROPERTY OF TORNING PROVINGENTAL RESTORATION, ELC. IMPORTANT. THIS DRAWING PRINT IS LOANGED FOR MOUDAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF TURNKEY ENVIRONMENTAL RESTORATION, LLC.



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SITE INVESTIGATION

**ENVIRONMENTAL** 

PHASE II

ELLICOTT

LEGACY DEVELOPMENT

JOB NO.: 0395-019-001

SUBJECT TO RECALL AT ANY TIME. INI CONSENT OF TURNKEY ENVIRONMENTAL

FIGURE 3

## **APPENDIX A**

Рното Log



## SITE PHOTOGRAPHS - TEST PIT INVESTIGATION

### Photo 1:



Photo 3:



Photo 2:



Photo 4:



Photo 1: View of TP-1.

Photo 2: View of TP-2

Photo 3: View of TP-2 note concrete obstruction.

Photo 4: View of the fill materials (slag, ash) noted within TP-5.

Photo Date: September 18, 2019



## SITE PHOTOGRAPHS - TEST PIT INVESTIGATION

Photo 5:

Photo 6:



Photo 7:





Photo 5: View of the sheen noted on the surface soils at the site, area of SS-1.

View of the fill materials noted within test pits. Photo 6,7:

View of the safe found in TP-8 at the Site. Photo 8:

Photo Date: September 18, 2019



## SITE PHOTOGRAPHS – SOIL BORING INVESTIGATION

Photo 1:



Photo 3:



Photos 1 and 2: View during soil boring investigation.

Photos 3 and 4: Typical fill materials.

Photo 2:



Photo 4:



## **APPENDIX B**

LABORATORY ANALYTICAL REPORTS





#### ANALYTICAL REPORT

Lab Number: L1943561

Client: Turnkey Environmental Restoration, LLC

2558 Hamburg Turnpike

Suite 300

Buffalo, NY 14218

T0395-019-001-002

ATTN: Bryan Mayback
Phone: (716) 856-0599
Project Name: 441 ELLICOTT

,

Report Date: 09/27/19

Project Number:

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

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

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



Project Name: 441 ELLICOTT

**Project Number:** T0395-019-001-002

**Lab Number:** L1943561 **Report Date:** 09/27/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1943561-01	TP-2 1-2FT	SOIL	BUFFALO, NY	09/18/19 09:45	09/20/19
L1943561-02	TP-5 1.5-2.5FT	SOIL	BUFFALO, NY	09/18/19 11:30	09/20/19
L1943561-03	TP-7 2-3FT	SOIL	BUFFALO, NY	09/18/19 13:30	09/20/19
L1943561-04	TP-8 4-5FT	SOIL	BUFFALO, NY	09/18/19 14:30	09/20/19
L1943561-05	SS-1	SOIL	BUFFALO, NY	09/18/19 12:00	09/20/19



 Project Name:
 441 ELLICOTT
 Lab Number:
 L1943561

 Project Number:
 T0395-019-001-002
 Report Date:
 09/27/19

#### **Case Narrative**

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.	



 Project Name:
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#### Case Narrative (continued)

## Report Submission

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

### Volatile Organics

L1943561-05: Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

### Semivolatile Organics

L1943561-03: The surrogate recoveries are below the acceptance criteria for nitrobenzene-d5 (0%), 2-fluorobiphenyl (0%) and 4-terphenyl-d14 (0%) due to the dilution required to quantitate the sample. Reextraction was not required; therefore, the results of the original analysis are reported.

L1943561-04: The sample has elevated detection limits due to the dilution required by the sample matrix.

#### **Total Metals**

The WG1288599-3 MS recoveries, performed on L1943561-01, are outside the acceptance criteria for barium (50%) and chromium (56%). A post digestion spike was performed and yielded unacceptable recoveries for barium (64%) and chromium (62%). The serial dilution recoveries were not acceptable; therefore, these elements fail the matrix test and the results reported in the native sample should be considered estimated. The WG1288599-3 MS recovery, performed on L1943561-01, is outside the acceptance criteria for cadmium (59%). A post digestion spike was performed and yielded an unacceptable recovery for cadmium (68%). The serial dilution recovery was not applicable; therefore, this element fails the matrix test and the result reported in the native sample should be considered estimated.

The WG1288599-3 MS recovery for lead (0%), performed on L1943561-01, does not apply because the sample concentration is greater than four times the spike amount added.

The WG1288600-3 MS recovery, performed on L1943561-01, is outside the acceptance criteria for mercury (229%). A post digestion spike was performed and was within acceptance criteria.



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### **Case Narrative (continued)**

The WG1288599-4 Laboratory Duplicate RPD for cadmium (26%), performed on L1943561-01, is outside the acceptance criteria. The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

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

Michelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

ДІРНА

Date: 09/27/19

## **ORGANICS**



## **VOLATILES**



**Project Name:** Lab Number: 441 ELLICOTT L1943561

**Project Number:** Report Date: T0395-019-001-002 09/27/19

**SAMPLE RESULTS** 

Lab ID: L1943561-05 Date Collected: 09/18/19 12:00

Client ID: SS-1 Date Received:

09/20/19 Field Prep: Sample Location: BUFFALO, NY Not Specified

Sample Depth:

Matrix: Soil Analytical Method: 1,8260C Analytical Date: 09/26/19 12:32

Analyst: ΑD 71% Percent Solids:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westboroug	h Lab					
Benzene	ND		ug/kg	0.59	0.19	1
Toluene	ND		ug/kg	1.2	0.64	1
Ethylbenzene	ND		ug/kg	1.2	0.16	1
Methyl tert butyl ether	3.2		ug/kg	2.3	0.24	1
p/m-Xylene	ND		ug/kg	2.3	0.66	1
o-Xylene	ND		ug/kg	1.2	0.34	1
n-Butylbenzene	ND		ug/kg	1.2	0.20	1
sec-Butylbenzene	ND		ug/kg	1.2	0.17	1
tert-Butylbenzene	ND		ug/kg	2.3	0.14	1
Isopropylbenzene	ND		ug/kg	1.2	0.13	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.13	1
n-Propylbenzene	ND		ug/kg	1.2	0.20	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.3	0.23	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.3	0.39	1

Surrogate	% Recovery	Acceptance Qualifier Criteria	
1,2-Dichloroethane-d4	104	70-130	
Toluene-d8	88	70-130	
4-Bromofluorobenzene	103	70-130	
Dibromofluoromethane	102	70-130	



**Project Name:** 441 ELLICOTT **Project Number:** T0395-019-001-002

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L1943561

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C Analytical Date: 09/26/19 07:29

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL	
Volatile Organics by GC/MS - We	stborough La	b for sampl	le(s): 05	Batch:	WG1288897-5	
Benzene	ND		ug/kg	0.50	0.17	
Toluene	ND		ug/kg	1.0	0.54	
Ethylbenzene	ND		ug/kg	1.0	0.14	
Methyl tert butyl ether	0.36	J	ug/kg	2.0	0.20	
p/m-Xylene	ND		ug/kg	2.0	0.56	
o-Xylene	ND		ug/kg	1.0	0.29	
n-Butylbenzene	ND		ug/kg	1.0	0.17	
sec-Butylbenzene	ND		ug/kg	1.0	0.15	
tert-Butylbenzene	ND		ug/kg	2.0	0.12	
Isopropylbenzene	ND		ug/kg	1.0	0.11	
p-Isopropyltoluene	ND		ug/kg	1.0	0.11	
n-Propylbenzene	ND		ug/kg	1.0	0.17	
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19	
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33	

		Acceptance			
Surrogate	%Recovery (	Qualifier Criteria			
1,2-Dichloroethane-d4	121	70-130			
Toluene-d8	84	70-130			
4-Bromofluorobenzene	90	70-130			
Dibromofluoromethane	105	70-130			



# Lab Control Sample Analysis Batch Quality Control

**Project Name:** 441 ELLICOTT

**Project Number:** T0395-019-001-002

Lab Number: L1943561

**Report Date:** 09/27/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough L	ab Associated	sample(s): 0	5 Batch: WG	1288897-3	WG1288897-4			
Benzene	106		107		70-130	1	1	30
Toluene	91		92		70-130	1		30
Ethylbenzene	94		97		70-130	3		30
Methyl tert butyl ether	130		130		66-130	0		30
p/m-Xylene	95		101		70-130	6		30
o-Xylene	96		99		70-130	3		30
n-Butylbenzene	78		89		70-130	13		30
sec-Butylbenzene	85		90		70-130	6		30
tert-Butylbenzene	92		93		70-130	1		30
Isopropylbenzene	88		90		70-130	2		30
p-Isopropyltoluene	88		95		70-130	8		30
n-Propylbenzene	81		85		70-130	5		30
1,3,5-Trimethylbenzene	89		93		70-130	4		30
1,2,4-Trimethylbenzene	90		95		70-130	5		30

Surrogate	LCS %Recovery Qual	LCSD %Recovery Qual	Acceptance Criteria
1,2-Dichloroethane-d4	114	116	70-130
Toluene-d8	85	85	70-130
4-Bromofluorobenzene	91	90	70-130
Dibromofluoromethane	107	107	70-130



## **SEMIVOLATILES**



Project Name: 441 ELLICOTT Lab Number: L1943561

**Project Number:** T0395-019-001-002 **Report Date:** 09/27/19

**SAMPLE RESULTS** 

Lab ID: Date Collected: 09/18/19 09:45

Client ID: TP-2 1-2FT Date Received: 09/20/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 1.8270D Extraction Date: 09/25/19 03:05

Analytical Method: 1,8270D Extraction Date: 09/25/19 03:05
Analytical Date: 09/26/19 10:04

Analyst: RC Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Semivolatile Organics by GC/MS -	· Westborough Lab						
Acenaphthene	210		ug/kg	160	21.	1	
Fluoranthene	4300		ug/kg	120	23.	1	
Naphthalene	260		ug/kg	200	25.	1	
Benzo(a)anthracene	1700		ug/kg	120	23.	1	
Benzo(a)pyrene	1400		ug/kg	160	50.	1	
Benzo(b)fluoranthene	2000		ug/kg	120	34.	1	
Benzo(k)fluoranthene	700		ug/kg	120	32.	1	
Chrysene	1700		ug/kg	120	21.	1	
Acenaphthylene	320		ug/kg	160	31.	1	
Anthracene	700		ug/kg	120	40.	1	
Benzo(ghi)perylene	1100		ug/kg	160	24.	1	
Fluorene	250		ug/kg	200	20.	1	
Phenanthrene	3000		ug/kg	120	25.	1	
Dibenzo(a,h)anthracene	240		ug/kg	120	23.	1	
Indeno(1,2,3-cd)pyrene	1000		ug/kg	160	28.	1	
Pyrene	3600		ug/kg	120	20.	1	

Surrogate	% Recovery	Acceptance Qualifier Criteria	
Nitrobenzene-d5	50	23-120	
2-Fluorobiphenyl	46	30-120	
4-Terphenyl-d14	37	18-120	



Project Name: 441 ELLICOTT Lab Number: L1943561

**Project Number:** T0395-019-001-002 **Report Date:** 09/27/19

**SAMPLE RESULTS** 

Lab ID: L1943561-02 Date Collected: 09/18/19 11:30

Client ID: TP-5 1.5-2.5FT Date Received: 09/20/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Percent Solids:

80%

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 1,8270D Extraction Date: 09/25/19 03:05

Analytical Date: 09/26/19 09:40
Analyst: RC

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westl	oorough Lab					
Acenaphthene	ND			160	21.	1
<u> </u>			ug/kg			<u> </u>
Fluoranthene	260		ug/kg	120	23.	1
Naphthalene	ND		ug/kg	200	25.	1
Benzo(a)anthracene	140		ug/kg	120	23.	1
Benzo(a)pyrene	130	J	ug/kg	160	49.	1
Benzo(b)fluoranthene	210		ug/kg	120	34.	1
Benzo(k)fluoranthene	62	J	ug/kg	120	32.	1
Chrysene	160		ug/kg	120	21.	1
Acenaphthylene	40	J	ug/kg	160	31.	1
Anthracene	ND		ug/kg	120	40.	1
Benzo(ghi)perylene	100	J	ug/kg	160	24.	1
Fluorene	ND		ug/kg	200	20.	1
Phenanthrene	150		ug/kg	120	25.	1
Dibenzo(a,h)anthracene	25	J	ug/kg	120	23.	1
Indeno(1,2,3-cd)pyrene	100	J	ug/kg	160	28.	1
Pyrene	220		ug/kg	120	20.	1

Surrogate	% Recovery	Acceptance Qualifier Criteria	
Nitrobenzene-d5	63	23-120	
2-Fluorobiphenyl	60	30-120	
4-Terphenyl-d14	51	18-120	



Project Name: 441 ELLICOTT Lab Number: L1943561

**Project Number:** T0395-019-001-002 **Report Date:** 09/27/19

**SAMPLE RESULTS** 

Lab ID: L1943561-03 D2 Date Collected: 09/18/19 13:30

Client ID: TP-7 2-3FT Date Received: 09/20/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 1.8270D Extraction Date: 09/25/19 03:05

Analytical Method: 1,8270D Extraction Date: 09/25/19 03:05
Analytical Date: 09/27/19 17:21

Analyst: JG Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Fluoranthene	350000		ug/kg	24000	4600	200
Phenanthrene	260000		ug/kg	24000	4900	200
Pyrene	270000		ug/kg	24000	4000	200



Project Name: 441 ELLICOTT Lab Number: L1943561

**Project Number:** T0395-019-001-002 **Report Date:** 09/27/19

**SAMPLE RESULTS** 

Lab ID: L1943561-03 D Date Collected: 09/18/19 13:30

Client ID: TP-7 2-3FT Date Received: 09/20/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Analytical Date:

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 1,8270D Extraction Date: 09/25/19 03:05

Analyst: ALS Percent Solids: 81%

09/26/19 18:21

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor		
Semivolatile Organics by GC/MS - Westborough Lab								
Acenaphthene	21000		ug/kg	3200	420	20		
Fluoranthene	290000	E	ug/kg	2400	460	20		
Naphthalene	3800	J	ug/kg	4000	490	20		
Benzo(a)anthracene	130000		ug/kg	2400	460	20		
Benzo(a)pyrene	110000		ug/kg	3200	990	20		
Benzo(b)fluoranthene	140000		ug/kg	2400	680	20		
Benzo(k)fluoranthene	46000		ug/kg	2400	650	20		
Chrysene	110000		ug/kg	2400	420	20		
Acenaphthylene	1000	J	ug/kg	3200	620	20		
Anthracene	78000		ug/kg	2400	790	20		
Benzo(ghi)perylene	55000		ug/kg	3200	480	20		
Fluorene	28000		ug/kg	4000	390	20		
Phenanthrene	210000	Е	ug/kg	2400	490	20		
Dibenzo(a,h)anthracene	15000		ug/kg	2400	470	20		
Indeno(1,2,3-cd)pyrene	63000		ug/kg	3200	560	20		
Pyrene	250000	E	ug/kg	2400	400	20		

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	0	Q	23-120
2-Fluorobiphenyl	0	Q	30-120
4-Terphenyl-d14	0	Q	18-120



Project Name: 441 ELLICOTT Lab Number: L1943561

**Project Number:** T0395-019-001-002 **Report Date:** 09/27/19

**SAMPLE RESULTS** 

Lab ID: L1943561-04 D Date Collected: 09/18/19 14:30

Client ID: TP-8 4-5FT Date Received: 09/20/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Analytical Date:

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 1,8270D Extraction Date: 09/25/19 03:05

Analyst: ALS Percent Solids: 84%

09/26/19 18:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westb	orough Lab					
Aganaphthana	930			1500	200	10
Acenaphthene	930	J	ug/kg	1500	200	10
Fluoranthene	20000		ug/kg	1200	220	10
Naphthalene	340	J	ug/kg	1900	230	10
Benzo(a)anthracene	8900		ug/kg	1200	220	10
Benzo(a)pyrene	7100		ug/kg	1500	470	10
Benzo(b)fluoranthene	9600		ug/kg	1200	320	10
Benzo(k)fluoranthene	2800		ug/kg	1200	310	10
Chrysene	7900		ug/kg	1200	200	10
Acenaphthylene	1500		ug/kg	1500	300	10
Anthracene	4500		ug/kg	1200	380	10
Benzo(ghi)perylene	3900		ug/kg	1500	230	10
Fluorene	1400	J	ug/kg	1900	190	10
Phenanthrene	14000		ug/kg	1200	230	10
Dibenzo(a,h)anthracene	1000	J	ug/kg	1200	220	10
Indeno(1,2,3-cd)pyrene	4100		ug/kg	1500	270	10
Pyrene	16000		ug/kg	1200	190	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
Nitrobenzene-d5	43		23-120	
2-Fluorobiphenyl	45		30-120	
4-Terphenyl-d14	43		18-120	



Extraction Method: EPA 3546

Project Name: 441 ELLICOTT Lab Number: L1943561

**Project Number:** T0395-019-001-002 **Report Date:** 09/27/19

**SAMPLE RESULTS** 

Lab ID: L1943561-05 Date Collected: 09/18/19 12:00

Client ID: SS-1 Date Received: 09/20/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Matrix: Soil

71%

Percent Solids:

Analytical Method: 1,8270D Extraction Date: 09/25/19 03:05

Analytical Date: 09/26/19 19:58
Analyst: IM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Wes	tborough Lab					
Acenaphthene	ND		ug/kg	180	24.	1
Fluoranthene	700		ug/kg	140	26.	1
Naphthalene	ND		ug/kg	230	28.	1
Benzo(a)anthracene	430		ug/kg	140	26.	1
Benzo(a)pyrene	440		ug/kg	180	56.	1
Benzo(b)fluoranthene	710		ug/kg	140	39.	1
Benzo(k)fluoranthene	220		ug/kg	140	37.	1
Chrysene	490		ug/kg	140	24.	1
Acenaphthylene	60	J	ug/kg	180	36.	1
Anthracene	87	J	ug/kg	140	45.	1
Benzo(ghi)perylene	430		ug/kg	180	27.	1
Fluorene	25	J	ug/kg	230	22.	1
Phenanthrene	280		ug/kg	140	28.	1
Dibenzo(a,h)anthracene	80	J	ug/kg	140	27.	1
Indeno(1,2,3-cd)pyrene	380		ug/kg	180	32.	1
Pyrene	610		ug/kg	140	23.	1

Surrogate	% Recovery	Acceptance Qualifier Criteria	
Nitrobenzene-d5	53	23-120	
2-Fluorobiphenyl	46	30-120	
4-Terphenyl-d14	45	18-120	



**Project Name:** 441 ELLICOTT

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Lab Number:

L1943561

Report Date: 09/27/19

Method Blank Analysis Batch Quality Control

Analytical Method:

**Project Number:** 

1,8270D

Analytical Date:

09/25/19 22:36

Analyst:

JG

Extraction Method: EPA 3546 09/25/19 03:05 Extraction Date:

arameter	Result	Qualifier	Units	RL		MDL
emivolatile Organics by GC/	MS - Westborough	Lab for s	ample(s):	01-05	Batch:	WG1288160-1
Acenaphthene	ND		ug/kg	130		17.
Fluoranthene	ND		ug/kg	98		19.
Naphthalene	ND		ug/kg	160		20.
Benzo(a)anthracene	ND		ug/kg	98		18.
Benzo(a)pyrene	ND		ug/kg	130		40.
Benzo(b)fluoranthene	ND		ug/kg	98		27.
Benzo(k)fluoranthene	ND		ug/kg	98		26.
Chrysene	ND		ug/kg	98		17.
Acenaphthylene	ND		ug/kg	130		25.
Anthracene	ND		ug/kg	98		32.
Benzo(ghi)perylene	ND		ug/kg	130		19.
Fluorene	ND		ug/kg	160		16.
Phenanthrene	ND		ug/kg	98		20.
Dibenzo(a,h)anthracene	ND		ug/kg	98		19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130		23.
Pyrene	ND		ug/kg	98		16.

		Acceptance		
Surrogate	%Recovery	Qualifier	Criteria	
2-Fluorophenol	64		25-120	
Phenol-d6	67		10-120	
Nitrobenzene-d5	58		23-120	
2-Fluorobiphenyl	60		30-120	
2,4,6-Tribromophenol	87		10-136	
4-Terphenyl-d14	60		18-120	



## Lab Control Sample Analysis Batch Quality Control

**Project Name:** 441 ELLICOTT

**Project Number:** T0395-019-001-002

Lab Number: L1943561

**Report Date:** 09/27/19

arameter	LCS %Recovery	Qual	LCSI %Recov		% Qual	Recovery Limits	RPD	Qual	RPD Limits
emivolatile Organics by GC/MS - Westboro	ugh Lab Associ	iated sample(s):	01-05	Batch:	WG1288160	-2 WG12881	60-3		
Acenaphthene	70		70			31-137	0		50
Fluoranthene	76		74			40-140	3		50
Naphthalene	68		69			40-140	1		50
Benzo(a)anthracene	71		69			40-140	3		50
Benzo(a)pyrene	68		68			40-140	0		50
Benzo(b)fluoranthene	74		74			40-140	0		50
Benzo(k)fluoranthene	71		70			40-140	1		50
Chrysene	69		68			40-140	1		50
Acenaphthylene	76		78			40-140	3		50
Anthracene	73		72			40-140	1		50
Benzo(ghi)perylene	75		71			40-140	5		50
Fluorene	75		75			40-140	0		50
Phenanthrene	69		68			40-140	1		50
Dibenzo(a,h)anthracene	75		73			40-140	3		50
Indeno(1,2,3-cd)pyrene	74		72			40-140	3		50
Pyrene	73		73			35-142	0		50

## Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELLICOTT

Lab Number:

L1943561

**Project Number:** 

T0395-019-001-002

Report Date:

09/27/19

LCS LCSD %Recovery RPD Parameter %Recovery Qual %Recovery Qual Limits RPD Qual Limits

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-05 Batch: WG1288160-2 WG1288160-3

Surrogate	LCS %Recovery Qual	LCSD %Recovery Qual	Acceptance Criteria
2-Fluorophenol	62	67	25-120
Phenol-d6	64	69	10-120
Nitrobenzene-d5	56	59	23-120
2-Fluorobiphenyl	60	61	30-120
2,4,6-Tribromophenol	93	92	10-136
4-Terphenyl-d14	62	61	18-120



## **METALS**



**SAMPLE RESULTS** 

Lab ID:L1943561-01Date Collected:09/18/19 09:45Client ID:TP-2 1-2FTDate Received:09/20/19Sample Location:BUFFALO, NYField Prep:Not Specified

Sample Depth:

Matrix: Soil
Percent Solids: 81%

Percent Solids:	0170					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
Total Metals - Man	sfield Lab										
Arsenic, Total	8.81		mg/kg	0.493	0.102	1	09/25/19 23:15	5 09/26/19 15:07	EPA 3050B	1,6010D	AB
Barium, Total	334		mg/kg	0.493	0.086	1	09/25/19 23:15	5 09/26/19 15:07	EPA 3050B	1,6010D	AB
Cadmium, Total	2.57		mg/kg	0.493	0.048	1	09/25/19 23:15	5 09/26/19 15:07	EPA 3050B	1,6010D	AB
Chromium, Total	14.3		mg/kg	0.493	0.047	1	09/25/19 23:15	5 09/26/19 15:07	EPA 3050B	1,6010D	AB
Lead, Total	1800		mg/kg	2.46	0.132	1	09/25/19 23:15	5 09/26/19 15:07	EPA 3050B	1,6010D	AB
Mercury, Total	0.311		mg/kg	0.094	0.061	1	09/25/19 22:42	2 09/27/19 00:31	EPA 7471B	1,7471B	AL
Selenium, Total	0.724	J	mg/kg	0.986	0.127	1	09/25/19 23:15	5 09/26/19 15:07	EPA 3050B	1,6010D	AB
Silver, Total	0.429	J	mg/kg	0.493	0.139	1	09/25/19 23:15	5 09/26/19 15:07	EPA 3050B	1,6010D	AB



**SAMPLE RESULTS** 

Lab ID:L1943561-02Date Collected:09/18/19 11:30Client ID:TP-5 1.5-2.5FTDate Received:09/20/19Sample Location:BUFFALO, NYField Prep:Not Specified

Sample Depth:

Matrix: Soil
Percent Solids: 80%

reiterit solius.	0070					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
Total Metals - Man	sfield Lab										
Arsenic, Total	6.07		mg/kg	0.474	0.099	1	09/25/19 23:15	5 09/26/19 16:23	EPA 3050B	1,6010D	AB
Barium, Total	78.8		mg/kg	0.474	0.083	1	09/25/19 23:15	5 09/26/19 16:23	EPA 3050B	1,6010D	AB
Cadmium, Total	1.08		mg/kg	0.474	0.047	1	09/25/19 23:15	5 09/26/19 16:23	EPA 3050B	1,6010D	AB
Chromium, Total	10.4		mg/kg	0.474	0.046	1	09/25/19 23:15	5 09/26/19 16:23	EPA 3050B	1,6010D	AB
Lead, Total	191		mg/kg	2.37	0.127	1	09/25/19 23:15	5 09/26/19 16:23	EPA 3050B	1,6010D	AB
Mercury, Total	0.094		mg/kg	0.089	0.058	1	09/25/19 22:42	2 09/27/19 00:51	EPA 7471B	1,7471B	AL
Selenium, Total	0.569	J	mg/kg	0.949	0.122	1	09/25/19 23:15	5 09/26/19 16:23	EPA 3050B	1,6010D	AB
Silver, Total	ND		mg/kg	0.474	0.134	1	09/25/19 23:15	5 09/26/19 16:23	EPA 3050B	1,6010D	AB



**SAMPLE RESULTS** 

Lab ID:L1943561-03Date Collected:09/18/19 13:30Client ID:TP-7 2-3FTDate Received:09/20/19Sample Location:BUFFALO, NYField Prep:Not Specified

Sample Depth:

Matrix: Soil
Percent Solids: 81%

Percent Solids:	0170					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
T	<i>e</i>										
Total Metals - Man	sfield Lab										
Arsenic, Total	5.06		mg/kg	0.481	0.100	1	09/25/19 23:15	5 09/26/19 16:28	EPA 3050B	1,6010D	AB
Barium, Total	70.8		mg/kg	0.481	0.084	1	09/25/19 23:15	5 09/26/19 16:28	EPA 3050B	1,6010D	AB
Cadmium, Total	1.10		mg/kg	0.481	0.047	1	09/25/19 23:15	5 09/26/19 16:28	EPA 3050B	1,6010D	AB
Chromium, Total	9.48		mg/kg	0.481	0.046	1	09/25/19 23:15	5 09/26/19 16:28	EPA 3050B	1,6010D	AB
Lead, Total	182		mg/kg	2.41	0.129	1	09/25/19 23:15	5 09/26/19 16:28	EPA 3050B	1,6010D	AB
Mercury, Total	0.232		mg/kg	0.086	0.056	1	09/25/19 22:42	2 09/27/19 00:54	EPA 7471B	1,7471B	AL
Selenium, Total	0.332	J	mg/kg	0.963	0.124	1	09/25/19 23:15	5 09/26/19 16:28	EPA 3050B	1,6010D	AB
Silver, Total	0.149	J	mg/kg	0.481	0.136	1	09/25/19 23:15	5 09/26/19 16:28	EPA 3050B	1,6010D	AB



**SAMPLE RESULTS** 

Lab ID:L1943561-04Date Collected:09/18/19 14:30Client ID:TP-8 4-5FTDate Received:09/20/19Sample Location:BUFFALO, NYField Prep:Not Specified

Sample Depth:

Matrix: Soil
Percent Solids: 84%

Percent Solids:	04 /0					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
Tatal Martala Mara	- C - L - L - L										
Total Metals - Man	stield Lab										
Arsenic, Total	6.61		mg/kg	0.454	0.095	1	09/25/19 23:1	5 09/26/19 16:45	EPA 3050B	1,6010D	AB
Barium, Total	176		mg/kg	0.454	0.079	1	09/25/19 23:1	5 09/26/19 16:45	EPA 3050B	1,6010D	AB
Cadmium, Total	1.36		mg/kg	0.454	0.045	1	09/25/19 23:1	5 09/26/19 16:45	EPA 3050B	1,6010D	AB
Chromium, Total	12.0		mg/kg	0.454	0.044	1	09/25/19 23:1	5 09/26/19 16:45	EPA 3050B	1,6010D	AB
Lead, Total	234		mg/kg	2.27	0.122	1	09/25/19 23:1	5 09/26/19 16:45	EPA 3050B	1,6010D	AB
Mercury, Total	0.246		mg/kg	0.096	0.062	1	09/25/19 22:42	2 09/27/19 00:57	EPA 7471B	1,7471B	AL
Selenium, Total	0.613	J	mg/kg	0.909	0.117	1	09/25/19 23:1	5 09/26/19 16:45	EPA 3050B	1,6010D	AB
Silver, Total	0.200	J	mg/kg	0.454	0.128	1	09/25/19 23:1	5 09/26/19 16:45	EPA 3050B	1,6010D	AB



**Project Name:** 441 ELLICOTT **Project Number:** T0395-019-001-002

**Lab Number:** L1943561 **Report Date:** 09/27/19

# Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield	Lab for sample(s):	01-04 B	atch: Wo	G12885	99-1				
Arsenic, Total	ND	mg/kg	0.400	0.083	1	09/25/19 23:15	09/26/19 14:58	1,6010D	AB
Barium, Total	ND	mg/kg	0.400	0.070	1	09/25/19 23:15	09/26/19 14:58	1,6010D	AB
Cadmium, Total	ND	mg/kg	0.400	0.039	1	09/25/19 23:15	09/26/19 14:58	1,6010D	AB
Chromium, Total	ND	mg/kg	0.400	0.038	1	09/25/19 23:15	09/26/19 14:58	1,6010D	AB
Lead, Total	ND	mg/kg	2.00	0.107	1	09/25/19 23:15	09/26/19 14:58	1,6010D	AB
Selenium, Total	ND	mg/kg	0.800	0.103	1	09/25/19 23:15	09/26/19 14:58	1,6010D	AB
Silver, Total	ND	mg/kg	0.400	0.113	1	09/25/19 23:15	09/26/19 14:58	1,6010D	AB

**Prep Information** 

Digestion Method: EPA 3050B

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytica Method	l Analyst
Total Metals - Mansf	field Lab for sample(s):	01-04 B	atch: W	G12886	00-1				
Mercury, Total	ND	mg/kg	0.083	0.054	1	09/25/19 22:42	09/27/19 00:24	1,7471B	AL

**Prep Information** 

Digestion Method: EPA 7471B



## Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELLICOTT

**Project Number:** 

T0395-019-001-002

Lab Number:

L1943561

Report Date:

09/27/19

Parameter	LCS %Recove	ery Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample	e(s): 01-04	Batch: WG12	88599-2 SRM	Lot Number:	D105-540			
Arsenic, Total	100		-		70-130	-		
Barium, Total	90		-		75-125	-		
Cadmium, Total	95		-		75-125	-		
Chromium, Total	87		-		70-130	-		
Lead, Total	90		-		71-128	-		
Selenium, Total	98		-		63-137	-		
Silver, Total	92		-		69-131	-		
Total Metals - Mansfield Lab Associated sample	e(s): 01-04	Batch: WG12	88600-2 SRM	Lot Number:	D105-540			
Mercury, Total	94		-		60-141	-		



## Matrix Spike Analysis Batch Quality Control

Project Name: 441 ELLICOTT
Project Number: T0395-019-001-002

Lab Number: L1943561

**Report Date:** 09/27/19

arameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery Qu	Recovery ual Limits	RPD Qual	RPD Limits
otal Metals - Mansfield La	b Associated san	nple(s): 01-04	QC Bat	ch ID: WG128	8599-3	QC San	nple: L1943561-01	Client ID: TF	2-2 1-2FT	
Arsenic, Total	8.81	11.7	18.1	79		-	-	75-125	-	20
Barium, Total	334	195	432	50	Q	-	-	75-125	-	20
Cadmium, Total	2.57	4.97	5.49	59	Q	-	-	75-125	-	20
Chromium, Total	14.3	19.5	25.2	56	Q	-	-	75-125	-	20
Lead, Total	1800	49.7	1460	0	Q	-	-	75-125	-	20
Selenium, Total	0.724J	11.7	10.8	92		-	-	75-125	-	20
Silver, Total	0.429J	29.2	25.0	86		-	-	75-125	-	20
otal Metals - Mansfield La	b Associated san	nple(s): 01-04	QC Bat	ch ID: WG128	8600-3	QC San	nple: L1943561-01	Client ID: TF	P-2 1-2FT	
Mercury, Total	0.311	0.182	0.728	229	Q	-	-	80-120	-	20

## Lab Duplicate Analysis Batch Quality Control

Project Name: 441 ELLICOTT

**Project Number:** T0395-019-001-002

Lab Number:

L1943561

**Report Date:** 09/27/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-0	4 QC Batch ID:	WG1288599-4 QC Sample:	L1943561-01	Client ID:	TP-2 1-2FT	
Arsenic, Total	8.81	9.50	mg/kg	8		20
Barium, Total	334	303	mg/kg	10		20
Cadmium, Total	2.57	1.98	mg/kg	26	Q	20
Chromium, Total	14.3	14.2	mg/kg	1		20
Lead, Total	1800	1720	mg/kg	5		20
Selenium, Total	0.724J	0.789J	mg/kg	NC		20
Silver, Total	0.429J	0.258J	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-0	4 QC Batch ID:	WG1288600-4 QC Sample:	L1943561-01	Client ID:	TP-2 1-2FT	_
Mercury, Total	0.311	0.289	mg/kg	7		20

## INORGANICS & MISCELLANEOUS



**Project Name: 441 ELLICOTT** Lab Number: L1943561

**Project Number:** T0395-019-001-002 Report Date: 09/27/19

**SAMPLE RESULTS** 

Lab ID: Date Collected: L1943561-01 09/18/19 09:45 Client ID: TP-2 1-2FT Date Received: 09/20/19 Not Specified Sample Location: BUFFALO, NY Field Prep:

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab									
Solids, Total	80.7		%	0.100	NA	1	-	09/23/19 10:09	121,2540G	CG



Project Name: 441 ELLICOTT Lab Number: L1943561

**SAMPLE RESULTS** 

 Lab ID:
 L1943561-02
 Date Collected:
 09/18/19 11:30

 Client ID:
 TP-5 1.5-2.5FT
 Date Received:
 09/20/19

 Sample Location:
 BUFFALO, NY
 Field Prep:
 Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab	)								
Solids, Total	80.1		%	0.100	NA	1	-	09/23/19 10:09	121,2540G	CG



**Project Name: 441 ELLICOTT** Lab Number: L1943561

**Project Number:** T0395-019-001-002 Report Date: 09/27/19

**SAMPLE RESULTS** 

Lab ID: Date Collected: L1943561-03 09/18/19 13:30 Client ID: TP-7 2-3FT Date Received: 09/20/19 Not Specified Sample Location: BUFFALO, NY Field Prep:

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Westborough Lab									
Solids, Total	80.5		%	0.100	NA	1	-	09/23/19 10:09	121,2540G	CG



Project Name: 441 ELLICOTT Lab Number: L1943561

**SAMPLE RESULTS** 

 Lab ID:
 L1943561-04
 Date Collected:
 09/18/19 14:30

 Client ID:
 TP-8 4-5FT
 Date Received:
 09/20/19

 Sample Location:
 BUFFALO, NY
 Field Prep:
 Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result Q	ualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - \	Westborough Lab									
Solids, Total	84.4		%	0.100	NA	1	-	09/23/19 10:09	121,2540G	CG



Project Name: 441 ELLICOTT Lab Number: L1943561

**SAMPLE RESULTS** 

Lab ID: L1943561-05 Date Collected: 09/18/19 12:00

Client ID: SS-1 Date Received: 09/20/19

Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	· Westborough Lab	)								
Solids, Total	70.6		%	0.100	NA	1	-	09/23/19 10:09	121,2540G	CG



Lab Duplicate Analysis

Batch Quality Control

Lab Number:

L1943561

09/27/19 Report Date:

Parameter	Native Sam	ple D	uplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab	Associated sample(s): 01-05	QC Batch ID:	WG1287326-1	QC Sample:	L1943487-01	Client ID:	DUP Sample
Solids, Total	91.8		91.0	%	1		20



**Project Name:** 

441 ELLICOTT

**Project Number:** T0395-019-001-002

441 ELLICOTT

**Project Number:** T0395-019-001-002

Lab Number: L1943561
Report Date: 09/27/19

### Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

**Cooler Information** 

Project Name:

Cooler Custody Seal

A Absent

Container Information		rmation		Initial	Final	Temp			Frozen	
	Container ID	Container Type	Cooler	рН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
	L1943561-01A	Metals Only-Glass 60mL/2oz unpreserved	Α	NA		2.2	Υ	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD- TI(180)
	L1943561-01B	Glass 120ml/4oz unpreserved	Α	NA		2.2	Υ	Absent		NYCP51-PAH(14),TS(7)
	L1943561-02A	Metals Only-Glass 60mL/2oz unpreserved	Α	NA		2.2	Υ	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD- TI(180)
	L1943561-02B	Glass 120ml/4oz unpreserved	Α	NA		2.2	Υ	Absent		NYCP51-PAH(14),TS(7)
	L1943561-03A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.2	Υ	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD- TI(180)
	L1943561-03B	Glass 120ml/4oz unpreserved	Α	NA		2.2	Υ	Absent		NYCP51-PAH(14),TS(7)
	L1943561-04A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.2	Υ	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD- TI(180)
	L1943561-04B	Glass 120ml/4oz unpreserved	Α	NA		2.2	Υ	Absent		NYCP51-PAH(14),TS(7)
	L1943561-05A	Glass 120ml/4oz unpreserved	Α	NA		2.2	Υ	Absent		NYCP51-8260(14)
	L1943561-05B	Glass 120ml/4oz unpreserved	Α	NA		2.2	Υ	Absent		NYCP51-PAH(14),TS(7)
	L1943561-05X	Vial MeOH preserved split	Α	NA		2.2	Υ	Absent		NYCP51-8260(14)
	L1943561-05Y	Vial Water preserved split	Α	NA		2.2	Υ	Absent	25-SEP-19 03:32	NYCP51-8260(14)
	L1943561-05Z	Vial Water preserved split	Α	NA		2.2	Υ	Absent	25-SEP-19 03:32	NYCP51-8260(14)



#### **GLOSSARY**

#### **Acronyms**

**EDL** 

LOQ

MS

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

 Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

 - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

 Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL

includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less

than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the

associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF

and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

#### Footnotes

Report Format: DU Report with 'J' Qualifiers



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

#### Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

#### **Data Qualifiers**

- A Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentrations of the analyte at less than ten times (10x) the concentrations of the analyte was detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- ${\bf E} \qquad \hbox{-Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.}$
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- $\boldsymbol{P}$  - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 441 ELLICOTT
 Lab Number:
 L1943561

 Project Number:
 T0395-019-001-002
 Report Date:
 09/27/19

#### REFERENCES

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

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

### **LIMITATION OF LIABILITIES**

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

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



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873

Revision 15

Page 1 of 1

Published Date: 8/15/2019 9:53:42 AM

### Certification Information

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

#### Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: lodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-

Ethyltoluene

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

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

## **Mansfield Facility**

**SM 2540D:** TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

#### Westborough Facility:

#### **Drinking Water**

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

#### Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kieldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate. EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.

### **Mansfield Facility:**

#### Drinking Water

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

### Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Document Type: Form

Pre-Qualtrax Document ID: 08-113

Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193 Client Information	Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288		Ellew Fair, V	14	3	JULIUS P.	Delive	3000		THE PARTY	500000000000000000000000000000000000000		The same of the same of	ALCOHOLD CO.
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#### ANALYTICAL REPORT

Lab Number: L1951920

Client: Benchmark & Turnkey Companies

2558 Hamburg Turnpike

Suite 300

Buffalo, NY 14218

ATTN: Bryan Mayback Phone: (716) 856-0599

Project Name: 324-334 OAK STREET

Project Number: T0395-019-002

Report Date: 11/08/19

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

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

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



**Project Name:** 324-334 OAK STREET

Project Number: T0395-019-002

**Lab Number:** L1951920 **Report Date:** 11/08/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1951920-01	SB-1 0-1FT	SOIL	BUFFALO, NY	10/31/19 08:00	11/01/19
L1951920-02	SB-2 0-2FT	SOIL	BUFFALO, NY	10/31/19 09:00	11/01/19
L1951920-03	SB-3 0-1FT	SOIL	BUFFALO, NY	10/31/19 09:30	11/01/19
L1951920-04	SB-5 0-4FT	SOIL	BUFFALO, NY	10/31/19 11:00	11/01/19
L1951920-05	SB-6 0-1.5FT	SOIL	BUFFALO, NY	10/31/19 12:00	11/01/19
L1951920-06	SB-7 0-1FT	SOIL	BUFFALO, NY	10/31/19 13:00	11/01/19
L1951920-07	SB-8 0-2FT	SOIL	BUFFALO, NY	10/31/19 14:00	11/01/19
L1951920-08	SB-9 0-1FT	SOIL	BUFFALO, NY	10/31/19 14:45	11/01/19
L1951920-09	SB-10 0-2FT	SOIL	BUFFALO, NY	10/31/19 15:30	11/01/19
L1951920-10	SB-11 0-6FT	SOIL	BUFFALO, NY	10/31/19 16:00	11/01/19
L1951920-11	SB-12 0-2FT	SOIL	BUFFALO, NY	10/31/19 16:00	11/01/19



L1951920

Lab Number:

Project Name: 324-334 OAK STREET

#### **Case Narrative**

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.	



Project Name: 324-334 OAK STREET Lab Number: L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

### **Case Narrative (continued)**

### Report Submission

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

### Semivolatile Organics

L1951920-01: The sample has elevated detection limits due to the dilution required by the matrix interferences encountered during the concentration of the sample and the analytical dilution required by the sample matrix. L1951920-01: The surrogate recoveries are below the acceptance criteria for nitrobenzene-d5 (0%), 2-fluorobiphenyl (0%) and 4-terphenyl-d14 (0%) due to the dilution required to quantitate the sample. Reextraction was not required; therefore, the results of the original analysis are reported.

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

Authorized Signature:

Title: Technical Director/Representative Date: 11/08/19

Melissa Sturgis Melissa Sturgis

## **ORGANICS**



## **SEMIVOLATILES**



L1951920

10/31/19 08:00

**Project Name: 324-334 OAK STREET** 

**Project Number:** T0395-019-002

**SAMPLE RESULTS** 

Report Date: 11/08/19

Lab Number:

Date Collected:

Lab ID: D L1951920-01

Client ID: SB-1 0-1FT Sample Location: BUFFALO, NY Date Received: 11/01/19 Field Prep: Not Specified

Sample Depth:

Matrix: Soil Analytical Method: 1,8270D Analytical Date: 11/08/19 07:19

Analyst: RC 79% Percent Solids:

Extraction Method: EPA 3546 **Extraction Date:** 11/05/19 09:29

Semivolatile Organics by GC/MS - Westborough Lab           Acenaphthene         ND         ug/kg         33000         4200         20           Fluoranthene         16000         J         ug/kg         25000         4700         20           Naphthalene         ND         ug/kg         41000         5000         20           Benzo(a)anthracene         11000         J         ug/kg         25000         4600         20           Benzo(a)pyrene         14000         J         ug/kg         33000         10000         20           Benzo(b)fluoranthene         13000         J         ug/kg         25000         6900         20           Benzo(k)fluoranthene         ND         ug/kg         25000         6600         20           Chrysene         9300         J         ug/kg         25000         4300         20           Acenaphthylene         ND         ug/kg         33000         6300         20           Anthracene         ND         ug/kg         25000         8000         20           Benzo(ghi)perylene         17000         J         ug/kg         33000         4800         20	actor
Fluoranthene         16000         J         ug/kg         25000         4700         20           Naphthalene         ND         ug/kg         41000         5000         20           Benzo(a)anthracene         11000         J         ug/kg         25000         4600         20           Benzo(a)pyrene         14000         J         ug/kg         33000         10000         20           Benzo(b)fluoranthene         ND         ug/kg         25000         6900         20           Chrysene         9300         J         ug/kg         25000         4300         20           Acenaphthylene         ND         ug/kg         33000         6300         20           Anthracene         ND         ug/kg         25000         8000         20	
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Phenanthrene 9100 J ug/kg 25000 5000 20	,
Dibenzo(a,h)anthracene ND ug/kg 25000 4700 20	)
Indeno(1,2,3-cd)pyrene 16000 J ug/kg 33000 5700 20	1
Pyrene 16000 J ug/kg 25000 4100 20	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	0	Q	23-120
2-Fluorobiphenyl	0	Q	30-120
4-Terphenyl-d14	0	Q	18-120



Project Name: 324-334 OAK STREET Lab Number: L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID: L1951920-02 Date Collected: 10/31/19 09:00

Client ID: SB-2 0-2FT Date Received: 11/01/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 1.8270D Extraction Date: 11/05/19 09:29

Analytical Method: 1,8270D Extraction Date: 11/05/19 09:29
Analytical Date: 11/08/19 07:42

Analyst: RC Percent Solids: 75%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Semivolatile Organics by GC/MS - W	estborough Lab						
Acenaphthene	79	J	ug/kg	180	23.	1	
Fluoranthene	2100		ug/kg	130	25.	1	
Naphthalene	180	J	ug/kg	220	27.	1	
Benzo(a)anthracene	1400		ug/kg	130	25.	1	
Benzo(a)pyrene	1000		ug/kg	180	53.	1	
Benzo(b)fluoranthene	1400		ug/kg	130	37.	1	
Benzo(k)fluoranthene	480		ug/kg	130	35.	1	
Chrysene	1100		ug/kg	130	23.	1	
Acenaphthylene	190		ug/kg	180	34.	1	
Anthracene	470		ug/kg	130	43.	1	
Benzo(ghi)perylene	680		ug/kg	180	26.	1	
Fluorene	130	J	ug/kg	220	21.	1	
Phenanthrene	1500		ug/kg	130	27.	1	
Dibenzo(a,h)anthracene	250		ug/kg	130	25.	1	
Indeno(1,2,3-cd)pyrene	760		ug/kg	180	30.	1	
Pyrene	1700		ug/kg	130	22.	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
Nitrobenzene-d5	100		23-120	
2-Fluorobiphenyl	70		30-120	
4-Terphenyl-d14	67		18-120	



Project Name: 324-334 OAK STREET Lab Number: L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID: L1951920-04 Date Collected: 10/31/19 11:00

Client ID: SB-5 0-4FT Date Received: 11/01/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 1.8270D Extraction Date: 11/05/19 09:29

Analytical Method: 1,8270D Extraction Date: 11/05/19 09:29
Analytical Date: 11/08/19 08:04

Analyst: RC Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Semivolatile Organics by GC/MS - W	estborough Lab						
Acenaphthene	120	J	ug/kg	140	18.	1	
Fluoranthene	2100		ug/kg	100	20.	1	
Naphthalene	100	J	ug/kg	180	21.	1	
Benzo(a)anthracene	1200		ug/kg	100	20.	1	
Benzo(a)pyrene	960		ug/kg	140	43.	1	
Benzo(b)fluoranthene	1400		ug/kg	100	30.	1	
Benzo(k)fluoranthene	450		ug/kg	100	28.	1	
Chrysene	1000		ug/kg	100	18.	1	
Acenaphthylene	150		ug/kg	140	27.	1	
Anthracene	340		ug/kg	100	34.	1	
Benzo(ghi)perylene	690		ug/kg	140	21.	1	
Fluorene	140	J	ug/kg	180	17.	1	
Phenanthrene	1400		ug/kg	100	21.	1	
Dibenzo(a,h)anthracene	160		ug/kg	100	20.	1	
Indeno(1,2,3-cd)pyrene	780		ug/kg	140	24.	1	
Pyrene	1600		ug/kg	100	17.	1	

Surrogate	% Recovery	Acceptance Qualifier Criteria	
Nitrobenzene-d5	79	23-120	
2-Fluorobiphenyl	73	30-120	
4-Terphenyl-d14	69	18-120	



Project Name: 324-334 OAK STREET Lab Number: L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID: L1951920-06 Date Collected: 10/31/19 13:00

Client ID: SB-7 0-1FT Date Received: 11/01/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 1,8270D Extraction Date: 11/05/19 09:29

Analytical Date: 11/08/19 08:27

Analyst: RC Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Semivolatile Organics by GC/MS - Wes	tborough Lab						
Acenaphthene	540		ug/kg	160	20.	1	
Fluoranthene	9200	Е	ug/kg	120	22.	1	
Naphthalene	800		ug/kg	200	24.	1	
Benzo(a)anthracene	5700		ug/kg	120	22.	1	
Benzo(a)pyrene	4900		ug/kg	160	48.	1	
Benzo(b)fluoranthene	7500		ug/kg	120	33.	1	
Benzo(k)fluoranthene	1300		ug/kg	120	31.	1	
Chrysene	5500		ug/kg	120	20.	1	
Acenaphthylene	1300		ug/kg	160	30.	1	
Anthracene	1700		ug/kg	120	38.	1	
Benzo(ghi)perylene	3600		ug/kg	160	23.	1	
Fluorene	740		ug/kg	200	19.	1	
Phenanthrene	7200		ug/kg	120	24.	1	
Dibenzo(a,h)anthracene	1000		ug/kg	120	23.	1	
Indeno(1,2,3-cd)pyrene	3900		ug/kg	160	27.	1	
Pyrene	8000	E	ug/kg	120	20.	1	

Surrogate	% Recovery	Acceptance Qualifier Criteria	
Nitrobenzene-d5	74	23-120	
2-Fluorobiphenyl	66	30-120	
4-Terphenyl-d14	65	18-120	



Project Name: 324-334 OAK STREET Lab Number: L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

SAMPLE RESULTS

11/08/19 15:31

Lab ID: L1951920-06 D Date Collected: 10/31/19 13:00

Client ID: SB-7 0-1FT Date Received: 11/01/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Analytical Date:

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 1,8270D Extraction Date: 11/05/19 09:29

Analyst: JG Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Semivolatile Organics by GC/MS - Westb	orough Lab						
Fluoranthene	10000		ug/kg	240	45.	2	
Pyrene	8800		ug/kg	240	39.	2	



L1951920

**Project Name: 324-334 OAK STREET** 

**Project Number:** T0395-019-002

**SAMPLE RESULTS** 

Report Date: 11/08/19

Lab Number:

Lab ID: L1951920-07 Date Collected: 10/31/19 14:00 Date Received: Client ID: SB-8 0-2FT 11/01/19 Sample Location: Field Prep: BUFFALO, NY Not Specified

Sample Depth:

Matrix: Soil Analytical Method: 1,8270D Analytical Date: 11/08/19 04:42

Analyst: RC 85% Percent Solids:

Extraction Method: EPA 3546 **Extraction Date:** 11/05/19 09:29

Semivolatile Organics by GC/MS - Westborough Lab           Acenaphthene         44         J         ug/kg         150         20.         1           Fluoranthene         1100         ug/kg         110         22.         1           Naphthalene         170         J         ug/kg         190         23.         1           Benzo(a)anthracene         540         ug/kg         110         22.         1           Benzo(a)pyrene         460         ug/kg         150         47.         1           Benzo(b)fluoranthene         590         ug/kg         110         32.         1           Benzo(k)fluoranthene         200         ug/kg         110         31.         1           Chrysene         550         ug/kg         110         20.         1           Acenaphthylene         140         J         ug/kg         150         30.         1	Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Fluoranthene         1100         ug/kg         110         22.         1           Naphthalene         170         J         ug/kg         190         23.         1           Benzo(a)anthracene         540         ug/kg         110         22.         1           Benzo(a)pyrene         460         ug/kg         150         47.         1           Benzo(b)fluoranthene         590         ug/kg         110         32.         1           Benzo(k)fluoranthene         200         ug/kg         110         31.         1           Chrysene         550         ug/kg         110         20.         1           Acenaphthylene         140         J         ug/kg         150         30.         1	Semivolatile Organics by GC/MS - We	stborough Lab						
Naphthalene       170       J       ug/kg       190       23.       1         Benzo(a)anthracene       540       ug/kg       110       22.       1         Benzo(a)pyrene       460       ug/kg       150       47.       1         Benzo(b)fluoranthene       590       ug/kg       110       32.       1         Benzo(k)fluoranthene       200       ug/kg       110       31.       1         Chrysene       550       ug/kg       110       20.       1         Acenaphthylene       140       J       ug/kg       150       30.       1	Acenaphthene	44	J	ug/kg	150	20.	1	
Benzo(a)anthracene       540       ug/kg       110       22.       1         Benzo(a)pyrene       460       ug/kg       150       47.       1         Benzo(b)fluoranthene       590       ug/kg       110       32.       1         Benzo(k)fluoranthene       200       ug/kg       110       31.       1         Chrysene       550       ug/kg       110       20.       1         Acenaphthylene       140       J       ug/kg       150       30.       1	Fluoranthene	1100		ug/kg	110	22.	1	
Benzo(a)pyrene       460       ug/kg       150       47.       1         Benzo(b)fluoranthene       590       ug/kg       110       32.       1         Benzo(k)fluoranthene       200       ug/kg       110       31.       1         Chrysene       550       ug/kg       110       20.       1         Acenaphthylene       140       J       ug/kg       150       30.       1	Naphthalene	170	J	ug/kg	190	23.	1	
Benzo(b)fluoranthene         590         ug/kg         110         32.         1           Benzo(k)fluoranthene         200         ug/kg         110         31.         1           Chrysene         550         ug/kg         110         20.         1           Acenaphthylene         140         J         ug/kg         150         30.         1	Benzo(a)anthracene	540		ug/kg	110	22.	1	
Benzo(k)fluoranthene         200         ug/kg         110         31.         1           Chrysene         550         ug/kg         110         20.         1           Acenaphthylene         140         J         ug/kg         150         30.         1	Benzo(a)pyrene	460		ug/kg	150	47.	1	
Chrysene         550         ug/kg         110         20.         1           Acenaphthylene         140         J         ug/kg         150         30.         1	Benzo(b)fluoranthene	590		ug/kg	110	32.	1	
Acenaphthylene 140 J ug/kg 150 30. 1	Benzo(k)fluoranthene	200		ug/kg	110	31.	1	
	Chrysene	550		ug/kg	110	20.	1	
	Acenaphthylene	140	J	ug/kg	150	30.	1	
Anthracene 140 ug/kg 110 37. 1	Anthracene	140		ug/kg	110	37.	1	
Benzo(ghi)perylene 300 ug/kg 150 22. 1	Benzo(ghi)perylene	300		ug/kg	150	22.	1	
Fluorene 80 J ug/kg 190 18. 1	Fluorene	80	J	ug/kg	190	18.	1	
Phenanthrene 950 ug/kg 110 23. 1	Phenanthrene	950		ug/kg	110	23.	1	
Dibenzo(a,h)anthracene 71 J ug/kg 110 22. 1	Dibenzo(a,h)anthracene	71	J	ug/kg	110	22.	1	
Indeno(1,2,3-cd)pyrene 310 ug/kg 150 27. 1	Indeno(1,2,3-cd)pyrene	310		ug/kg	150	27.	1	
Pyrene 930 ug/kg 110 19. 1	Pyrene	930		ug/kg	110	19.	1	

Surrogate	% Recovery	Acceptance Qualifier Criteria	
Nitrobenzene-d5	94	23-120	
2-Fluorobiphenyl	67	30-120	
4-Terphenyl-d14	58	18-120	



**Project Name:** 324-334 OAK STREET **Lab Number:** L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

SAMPLE RESULTS

Lab ID: L1951920-08 Date Collected: 10/31/19 14:45

Client ID: SB-9 0-1FT Date Received: 11/01/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Percent Solids:

85%

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 1,8270D Extraction Date: 11/05/19 09:29

Analytical Date: 11/08/19 05:27
Analyst: RC

Semivolatile Organics by GC/MS - Westborou	ıgh Lab									
Semivolatile Organics by GC/MS - Westborough Lab										
Acenaphthene	54	J	ug/kg	150	20.	1				
Fluoranthene	1600		ug/kg	120	22.	1				
Naphthalene	83	J	ug/kg	190	23.	1				
Benzo(a)anthracene	790		ug/kg	120	22.	1				
Benzo(a)pyrene	690		ug/kg	150	47.	1				
Benzo(b)fluoranthene	910		ug/kg	120	32.	1				
Benzo(k)fluoranthene	330		ug/kg	120	31.	1				
Chrysene	810		ug/kg	120	20.	1				
Acenaphthylene	140	J	ug/kg	150	30.	1				
Anthracene	170		ug/kg	120	38.	1				
Benzo(ghi)perylene	470		ug/kg	150	23.	1				
Fluorene	74	J	ug/kg	190	19.	1				
Phenanthrene	1100		ug/kg	120	23.	1				
Dibenzo(a,h)anthracene	110	J	ug/kg	120	22.	1				
Indeno(1,2,3-cd)pyrene	540		ug/kg	150	27.	1				
Pyrene	1300		ug/kg	120	19.	1				

Surrogate	% Recovery	Accept Qualifier Crite	
Nitrobenzene-d5	87	23-	120
2-Fluorobiphenyl	62	30-	120
4-Terphenyl-d14	53	18-	120



**Project Name:** 324-334 OAK STREET **Lab Number:** L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID: L1951920-09 Date Collected: 10/31/19 15:30

Client ID: SB-10 0-2FT Date Received: 11/01/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 1,8270D Extraction Date: 11/05/19 09:29

Analytical Date: 11/08/19 02:49

Analyst: RC Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor				
Semivolatile Organics by GC/MS - Westborough Lab										
Acenaphthene	ND		ug/kg	150	19.	1				
Fluoranthene	220		ug/kg	110	21.	1				
Naphthalene	31	J	ug/kg	180	22.	1				
Benzo(a)anthracene	150		ug/kg	110	21.	1				
Benzo(a)pyrene	94	J	ug/kg	150	45.	1				
Benzo(b)fluoranthene	140		ug/kg	110	31.	1				
Benzo(k)fluoranthene	43	J	ug/kg	110	29.	1				
Chrysene	150		ug/kg	110	19.	1				
Acenaphthylene	ND		ug/kg	150	28.	1				
Anthracene	37	J	ug/kg	110	36.	1				
Benzo(ghi)perylene	68	J	ug/kg	150	22.	1				
Fluorene	25	J	ug/kg	180	18.	1				
Phenanthrene	250		ug/kg	110	22.	1				
Dibenzo(a,h)anthracene	23	J	ug/kg	110	21.	1				
Indeno(1,2,3-cd)pyrene	66	J	ug/kg	150	26.	1				
Pyrene	170		ug/kg	110	18.	1				

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
Nitrobenzene-d5	92		23-120	
2-Fluorobiphenyl	67		30-120	
4-Terphenyl-d14	67		18-120	



**Project Name:** 324-334 OAK STREET **Lab Number:** L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID: L1951920-11 Date Collected: 10/31/19 16:00

Client ID: SB-12 0-2FT Date Received: 11/01/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 1,8270D Extraction Date: 11/05/19 09:29

Analytical Date: 11/08/19 09:11

Analyst: RC Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor			
Semivolatile Organics by GC/MS - Westborough Lab									
Acenaphthene	980		ug/kg	160	20.	1			
Fluoranthene	12000	E	ug/kg	120	22.	1			
Naphthalene	450		ug/kg	200	24.	1			
Benzo(a)anthracene	7700		ug/kg	120	22.	1			
Benzo(a)pyrene	6200		ug/kg	160	48.	1			
Benzo(b)fluoranthene	8300	Е	ug/kg	120	33.	1			
Benzo(k)fluoranthene	2500		ug/kg	120	31.	1			
Chrysene	5700		ug/kg	120	20.	1			
Acenaphthylene	900		ug/kg	160	30.	1			
Anthracene	3000		ug/kg	120	38.	1			
Benzo(ghi)perylene	4200		ug/kg	160	23.	1			
Fluorene	1400		ug/kg	200	19.	1			
Phenanthrene	8800	E	ug/kg	120	24.	1			
Dibenzo(a,h)anthracene	1200		ug/kg	120	23.	1			
Indeno(1,2,3-cd)pyrene	5000		ug/kg	160	27.	1			
Pyrene	10000	Е	ug/kg	120	20.	1			

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
Nitrobenzene-d5	72		23-120	
2-Fluorobiphenyl	62		30-120	
4-Terphenyl-d14	56		18-120	



Project Name: 324-334 OAK STREET Lab Number: L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID: L1951920-11 D Date Collected: 10/31/19 16:00

Client ID: SB-12 0-2FT Date Received: 11/01/19
Sample Location: BUFFALO, NY Field Prep: Not Specified

Sample Depth:

Matrix: Soil Extraction Method: EPA 3546
Analytical Method: 1.8270D Extraction Date: 11/05/19 09:29

Analytical Method: 1,8270D Extraction Date: 11/05/19 09:29
Analytical Date: 11/08/19 15:58

Analyst: JG Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS	S - Westborough Lab					
Fluoranthene	13000		ug/kg	350	68.	3
Benzo(b)fluoranthene	8600		ug/kg	350	99.	3
Phenanthrene	9800		ug/kg	350	72.	3
Pyrene	11000		ug/kg	350	58.	3



**Project Name:** 324-334 OAK STREET

Project Number: T0395-019-002

Lab Number: L1951920

**Report Date:** 11/08/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D Analytical Date: 11/06/19 00:01

Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 11/05/19 09:29

Parameter	Result	Qualifier	Units	RL	MDL	
Semivolatile Organics by GC/MS - VG1304668-1	Westborough	Lab for s	ample(s):	01-02,04,06	-09,11 Batch:	
Acenaphthene	ND		ug/kg	130	17.	
Fluoranthene	ND		ug/kg	99	19.	
Naphthalene	ND		ug/kg	160	20.	
Benzo(a)anthracene	ND		ug/kg	99	18.	
Benzo(a)pyrene	ND		ug/kg	130	40.	
Benzo(b)fluoranthene	ND		ug/kg	99	28.	
Benzo(k)fluoranthene	ND		ug/kg	99	26.	
Chrysene	ND		ug/kg	99	17.	
Acenaphthylene	ND		ug/kg	130	25.	
Anthracene	ND		ug/kg	99	32.	
Benzo(ghi)perylene	ND		ug/kg	130	19.	
Fluorene	ND		ug/kg	160	16.	
Phenanthrene	ND		ug/kg	99	20.	
Dibenzo(a,h)anthracene	ND		ug/kg	99	19.	
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.	
Pyrene	ND		ug/kg	99	16.	

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
2-Fluorophenol	91		25-120	
Phenol-d6	93		10-120	
Nitrobenzene-d5	88		23-120	
2-Fluorobiphenyl	75		30-120	
2,4,6-Tribromophenol	95		10-136	
4-Terphenyl-d14	89		18-120	



# Lab Control Sample Analysis Batch Quality Control

**Project Name:** 324-334 OAK STREET

Project Number: T0395-019-002

Lab Number: L1951920

**Report Date:** 11/08/19

ırameter	LCS %Recovery	Qual	LCSD %Recovery 0	Qual	%Recovery Limits	RPD	Qual	RPD Limits
emivolatile Organics by GC/MS - Westborou	ıgh Lab Associ	ated sample(s):	01-02,04,06-09,1	1 Batch:	WG1304668-2	WG130466	8-3	
Acenaphthene	74		76		31-137	3		50
Fluoranthene	72		77		40-140	7		50
Naphthalene	75		73		40-140	3		50
Benzo(a)anthracene	83		86		40-140	4		50
Benzo(a)pyrene	75		77		40-140	3		50
Benzo(b)fluoranthene	76		78		40-140	3		50
Benzo(k)fluoranthene	81		84		40-140	4		50
Chrysene	73		77		40-140	5		50
Acenaphthylene	74		75		40-140	1		50
Anthracene	76		80		40-140	5		50
Benzo(ghi)perylene	82		85		40-140	4		50
Fluorene	76		80		40-140	5		50
Phenanthrene	72		76		40-140	5		50
Dibenzo(a,h)anthracene	86		88		40-140	2		50
Indeno(1,2,3-cd)pyrene	86		91		40-140	6		50
Pyrene	71		74		35-142	4		50

# Lab Control Sample Analysis Batch Quality Control

**Project Name:** 324-334 OAK STREET

Lab Number: L1951920

**Project Number:** T0395-019-002 Report Date:

11/08/19

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,04,06-09,11 Batch: WG1304668-2 WG1304668-3

Surrogate	LCS %Recovery Qual	LCSD %Recovery Qual	Acceptance Criteria
2-Fluorophenol	93	92	25-120
Phenol-d6	91	92	10-120
Nitrobenzene-d5	85	85	23-120
2-Fluorobiphenyl	68	68	30-120
2,4,6-Tribromophenol	76	82	10-136
4-Terphenyl-d14	71	75	18-120



### **METALS**



Project Name:324-334 OAK STREETLab Number:L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID:L1951920-01Date Collected:10/31/19 08:00Client ID:SB-1 0-1FTDate Received:11/01/19Sample Location:BUFFALO, NYField Prep:Not Specified

Sample Depth:

Matrix: Soil
Percent Solids: 79%

reiterit solius.	7 3 70					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
Total Metals - Man	sfield Lab										
Arsenic, Total	36.8		mg/kg	0.501	0.104	1	11/05/19 21:37	11/07/19 21:56	EPA 3050B	1,6010D	MC
Barium, Total	494		mg/kg	0.501	0.087	1	11/05/19 21:37	11/07/19 21:56	EPA 3050B	1,6010D	МС
Cadmium, Total	2.83		mg/kg	0.501	0.049	1	11/05/19 21:37	11/07/19 21:56	EPA 3050B	1,6010D	МС
Chromium, Total	24.5		mg/kg	0.501	0.048	1	11/05/19 21:37	11/07/19 21:56	EPA 3050B	1,6010D	MC
Lead, Total	7860		mg/kg	2.50	0.134	1	11/05/19 21:37	11/07/19 21:56	EPA 3050B	1,6010D	МС
Mercury, Total	0.629		mg/kg	0.095	0.062	1	11/04/19 23:31	11/05/19 18:08	EPA 7471B	1,7471B	AL
Selenium, Total	2.44		mg/kg	1.00	0.129	1	11/05/19 21:37	11/07/19 21:56	EPA 3050B	1,6010D	MC
Silver, Total	0.742		mg/kg	0.501	0.142	1	11/05/19 21:37	7 11/07/19 21:56	EPA 3050B	1,6010D	MC



Project Name: 324-334 OAK STREET Lab Number: L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID:L1951920-02Date Collected:10/31/19 09:00Client ID:SB-2 0-2FTDate Received:11/01/19Sample Location:BUFFALO, NYField Prep:Not Specified

Sample Depth:

Matrix: Soil Percent Solids: 75%

Percent Solids:	13%					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
Total Metals - Man	sfield Lab										
Arsenic, Total	27.8		mg/kg	0.524	0.109	1	11/05/19 21:37	11/07/19 22:01	EPA 3050B	1,6010D	МС
Barium, Total	128		mg/kg	0.524	0.091	1	11/05/19 21:37	11/07/19 22:01	EPA 3050B	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.524	0.051	1	11/05/19 21:37	11/07/19 22:01	EPA 3050B	1,6010D	MC
Chromium, Total	14.0		mg/kg	0.524	0.050	1	11/05/19 21:37	11/07/19 22:01	EPA 3050B	1,6010D	MC
Lead, Total	546		mg/kg	2.62	0.140	1	11/05/19 21:37	11/07/19 22:01	EPA 3050B	1,6010D	MC
Mercury, Total	20.0		mg/kg	0.936	0.610	10	11/04/19 23:31	11/05/19 21:54	EPA 7471B	1,7471B	AL
Selenium, Total	8.12		mg/kg	1.05	0.135	1	11/05/19 21:37	11/07/19 22:01	EPA 3050B	1,6010D	МС
Silver, Total	0.220	J	mg/kg	0.524	0.148	1	11/05/19 21:37	11/07/19 22:01	EPA 3050B	1,6010D	МС



Project Name:324-334 OAK STREETLab Number:L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID:L1951920-04Date Collected:10/31/19 11:00Client ID:SB-5 0-4FTDate Received:11/01/19Sample Location:BUFFALO, NYField Prep:Not Specified

Sample Depth:

Matrix: Soil
Percent Solids: 93%

reiterit solius.	3070					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
Total Metals - Man	sfield Lab										
Arsenic, Total	10.3		mg/kg	0.420	0.087	1	11/05/19 21:37	7 11/07/19 22:44	EPA 3050B	1,6010D	МС
Barium, Total	44.2		mg/kg	0.420	0.073	1	11/05/19 21:37	7 11/07/19 22:44	EPA 3050B	1,6010D	МС
Cadmium, Total	0.097	J	mg/kg	0.420	0.041	1	11/05/19 21:37	7 11/07/19 22:44	EPA 3050B	1,6010D	МС
Chromium, Total	3.91		mg/kg	0.420	0.040	1	11/05/19 21:37	7 11/07/19 22:44	EPA 3050B	1,6010D	MC
Lead, Total	61.5		mg/kg	2.10	0.112	1	11/05/19 21:37	7 11/07/19 22:44	EPA 3050B	1,6010D	MC
Mercury, Total	ND		mg/kg	0.076	0.050	1	11/04/19 23:31	11/05/19 18:16	EPA 7471B	1,7471B	AL
Selenium, Total	0.265	J	mg/kg	0.840	0.108	1	11/05/19 21:37	7 11/07/19 22:44	EPA 3050B	1,6010D	МС
Silver, Total	ND		mg/kg	0.420	0.119	1	11/05/19 21:37	7 11/07/19 22:44	EPA 3050B	1,6010D	MC



Project Name:324-334 OAK STREETLab Number:L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID:L1951920-06Date Collected:10/31/19 13:00Client ID:SB-7 0-1FTDate Received:11/01/19Sample Location:BUFFALO, NYField Prep:Not Specified

Sample Depth:

Matrix: Soil
Percent Solids: 82%

		Dilution	Date	Date	Prep	Analytical	
Parameter Result Qualifier Units RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
Total Motala Manafield Lab							
Total Metals - Mansfield Lab							
Arsenic, Total 10.6 mg/kg 0.467	0.097	1	11/05/19 21:37	11/07/19 22:48	EPA 3050B	1,6010D	MC
Barium, Total 146 mg/kg 0.467	0.081	1	11/05/19 21:37	11/07/19 22:48	EPA 3050B	1,6010D	MC
Cadmium, Total 0.266 J mg/kg 0.467	0.046	1	11/05/19 21:37	11/07/19 22:48	EPA 3050B	1,6010D	MC
Chromium, Total 7.90 mg/kg 0.467	0.045	1	11/05/19 21:37	11/07/19 22:48	EPA 3050B	1,6010D	MC
Lead, Total 238 mg/kg 2.33	0.125	1	11/05/19 21:37	11/07/19 22:48	EPA 3050B	1,6010D	MC
Mercury, Total 0.174 mg/kg 0.098	0.064	1	11/04/19 23:31	11/05/19 18:18	EPA 7471B	1,7471B	AL
Selenium, Total 1.20 mg/kg 0.934	0.120	1	11/05/19 21:37	11/07/19 22:48	EPA 3050B	1,6010D	MC
Silver, Total 0.336 J mg/kg 0.467	0.132	1	11/05/19 21:37	11/07/19 22:48	EPA 3050B	1,6010D	MC



Project Name: 324-334 OAK STREET Lab Number: L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID:L1951920-07Date Collected:10/31/19 14:00Client ID:SB-8 0-2FTDate Received:11/01/19Sample Location:BUFFALO, NYField Prep:Not Specified

Sample Depth:

Matrix: Soil Percent Solids: 85%

Prep Dilution Date Date Analytical Method **Parameter** Qualifier Units Factor **Prepared** Analyzed Method Result RLMDL Analyst Total Metals - Mansfield Lab Arsenic, Total 14.9 mg/kg 0.451 0.094 1 11/05/19 21:37 11/07/19 22:53 EPA 3050B 1,6010D MC Barium, Total 146 mg/kg 0.451 0.079 1 11/05/19 21:37 11/07/19 22:53 EPA 3050B 1,6010D MC 1 Cadmium, Total 1.10 mg/kg 0.451 0.044 11/05/19 21:37 11/07/19 22:53 EPA 3050B 1,6010D MC 1 Chromium, Total 4.39 mg/kg 0.451 0.043 11/05/19 21:37 11/07/19 22:53 EPA 3050B 1,6010D MC 86.8 2.26 0.121 11/05/19 21:37 11/07/19 22:53 EPA 3050B 1,6010D MC Lead, Total mg/kg 1 ND 1,7471B Mercury, Total 0.095 0.062 1 11/04/19 23:31 11/05/19 18:20 EPA 7471B ΑL mg/kg Selenium, Total 2.72 mg/kg 0.903 0.116 1 11/05/19 21:37 11/07/19 22:53 EPA 3050B 1,6010D MC Silver, Total 0.952 0.451 0.128 1 11/05/19 21:37 11/07/19 22:53 EPA 3050B 1,6010D MC mg/kg



Project Name:324-334 OAK STREETLab Number:L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID:L1951920-08Date Collected:10/31/19 14:45Client ID:SB-9 0-1FTDate Received:11/01/19Sample Location:BUFFALO, NYField Prep:Not Specified

Sample Depth:

Matrix: Soil
Percent Solids: 85%

Percent Solids.	0370					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
Total Metals - Man	ofiold Lob										
TOtal Metals - Mail	Sileiu Lab										
Arsenic, Total	7.84		mg/kg	0.469	0.098	1	11/05/19 21:37	11/07/19 22:57	EPA 3050B	1,6010D	МС
Barium, Total	124		mg/kg	0.469	0.082	1	11/05/19 21:37	11/07/19 22:57	EPA 3050B	1,6010D	МС
Cadmium, Total	ND		mg/kg	0.469	0.046	1	11/05/19 21:37	11/07/19 22:57	EPA 3050B	1,6010D	MC
Chromium, Total	8.56		mg/kg	0.469	0.045	1	11/05/19 21:37	11/07/19 22:57	EPA 3050B	1,6010D	MC
Lead, Total	221		mg/kg	2.34	0.126	1	11/05/19 21:37	11/07/19 22:57	EPA 3050B	1,6010D	МС
Mercury, Total	0.909		mg/kg	0.084	0.055	1	11/04/19 23:31	11/05/19 18:22	EPA 7471B	1,7471B	AL
Selenium, Total	1.33		mg/kg	0.938	0.121	1	11/05/19 21:37	11/07/19 22:57	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.469	0.133	1	11/05/19 21:37	<sup>7</sup> 11/07/19 22:57	EPA 3050B	1,6010D	МС



Project Name: 324-334 OAK STREET Lab Number: L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID:L1951920-09Date Collected:10/31/19 15:30Client ID:SB-10 0-2FTDate Received:11/01/19Sample Location:BUFFALO, NYField Prep:Not Specified

Sample Depth:

Matrix: Soil Percent Solids: 88%

Percent Solids.	0070					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
Total Metals - Man	sfield I ah										
Total Metals Mail	Silcia Lab										
Arsenic, Total	8.94		mg/kg	0.442	0.092	1	11/05/19 21:37	11/07/19 23:01	EPA 3050B	1,6010D	MC
Barium, Total	41.5		mg/kg	0.442	0.077	1	11/05/19 21:37	11/07/19 23:01	EPA 3050B	1,6010D	МС
Cadmium, Total	ND		mg/kg	0.442	0.043	1	11/05/19 21:37	11/07/19 23:01	EPA 3050B	1,6010D	МС
Chromium, Total	4.64		mg/kg	0.442	0.042	1	11/05/19 21:37	11/07/19 23:01	EPA 3050B	1,6010D	МС
Lead, Total	86.3		mg/kg	2.21	0.118	1	11/05/19 21:37	11/07/19 23:01	EPA 3050B	1,6010D	МС
Mercury, Total	ND		mg/kg	0.081	0.053	1	11/04/19 23:31	11/05/19 18:24	EPA 7471B	1,7471B	AL
Selenium, Total	1.21		mg/kg	0.884	0.114	1	11/05/19 21:37	11/07/19 23:01	EPA 3050B	1,6010D	МС
Silver, Total	ND		mg/kg	0.442	0.125	1	11/05/19 21:37	11/07/19 23:01	EPA 3050B	1,6010D	МС



Project Name:324-334 OAK STREETLab Number:L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID:L1951920-11Date Collected:10/31/19 16:00Client ID:SB-12 0-2FTDate Received:11/01/19Sample Location:BUFFALO, NYField Prep:Not Specified

Sample Depth:

Matrix: Soil
Percent Solids: 83%

reiterit Solius.	0070					Dilution	Date	Date	Prep	Analytical	
Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
Tatal Matala Mana	£:_ _    _ -										
Total Metals - Mans	sileid Lab										
Arsenic, Total	4.08		mg/kg	0.470	0.098	1	11/05/19 21:37	11/07/19 23:06	EPA 3050B	1,6010D	MC
Barium, Total	194		mg/kg	0.470	0.082	1	11/05/19 21:37	11/07/19 23:06	EPA 3050B	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.470	0.046	1	11/05/19 21:37	11/07/19 23:06	EPA 3050B	1,6010D	MC
Chromium, Total	111		mg/kg	0.470	0.045	1	11/05/19 21:37	11/07/19 23:06	EPA 3050B	1,6010D	MC
Lead, Total	592		mg/kg	2.35	0.126	1	11/05/19 21:37	11/07/19 23:06	EPA 3050B	1,6010D	MC
Mercury, Total	0.382		mg/kg	0.077	0.050	1	11/04/19 23:31	11/05/19 18:26	EPA 7471B	1,7471B	AL
Selenium, Total	2.05		mg/kg	0.939	0.121	1	11/05/19 21:37	11/07/19 23:06	EPA 3050B	1,6010D	MC
Silver, Total	1.74		mg/kg	0.470	0.133	1	11/05/19 21:37	11/07/19 23:06	EPA 3050B	1,6010D	MC



**Project Name:** 324-334 OAK STREET

**Project Number:** T0395-019-002

Lab Number:

L1951920

**Report Date:** 11/08/19

# Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	
Total Metals - Mansfield	Lab for sample(s):	01-02,04,	06-09,11	Batch	n: WG1304	443-1			
Mercury, Total	ND	mg/kg	0.083	0.054	1	11/04/19 23:31	11/05/19 17:54	1,7471B	AL

**Prep Information** 

Digestion Method: EPA 7471B

Parameter	Result Qu	ıalifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfi	eld Lab for sam	nple(s):	01-02,04,	06-09,11	Batch	: WG1304	1953-1			
Arsenic, Total	ND		mg/kg	0.400	0.083	1	11/05/19 21:37	11/07/19 20:33	1,6010D	MC
Barium, Total	ND		mg/kg	0.400	0.070	1	11/05/19 21:37	11/07/19 20:33	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	0.039	1	11/05/19 21:37	11/07/19 20:33	1,6010D	MC
Chromium, Total	ND		mg/kg	0.400	0.038	1	11/05/19 21:37	11/07/19 20:33	1,6010D	MC
Lead, Total	ND		mg/kg	2.00	0.107	1	11/05/19 21:37	11/07/19 20:33	1,6010D	MC
Selenium, Total	0.128	J	mg/kg	0.800	0.103	1	11/05/19 21:37	11/07/19 20:33	1,6010D	MC
Silver, Total	ND		mg/kg	0.400	0.113	1	11/05/19 21:37	11/07/19 20:33	1,6010D	MC

**Prep Information** 

Digestion Method: EPA 3050B



# Lab Control Sample Analysis Batch Quality Control

**Project Name:** 324-334 OAK STREET

Project Number: T0395-019-002

Lab Number:

L1951920

Report Date:

11/08/19

Parameter	%	LCS Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab	Associated sample(s):	01-02,04,06	-09,11	Batch: WG1304443-2	SRM L	ot Number: D105-540			
Mercury, Total		97		-		60-141	-		
Total Metals - Mansfield Lab	Associated sample(s):	01-02,04,06	-09,11	Batch: WG1304953-2	SRM L	ot Number: D105-540			
Arsenic, Total		106		-		70-130	-		
Barium, Total		92		-		75-125	-		
Cadmium, Total		96		-		75-125	-		
Chromium, Total		94		-		70-130	-		
Lead, Total		99		-		71-128	-		
Selenium, Total		104		-		63-137	-		
Silver, Total		98		-		69-131	-		

# Matrix Spike Analysis Batch Quality Control

**Project Name:** 324-334 OAK STREET

**Project Number:** T0395-019-002

Lab Number:

L1951920

Report Date:

11/08/19

Parameter	Native Sample	MS Added	MS Found %	MS 6Recovery	Qual	MSD Found	MSD %Recovery	Recove Qual Limits	•	RPD Lual Limits
Total Metals - Mansfield La MS Sample	ab Associated sam	nple(s): 01-0	02,04,06-09,1	1 QC Batch	ID: WO	G1304443-3	WG1304443-	4 QC Sample:	: L1951926-	06 Client ID:
Mercury, Total	ND	0.17	0.239	140	Q	0.209	107	80-120	13	20
Total Metals - Mansfield La	ab Associated sam	nple(s): 01-0	02,04,06-09,1	1 QC Batch	ID: WO	G1304953-3	QC Sample	: L1951915-02	Client ID:	MS Sample
Arsenic, Total	2.80	11.6	15.1	106		-	-	75-125	-	20
Barium, Total	24.4	194	218	100		-	-	75-125	-	20
Cadmium, Total	0.135J	4.94	4.70	95		-	-	75-125	-	20
Chromium, Total	3.44	19.4	21.1	91		-	-	75-125	-	20
Lead, Total	8.18	49.4	56.3	97		-	-	75-125	-	20
Selenium, Total	0.368J	11.6	11.4	98		-	-	75-125	-	20
Silver, Total	ND	29.1	28.7	99		-	-	75-125	-	20

# Lab Duplicate Analysis Batch Quality Control

**Project Name:** 324-334 OAK STREET

Project Number: T0395-019-002

Lab Number: L1951920

**Report Date:** 11/08/19

arameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
otal Metals - Mansfield Lab Associated sample(s	): 01-02,04,06-09,11	QC Batch ID: WG1304953-4	QC Sample:	L1951915-	02 Client ID:	: DUP Sample
Arsenic, Total	2.80	3.79	mg/kg	30	Q	20
Barium, Total	24.4	42.6	mg/kg	54	Q	20
Cadmium, Total	0.135J	0.410J	mg/kg	NC		20
Chromium, Total	3.44	4.66	mg/kg	30	Q	20
Lead, Total	8.18	8.30	mg/kg	1		20
Selenium, Total	0.368J	0.406J	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20



# INORGANICS & MISCELLANEOUS



Lab Number:

**Project Name:** 324-334 OAK STREET

L1951920 Report Date: **Project Number:** 11/08/19 T0395-019-002

**SAMPLE RESULTS** 

Lab ID: Date Collected: L1951920-01 10/31/19 08:00 Client ID: SB-1 0-1FT Date Received: 11/01/19

Not Specified Sample Location: BUFFALO, NY Field Prep:

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab	)								
Solids, Total	79.2		%	0.100	NA	1	-	11/05/19 02:47	121,2540G	YA



**Project Name:** 324-334 OAK STREET

L1951920 Report Date: **Project Number:** 11/08/19 T0395-019-002

Lab Number:

**SAMPLE RESULTS** 

Lab ID: Date Collected: L1951920-02 10/31/19 09:00 Client ID: SB-2 0-2FT Date Received: 11/01/19 Not Specified Sample Location: BUFFALO, NY Field Prep:

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab	)								
Solids, Total	74.6		%	0.100	NA	1	-	11/05/19 02:47	121,2540G	YA



Lab Number:

**Project Name:** 324-334 OAK STREET

L1951920 Report Date: **Project Number:** 11/08/19 T0395-019-002

**SAMPLE RESULTS** 

Lab ID: Date Collected: L1951920-04 10/31/19 11:00 Client ID: SB-5 0-4FT Date Received: 11/01/19

Not Specified Sample Location: BUFFALO, NY Field Prep:

Sample Depth:

Parameter	Result	Qualifier	Units	RL	Dilution Date L MDL Factor Prepared		Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.0		%	0.100	NA	1	-	11/05/19 02:47	121,2540G	YA



Lab Number:

**Project Name:** 324-334 OAK STREET

L1951920 Report Date: **Project Number:** 11/08/19 T0395-019-002

**SAMPLE RESULTS** 

Lab ID: Date Collected: L1951920-06 10/31/19 13:00 Client ID: SB-7 0-1FT Date Received: 11/01/19

Not Specified Sample Location: BUFFALO, NY Field Prep:

Sample Depth:

Parameter	Result	Qualifier	Units	RL	Dilution Date L MDL Factor Prepare		Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry -	Westborough Lab	)								
Solids, Total	82.4		%	0.100	NA	1	-	11/05/19 02:47	121,2540G	YA



Lab Number:

**Project Name:** 324-334 OAK STREET

L1951920 Report Date: **Project Number:** 11/08/19 T0395-019-002

**SAMPLE RESULTS** 

Lab ID: Date Collected: L1951920-07 10/31/19 14:00 Client ID: SB-8 0-2FT Date Received: 11/01/19 Not Specified Sample Location: BUFFALO, NY Field Prep:

Sample Depth:

Parameter	Result	Qualifier	Units	RL	Dilution Date _ MDL Factor Prepared		Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.2		%	0.100	NA	1	-	11/05/19 02:47	121,2540G	YA



**Project Name:** 324-334 OAK STREET

L1951920 Report Date: **Project Number:** 11/08/19 T0395-019-002

Lab Number:

**SAMPLE RESULTS** 

Lab ID: Date Collected: L1951920-08 10/31/19 14:45

Client ID: SB-9 0-1FT Date Received: 11/01/19 Not Specified Sample Location: BUFFALO, NY Field Prep:

Sample Depth:

Parameter	Result	Qualifier	Units	RL	Dilution Date MDL Factor Prepared			Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.3		%	0.100	NA	1	-	11/05/19 02:47	121,2540G	YA



**Project Name:** 324-334 OAK STREET

Project Number: T0395-019-002

Lab Number:

L1951920

**Report Date:** 11/08/19

**SAMPLE RESULTS** 

Lab ID: L1951920-09

Client ID: SB-10 0-2FT Sample Location: BUFFALO, NY

Date Collected:

10/31/19 15:30

Date Received:

11/01/19

Field Prep:

Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - V	Vestborough Lab									
Solids, Total	88.4		%	0.100	NA	1	-	11/05/19 02:47	121,2540G	YA



Lab Number:

**Project Name:** 324-334 OAK STREET

L1951920 Report Date: **Project Number:** 11/08/19 T0395-019-002

**SAMPLE RESULTS** 

Lab ID: Date Collected: L1951920-11 10/31/19 16:00 Client ID: SB-12 0-2FT Date Received: 11/01/19 Not Specified Sample Location: BUFFALO, NY Field Prep:

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - \	Westborough Lab									
Solids, Total	83.2		%	0.100	NA	1	-	11/05/19 02:47	121,2540G	YA



# Lab Duplicate Analysis Batch Quality Control

**Project Name:** 324-334 OAK STREET

Project Number: T0395-019-002

Lab Number:

L1951920

Report Date:

11/08/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual RPD Limits
General Chemistry - Westborough Lab Associated sam 0-2FT	pple(s): 01-02,04,06-09,11	QC Batch ID: WG130	04502-1	QC Sample: L	.1951920-07 Client ID: SB-8
Solids, Total	85.2	85.7	%	1	20



Project Name: 324-334 OAK STREET

**Project Number:** T0395-019-002

Lab Number: L1951920
Report Date: 11/08/19

### Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

**Cooler Information** 

Container Information

Cooler Custody Seal

A Absent

Container Info	rmation		Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	pН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
L1951920-01A	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD- TI(180)
L1951920-01B	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		NYCP51-PAH(14),TS(7)
L1951920-02A	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		BA-TI(180),AS-TI(180),AG-TI(180),CR- TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD- TI(180)
L1951920-02B	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		NYCP51-PAH(14),TS(7)
L1951920-03A	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		HOLD-METAL(180)
L1951920-03B	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		HOLD-8270(14)
L1951920-04A	Glass 120ml/4oz unpreserved	A	NA		3.0	Υ	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD- TI(180)
L1951920-04B	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		NYCP51-PAH(14),TS(7)
L1951920-05A	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		HOLD-METAL(180)
L1951920-05B	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		HOLD-8270(14)
L1951920-06A	Glass 120ml/4oz unpreserved	A	NA		3.0	Υ	Absent		BA-TI(180),AS-TI(180),AG-TI(180),CR- TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD- TI(180)
L1951920-06B	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		NYCP51-PAH(14),TS(7)
L1951920-07A	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD- TI(180)
L1951920-07B	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		NYCP51-PAH(14),TS(7)
L1951920-08A	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		BA-TI(180),AS-TI(180),AG-TI(180),CR- TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD- TI(180)
L1951920-08B	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		NYCP51-PAH(14),TS(7)
L1951920-09A	Glass 120ml/4oz unpreserved	A	NA		3.0	Υ	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD- TI(180)



**Lab Number:** L1951920

Report Date: 11/08/19

Project Name: 324-334 OAK STREET

**Project Number:** T0395-019-002

Container Information			Initial	Final	Temp			Frozen	
Container ID	Container Type	Cooler	pН	pН	deg C	Pres	Seal	Date/Time	Analysis(*)
L1951920-09B	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		NYCP51-PAH(14),TS(7)
L1951920-10A	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		HOLD-METAL(180)
L1951920-10B	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		HOLD-8270(14)
L1951920-11A	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR- TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD- TI(180)
L1951920-11B	Glass 120ml/4oz unpreserved	Α	NA		3.0	Υ	Absent		NYCP51-PAH(14),TS(7)



**Project Name:** Lab Number: 324-334 OAK STREET L1951920

**Project Number:** T0395-019-002 **Report Date:** 11/08/19

#### GLOSSARY

#### **Acronyms**

LCSD

LOD

MS

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments

from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

**EDL** - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

**EMPC** - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

**EPA** Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content,

where applicable. (DoD report formats only.)

Laboratory Control Sample Duplicate: Refer to LCS.

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

> Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats

MDI - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

> - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's

reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL

includes any adjustments from dilutions, concentrations or moisture content, where applicable.

- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the RPD precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less

than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the

values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the

associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEO - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF

and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

#### **Footnotes**

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 324-334 OAK STREET
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 L1951920

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 T0395-019-002
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 11/08/19

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

#### Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

#### Data Qualifiers

- A Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentrations of the analyte at less than ten times (10x) the concentrations of the analyte was detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- ${\bf E} \qquad \hbox{-Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.}$
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q -The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



 Project Name:
 324-334 OAK STREET
 Lab Number:
 L1951920

 Project Number:
 T0395-019-002
 Report Date:
 11/08/19

#### REFERENCES

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

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

### **LIMITATION OF LIABILITIES**

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

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



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

Serial\_No:11081917:31

ID No.:17873 Revision 15

Published Date: 8/15/2019 9:53:42 AM

Page 1 of 1

### Certification Information

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

#### Westborough Facility

EPA 624/624.1: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: lodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-

Ethyltoluene

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

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

### **Mansfield Facility**

SM 2540D: TSS

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

#### Westborough Facility:

#### **Drinking Water**

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE,

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

#### Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kieldahl-N, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, EPA 351.1, SM4500NO3-F, EPA 353.2: Nitrate-N, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate. EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.

### **Mansfield Facility:**

#### Drinking Water

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

### Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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

Pre-Qualtrax Document ID: 08-113 Document Type: Form

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