LiRo Engineers, Inc.
A LiRo Group Company
690 Delaware Avenue, Buffalo, NY 14209 Telephone 716.882.5476 Facsimile 716.882.9640 www.liro.com

May 30, 2018

Mr. Steven Ranalli
Erie Canal Harbor Development Corporation
95 Perry Street, Suite 500
Buffalo, New York 14203-3030

Re: Phase II Environmental Subsurface Investigation Report
South Aud Block
Southeast Portion of 130 Main Street
A Portion of Tax Section No. 111-.17, Block No. 14, Lot No. 1
Buffalo, New York

Dear Mr. Ranalli:

LiRo Engineers, Inc. (LiRo) has prepared this letter report to document the Phase II Environmental Subsurface Investigation (Phase II ESI) conducted at the South Aud Block site located at the southeast portion of 130 Main Street, Buffalo, New York ("the Site") (Figure 1) for Erie Canal Harbor Development Corporation (ECHDC).

On May 18, 2018, LiRo performed a Phase II ESI that conformed to ASTM Standard Practice for Environmental Site Assessments: Phase II (ASTM E1903-11). The purpose of the Phase II ESI was to investigate areas of concern that may pose an environmental liability or human exposure threat. Information used to evaluate the scope of the Phase II ESI included Recognized Environmental Conditions (RECs) and data/information obtained through the Phase I Environmental Site Assessment (Phase I ESA) completed by LiRo for the ECHDC, dated July 24, 2017.

This report presents a summary of the site background, work tasks that were completed, the investigation results, and conclusions.

Site Background

The South Aud Block is located in the southeastern portion of a larger property that was formerly occupied by the Buffalo Memorial Auditorium (Figure 2). The Auditorium was demolished in 2009 and the area surrounding the South Aud Block has been/is being developed with ECHDC Canalside features and a children's museum. Discussions with ECHDC indicated that following demolition of the Aud, approximately 2 to 3 feet of clean cover soil was installed over historic fill that was believed to be present across the South Aud Block area.

On July 24, 2017, LiRo issued a Phase I ESA of the above-mentioned project Site for the ECHDC. Based on the findings of this Phase I ESA, the following known or suspect recognized environmental conditions were identified.

- The presence of polycyclic aromatic hydrocarbons and metals in soil at the site is indicative of urban historic fill and is considered a REC.
- Surrounding historical land usage posing a potential environmental concern to the Site included manufacturing and related operations. These surrounding operations are considered RECs.

Based on the findings of the Phase I ESA, LiRo recommended that prior to redevelopment, an ASTM-compliant Phase II ESI be performed.

Soil Sampling and Analysis

The LiRo Phase II ESI consisted of a field investigation, laboratory analyses, and the preparation of this report, which includes tables summarizing the laboratory analytical results and figures depicting soil boring locations. Nature's Way Environmental Consultant's & Contractors of Alden, New York performed the soil borings for the field investigation. LiRo performed oversight of the soil borings. Laboratory analyses were provided by ALS Environmental, a New York State Department of Health (NYSDOH) approved laboratory (No. 10145). A Health and Safety Plan (HASP) was prepared prior to commencing field work. The field investigation was conducted on May 18, 2018 and consisted of the following components:

Nature's Way completed six soil borings to terminal depths between 4 and 15 feet below ground surface (ftbg) at the locations shown on Figure 2. The soil borings were advanced using a pickup truck mounted direct-push drill rig. Each location was hand cleared prior to using direct-push drilling techniques. LiRo's supervising geologist provided field screening, classification, and identification of soils from the ground surface to the bottom of each soil boring. Soil samples were visually classified in the field using the Unified Soil Classification System (USCS). Field screening consisted of visual and olfactory indicators of impacts as well as screening with a photo-ionization detector (PID). Soil boring logs are attached as Appendix A.

At each boring location, LiRo identified the transition from the clean cover soil (generally consisting of silty san loam with angular gravel) to underlying historic fill (generally consisting of sand and silt with brick cinders, concrete fragments, slag, ceramic shards, etc) which occurred at depths typically ranging from 1.7 ftbg to 2.5 ftbg (except at location LB-06 where additional cover had been placed). LiRo collected a composite sample of the uppermost historic fill material (i.e. the interval immediately below the cover soil layer) from each of the six soil boring locations.

Three of the borings (LB-02, LB03 and LB-06) were advanced to the underlying native soil that was encountered at depths of 8 to 9 feet and consisted of primarily silt and clay. LiRo collected three additional composite samples from the bottom one-foot interval of historic fill above native soil at these locations.

All of the soil samples were packed on ice and delivered via courier to ALS Environmental where the samples were analyzed for: Target Compound List (TCL) Semi-Volatile Organic

Compounds (SVOCs) via United States Environmental Protection Agency (USEPA) Method 8270D and Target Analyte List (TAL) Metals via USEPA Method 6010C/7471B.

Findings

In order to evaluate the soil quality, laboratory analytical results were compared to the regulatory standards identified in New York State Department of Environmental Conservation (NYSDEC) Subpart 375-6.8 (b): Restricted Use (Track 2) Soil Cleanup Objectives (SCOs), Restricted-Residential criteria.

The results from the sampling are summarized and discussed below. A summary of TCL SVOCs detected in soil is presented in Table 1 and a summary of TAL Metals detected in soil is presented in Table 2. A complete laboratory analytical report is attached as Appendix B.

- Field screening (i.e., PID, visual and olfactory indications) did not indicate signs of volatile organic compound (VOC) impacted soil/fill;
- TCL SVOCs, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and/or indeno(1,2,3-cd)pyrene, were detected in five (5) of the six (6) shallow historic fill composite samples collected (LB-01-2.5'-3.5', LB-02-2.2'-3.2', LB-04-1.9'-3', LB-05-1.7'-3', and LB-06-5.3'-7') at concentrations exceeding their respective Restricted-Residential SCOs;
- TCL SVOCs were detected in each of the three (3) deeper historic fill composite samples; however, the concentrations did not exceed Restricted-Residential SCOs;
- TAL Metals, including arsenic, barium, copper, lead, and/or mercury were detected in four (4) of the six (6) shallow historic fill composite samples collected (LB-01-2.5'-3.5', LB-04-1.9'-3', LB-05-1.7'-3', and LB-06-5.3'-7') at concentrations exceeding their respective Restricted-Residential SCOs. Lead and mercury concentrations were found at concentrations that were significantly elevated in the shallow historic fill sample collected from soil boring LB-04; and,
- One TAL Metal, mercury, was detected in one (1) of the three (3) deeper historic fill composite samples collected (LB-02-8'-9') at a concentration exceeding its Restricted-Residential SCO.

Conclusions

Based on the evaluation of the field screening data, the laboratory analytical results, and a comparison to applicable regulatory standards, the following conclusions are presented:

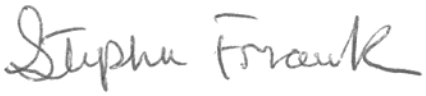
- The study area is underlain by a recently placed clean cover soil layer over historic fill materials which generally consist of sandy silt mixed with concrete, asphalt, slag, pottery shards, cinders, and red and yellow brick, from approximately 2 to 9 ftbg. Native soils were encountered below the historic fill soil at depths of 8 to 9 feet.
- Field screening (i.e., PID readings and visual and olfactory observations) did not identify the presence any volatile organic compound (VOC) impacted soils at the Site;

- Soil sample analytical results from the historic fill soils indicate that the historic fill is contaminated with concentrations of SVOCs and metals that exceed Part 375 Restricted Use (Track 2) – Restricted-Residential SCOs.

We appreciate the opportunity to provide our services on this project. Please call me or Robert Kreuzer at 716-882-5476 if you have any questions or require further information.

Sincerely,

LiRo Engineers, Inc.



Stephen Frank, PG
Senior Associate
(Attch)

FIGURES

Figure 1 – Topographic Site Location Map
Figure 2 – Soil Boring Location Plan

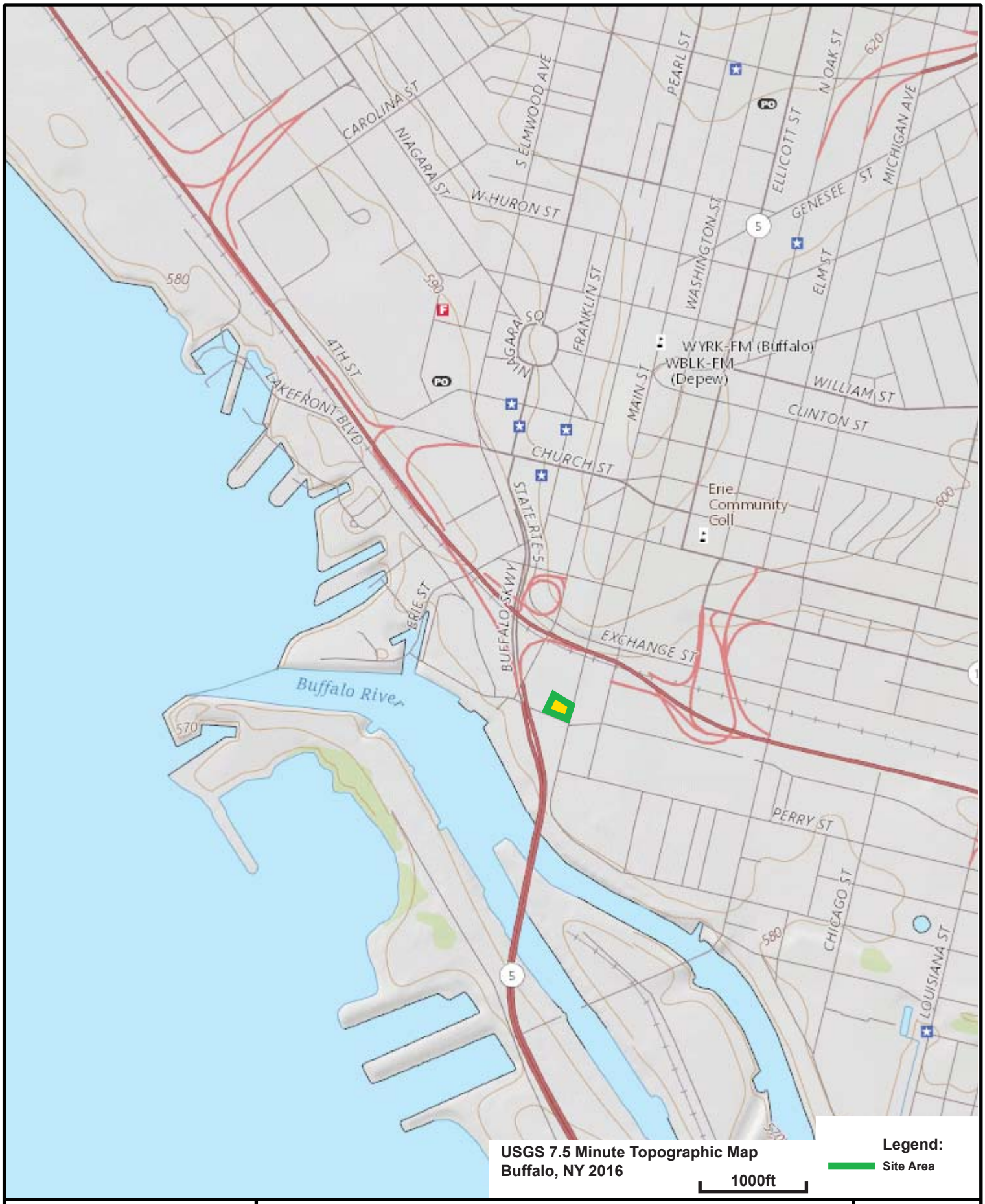
TABLES

Table 1 – Summary of Semi-Volatile Organic Compounds Detected in Soil
Table 2 – Summary of Target Analyte List Metals Detected in Soil

APPENDICES

Appendix A – Soil Boring Logs
Appendix B – Laboratory Analytical Report

FIGURES



USGS 7.5 Minute Topographic Map
Buffalo, NY 2016

1000ft

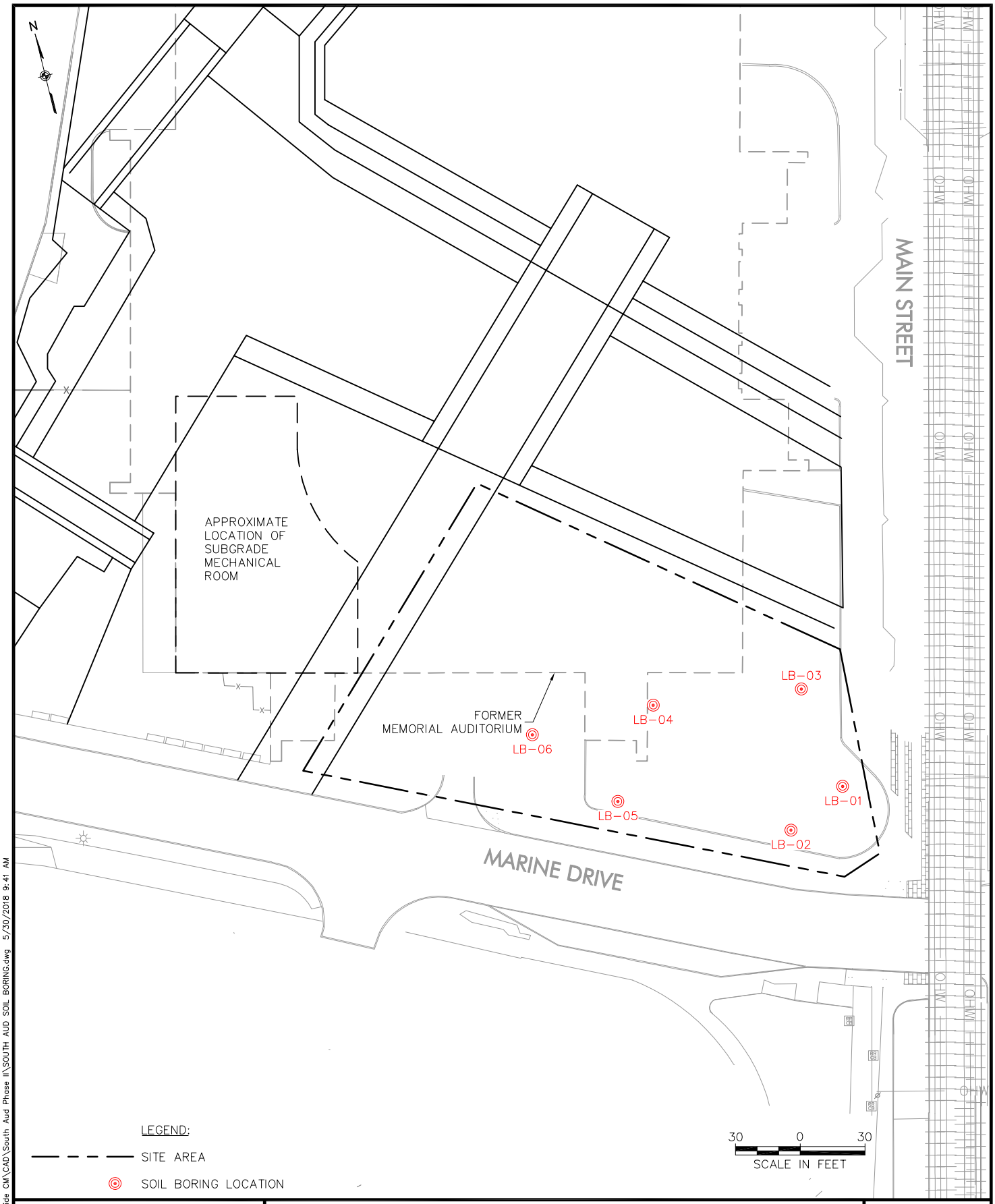
Legend:
Site Area

LiRo-Engineers, Inc.
690 Delaware Ave.
Buffalo, New York

SOUTH AUD BLOCK
TOPOGRAPHIC LOCATION MAP

1

J:\09-75-104 Canal Side CM\CAD\South Aud Phase II\SOUTH AUD TOPO MAP.AI



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

SOUTH AUD BLOCK
SOIL BORING LOCATION PLAN

FIGURE NO.

2

TABLES

TABLE 1

SUMMARY OF SEMI-VOLATILE ORGANIC COMPOUNDS DETECTED IN SOIL
SOUTH AUD BLOCK PHASE II ESI
BUFFALO, NEW YORK

TCL SVOC	NYSDEC Part 375-6.8 (b) Restricted Residential Soil Cleanup Objectives (SCOs)	Sample ID, Depth, and Date Collected					
		LB-01-2.5-3.5	LB-02-2.2-3.2	LB-02-8-9	LB-03-2.4-3.4	LB-03-8-8.9	LB-04-1.9-3
		2.5'-3.5'	2.2'-3.2'	8'-9'	2.4'-3.4'	8'-8.9'	1.9'-3'
		5/18/2018	5/18/2018	5/18/2018	5/18/2018	5/18/2018	5/18/2018
2-Methylnaphthalene	NS	200 J	85 U	91 U	120 U	86 U	350 J
Acenaphthene	100,000	500 J	120 J	89 U	120 U	85 U	880 J
Acenaphthylene	100,000	200 J	77 U	82 U	110 U	79 U	430 J
Anthracene	100,000	1,700	430	200 J	110 U	74 U	2,500
Benz(a)anthracene	1,000	**3,800**	1,000	510	290 J	140 J	**5,700**
Benzo(a)pyrene	1,000	**3,500**	910	460	260 J	130 J	**5,200**
Benzo(b)fluoranthene	1,000	**4,000**	1,000	550	320 J	150 J	**6,500**
Benzo(g,h,i)perylene	100,000	2,200	620	310 J	200 J	100 J	3,500
Benzo(k)fluoranthene	3,900	1,600	400	180 J	120 U	86 U	2,400
Carbazole	NS	980	200 J	100 U	130 U	95 U	2,100
Chrysene	3,900	3,700	990	490	330 J	130 J	**6,400**
Dibenz(a,h)anthracene	330	**600 J**	160 J	85 J	95 U	70 U	**1,000 J**
Dibenzofuran	59,000	400 J	100 J	83 U	110 U	79 U	950 J
Fluoranthene	100,000	8,300	2,100	1,000	560	270 J	14,000
Fluorene	100,000	690 J	170 J	110 U	140 U	97 U	1,300 J
Indeno(1,2,3-cd)pyrene	500	**2,400**	**650**	300 J	190 J	98 J	**3,800**
Naphthalene	100,000	370 J	77 U	83 U	110 U	79 U	600 J
Phenanthrene	100,000	6,800	1,700	720	460 J	240 J	13,000
Pyrene	100,000	6,900	1,900	870	500 J	240 J	11,000

Notes:

All concentrations are reported in parts per billion (ppb or ug/kg)

U = Not detected at associated detection limit

J = Estimated value

NS = No Standard

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

Bold Shaded = Concentration Exceeds Restricted Residential Soil Cleanup Objective

TABLE 1

SUMMARY OF SEMI-VOLATILE ORGANIC COMPOUNDS DETECTED IN SOIL
SOUTH AUD BLOCK PHASE II ESI
BUFFALO, NEW YORK

TCL SVOC	NYSDEC Part 375-6.8 (b) Restricted Residential Soil Cleanup Objectives (SCOs)	Sample ID, Depth, and Date Collected		
		LB-05-1.7-3	LB-06-5.3-7	LB-06-8.8-9.8
		1.7'-3'	5.3'-7'	8.8'-9.8'
		5/18/2018	5/18/2018	5/18/2018
2-Methylnaphthalene	NS	93 U	92 J	87 U
Acenaphthene	100,000	110 J	270 J	86 U
Acenaphthylene	100,000	85 U	81 U	79 U
Anthracene	100,000	300 J	830	75 U
Benz(a)anthracene	1,000	660	**1,300**	68 U
Benzo(a)pyrene	1,000	660	**1,200**	78 U
Benzo(b)fluoranthene	1,000	850	**1,300**	71 U
Benzo(g,h,i)perylene	100,000	490	660	88 U
Benzo(k)fluoranthene	3,900	300 J	490	87 U
Carbazole	NS	120 J	350 J	96 U
Chrysene	3,900	680	**1,300**	76 U
Dibenz(a,h)anthracene	330	140 J	190 J	70 U
Dibenzofuran	59,000	97 J	210 J	79 U
Fluoranthene	100,000	1,300	2,900	91 U
Fluorene	100,000	120 J	350 J	97 U
Indeno(1,2,3-cd)pyrene	500	**540**	**740**	85 U
Naphthalene	100,000	85 U	110 J	80 U
Phenanthrene	100,000	1,100	3,100	100 J
Pyrene	100,000	1,100	2,500	76 U

Notes:

All concentrations are reported in parts per billion (ppb or ug/kg)

U = Not detected at associated detection limit

J = Estimated value

NS = No Standard

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

Bold Shaded = Concentration Exceeds Restricted Residential Soil Cleanup Objective

TABLE 2

SUMMARY OF METALS DETECTED IN SOIL
SOUTH AUD BLOCK PHASE II ESI
BUFFALO, NEW YORK

TAL Metal	NYSDEC Part 375-6.8 (b) Restricted Residential Soil Cleanup Objectives (SCOs)	Sample ID, Depth, and Date Collected					
		LB-01-2.5-3.5	LB-02-2.2-3.2	LB-02-8-9	LB-03-2.4-3.4	LB-03-8-8.9	LB-04-1.9-3
		2.5'-3.5'	2.2'-3/2'	8'-9'	2.4'3.4	8'-8.9'	1.9'-3'
		5/18/2018	5/18/2018	5/18/2018	5/18/2018	5/18/2018	5/18/2018
Aluminum, Total	180	6,180	5,820	5,330	7,300	6,030	4,720
Antimony, Total	NS	1.2 U	1.2 U	1.3 U	1.6 U	1.2 U	8.6
Arsenic, Total	16	**26.1**	6.3	11.1	11.8	3.3 B	**50.4**
Barium, Total	400	171	153	44.5	102	46.9	**1,470**
Beryllium, Total	72	0.38	0.41	0.27 J	0.41 J	0.28 J	0.66
Calcium, Total	NS	47,200	115,000	19,600	65,000	46,400	24,300
Cadmium, Total	4.3	0.57 J	0.39 J	0.29 BJ	0.42 J	0.20 BJ	2.94
Cobalt, Total	NS	4.8 J	3.5 J	4.1 J	5.0 J	3.8 J	8.6
Chromium, Total	180	12.6	9.1	8.5	12.5	10.2	34.4
Copper, Total	270	47.5	35.8	53	61.5	16.1	253
Iron, Total	NS	19,000	11,800	14,100	14,100	10,100	38,200
Potassium, Total	NS	1,000	970	830	1,360	1150	720
Magnesium, Total	NS	7,270	7,950	7,450	16,500	9,160	4,760
Manganese, Total	2,000	302	391	224	324	196	281
Sodium, Total	0.81	240	230	210	420	250	440
Nickel, Total	310	12.7	8.9	10.3	11.8	9.7	13.7
Lead, Total	400	281	282	205	232	73.7	**5,660**
Selenium, Total	180	0.6 J	0.7 J	0.7 J	0.6 U	0.5 U	4
Silver, Total	180	0.08 U	0.08U	0.2 J	0.1 J	0.08 U	1.1 J
Thallium, Total	NS	0.6 U	3.1	0.7 U	1.0 J	0.7 U	0.7 U
Vanadium, Total	NS	18.4	12.1	13.1	23.8	13.5	19.5
Zinc, Total	10,000	236	136	201	183	49.7	2,050
Mercury, Total	0.81	0.454	0.232	**2.9**	0.798	0.233	**66.7**

Notes:

All concentrations are reported in parts per million (ppm or m

U = Not detected at associated detection limit

J = Estimated value

B = Compound detected in associated blank sample

NS = No Standard

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

Bold Shaded = Concentration exceeds Restricted Residential Soil Cleanup Objectives

TABLE 2

SUMMARY OF METALS DETECTED IN SOIL
SOUTH AUD BLOCK PHASE II ESI
BUFFALO, NEW YORK

TAL Metal	NYSDEC Part 375-6.8 (b) Restricted Residential Soil Cleanup Objectives (SCOs)	Sample ID, Depth, and Date Collected		
		LB-05-1.7-3	LB-06-5.3-7	LB-06-8.8-9.8
		1.7'-3'	5.3'-7'	8.8'-9.8'
		5/18/2018	5/18/2018	5/18/2018
Aluminum, Total	180	4,750	4,260	2,420
Antimony, Total	NS	5.9 J	1.2 U	1.2 U
Arsenic, Total	16	13.8	7.8	3.9
Barium, Total	400	258	78.3	189
Beryllium, Total	72	0.48	0.21 J	0.13 J
Calcium, Total	NS	26,100	39,200	57,500
Cadmium, Total	4.3	0.83	0.50 J	0.43 J
Cobalt, Total	NS	5.9 J	3.4 J	2.2 J
Chromium, Total	180	13.3	9.7	7.5
Copper, Total	270	**1,270**	129	16.6
Iron, Total	NS	12,500	10,600	7,080
Potassium, Total	NS	750	930	660
Magnesium, Total	NS	2,640	5,740	4,340
Manganese, Total	2,000	303	178	109
Sodium, Total	0.81	520	370	500
Nickel, Total	310	7.2	7.6	6.4
Lead, Total	400	**2,140**	149	176
Selenium, Total	180	1.5	0.5 U	0.5 U
Silver, Total	180	0.8 J	0.2 J	0.08 U
Thallium, Total	NS	0.7 U	0.7 U	1.7
Vanadium, Total	NS	16.6	11.2	8
Zinc, Total	10,000	543	364	430
Mercury, Total	0.81	**3.23**	**1.73**	0.643

Notes:

All concentrations are reported in parts per million (ppm or m

U = Not detected at associated detection limit

J = Estimated value

B = Compound detected in associated blank sample

NS = No Standard

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

Bold Shaded = Concentration exceeds Restricted Residential Soil Cleanup Objectives

APPENDIX A

SOIL BORING LOGS

LiRo Engineers, Inc.

TEST BORING LOG

BORING NO:	**LB-01**
SHEET:	**1 of 1**
JOB NO.:	**09-75-104**
LOCATION:	**South Aud Block**
GROUND ELEVATION:	**585**
DATE STARTED:	**May 18, 2018**
DATE FINISHED:	**May 18, 2018**
DRILLER:	**Nathan**
GEOLOGIST:	**Jon Williams**
REVIEWED BY:	

PROJECT NAME: **South Aud Block Phase II ESI**

CLIENT: **Erie Canal Harbor Development Corporation**

BORING CONTRACTOR: **Nature's Way Environmental**

GROUNDWATER: Not Encountered

	CAS.	SAMPLER	TUBE
TYPE		Macro	
DIA.		2"	
WT.			
FALL			

DATE	TIME	LEVEL	TYPE

SAMPLE						DESCRIPTION				
DEPTH FEET	STRATA	"S" NO.	"N" NO.	BLOWS PER 6"	REC% RQD%	COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	REMARKS
1				NA	100%	brown	stiff	0-2.5' Clean Cover - silty sand loam / #2 angular gravel / silt, dry to moist	FILL	0 ppm
5				NA	50%	black	loose	2.5-4.5' Historic Fill - fine Sand and silt with red brick fragments, cinders, and concrete fragments, dry to moist	FILL	0 ppm
								refusal @ 4.5' bgs		
10										
15										
20										
25										
30										
35										

COMMENTS: Samples obtained: 2.5-3.5' TCL SVOCs and TAL Metals

Hand Cleared 0-3'

PROJECT NO.: 09-75-104

BORING NO.: LB-01

LiRo Engineers, Inc.

TEST BORING LOG

BORING NO:	**LB-02**
SHEET:	**1 of 1**
JOB NO.:	**09-75-104**
LOCATION:	**South Aud Block**
GROUND ELEVATION:	**585**
DATE STARTED:	**May 18, 2018**
DATE FINISHED:	**May 18, 2018**
DRILLER:	**Nathan**
GEOLOGIST:	**Jon Williams**
REVIEWED BY:	

PROJECT NAME: **South Aud Block Phase II ESI**

CLIENT: **Erie Canal Harbor Development Corporation**

BORING CONTRACTOR: **Nature's Way Environmental**

GROUNDWATER: Not Encountered

					CAS.	SAMPLER	TUBE
DATE	**TIME**	**LEVEL**	**TYPE**	**TYPE**		Macro	
				DIA.		2"	
				WT.			
				FALL			

DEPTH	SAMPLE					DESCRIPTION			USCS	REMARKS
		"S"	"N"	BLOWS	REC%		CONSISTENCY	MATERIAL		
FEET	STRATA	NO.	NO.	PER 6"	RQD%	COLOR	HARDNESS	DESCRIPTION		
1				NA	100%	brown	stiff	0-2.2' Clean Cover - silty sand loam / #2 angular gravel / silt, dry to moist	FILL	0 ppm
				NA	100%	dark brown to black	loose	2.2-9' Historic Fill - fine Sand and Silt with red brick fragments, cinders, concrete fragments, and gravel, dry to moist	FILL	0 ppm
5				NA	71%					
10				NA	67%	black	soft	9-11' Native Silt with some clay, little wood and vegetative material, wet	ML	0 ppm
						refusal @ 11.0' bgs				
15										
20										
25										
30										
35										

COMMENTS: Samples obtained: 2.2-3.2' and 8-9' for TCL SVOCs and TAL Metals

Hand Cleared 0-2.6'

PROJECT NO.: 09-75-104

BORING NO.: LB-02

LiRo Engineers, Inc.

TEST BORING LOG

BORING NO:	**LB-03**
SHEET:	**1 of 1**
JOB NO.:	**09-75-104**
LOCATION:	**South Aud Block**
GROUND ELEVATION:	**585**
DATE STARTED:	**May 18, 2018**
DATE FINISHED:	**May 18, 2018**
DRILLER:	**Nathan**
GEOLOGIST:	**Jon Williams**
REVIEWED BY:	

PROJECT NAME: **South Aud Block Phase II ESI**

CLIENT: **Erie Canal Harbor Development Corporation**

BORING CONTRACTOR: **Nature's Way Environmental**

GROUNDWATER: Not Encountered

	CAS.	SAMPLER	TUBE
TYPE		Macro	
DIA.		2"	
WT.			
FALL			

DATE	TIME	LEVEL	TYPE

DEPTH FEET	SAMPLE STRATA	"S" NO.	"N" NO.	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	REMARKS
1				NA	100%	brown	stiff	0-2.4' Clean Cover - silty sand loam / #2 angular gravel / silt, dry to moist	FILL	0 ppm
				NA	100%	black and brown	loose	2.4-8.9' Historic Fill - fine Sand and Silt with red and yellow brick fragments, cinders, concrete fragments, and slag, dry to moist	FILL	0 ppm
5				NA	79%					
10				NA	100%	blue-gray	stiff	8.9-15' Native Clay and Silt, moist	CL	0 ppm
15				NA	100%					
20								end of boring @ 15.0' bgs		
25										
30										
35										

COMMENTS: Samples obtained: 2.4-3.4' and 8-8.9' for TCL SVOCs and TAL Metals

Hand Cleared 0-2'

PROJECT NO.: 09-75-104

BORING NO.: LB-03

LiRo Engineers, Inc.

TEST BORING LOG

BORING NO:	**LB-04**
SHEET:	**1 of 1**
JOB NO.:	**09-75-104**
LOCATION:	**South Aud Block**
GROUND ELEVATION:	**585**
DATE STARTED:	**May 18, 2018**
DATE FINISHED:	**May 18, 2018**
DRILLER:	**Nathan**
GEOLOGIST:	**Jon Williams**
REVIEWED BY:	

PROJECT NAME: **South Aud Block Phase II ESI**

CLIENT: **Erie Canal Harbor Development Corporation**

BORING CONTRACTOR: **Nature's Way Environmental**

GROUNDWATER: Not Encountered

					CAS.	SAMPLER	TUBE
DATE	**TIME**	**LEVEL**	**TYPE**	**TYPE**		Macro	
				DIA.		2"	
				WT.			
				FALL			

DEPTH FEET	SAMPLE STRATA	"S" NO.	"N" NO.	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	REMARKS
1				NA	75%	brown	stiff	0-1.9' Clean Cover - silty sand loam / #2 angular gravel / silt, dry to moist	FILL	0 ppm
						black	loose	1.9-4' Historic Fill - fine Sand and Silt with yellow brick fragments, cinders, and concrete fragments, dry	FILL	0 ppm
5								End of boring @ 4.0' bgs		
10										
15										
20										
25										
30										
35										

COMMENTS: Samples obtained: 1.9-3' for TCL SVOCs and TAL Metals

PROJECT NO.: 09-75-104

BORING NO.: LB-04

LiRo Engineers, Inc.

TEST BORING LOG

BORING NO:	**LB-05**
SHEET:	**1 of 1**
JOB NO.:	**09-75-104**
LOCATION:	**South Aud Block**
GROUND ELEVATION:	**585**
DATE STARTED:	**May 18, 2018**
DATE FINISHED:	**May 18, 2018**
DRILLER:	**Nathan**
GEOLOGIST:	**Jon Williams**
REVIEWED BY:	

PROJECT NAME: **South Aud Block Phase II ESI**

CLIENT: **Erie Canal Harbor Development Corporation**

BORING CONTRACTOR: **Nature's Way Environmental**

GROUNDWATER: Not Encountered

					CAS.	SAMPLER	TUBE
DATE	**TIME**	**LEVEL**	**TYPE**	**TYPE**		Macro	
				DIA.		2"	
				WT.			
				FALL			

DEPTH FEET	SAMPLE STRATA	"S" NO.	"N" NO.	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	REMARKS
1				NA	75%	brown	stiff	0-1.7' Clean Cover - silty sand loam / #2 angular gravel / silt, dry to moist	FILL	0 ppm
						black	loose	1.7-4' Historic Fill - fine Sand and Silt with yellow brick fragments, slag, cinders, and concrete fragments, dry	FILL	0 ppm
5								End of boring @ 4.0' bgs		
10										
15										
20										
25										
30										
35										

COMMENTS: Samples obtained: 1.7-3' for TCL SVOCs and TAL Metals

PROJECT NO.: 09-75-104

BORING NO.: LB-05

LiRo Engineers, Inc.

TEST BORING LOG

BORING NO:	**LB-06**
SHEET:	**1 of 1**
JOB NO.:	**09-75-104**
LOCATION:	**South Aud Block**
GROUND ELEVATION:	**585**
DATE STARTED:	**May 18, 2018**
DATE FINISHED:	**May 18, 2018**
DRILLER:	**Nathan**
GEOLOGIST:	**Jon Williams**
REVIEWED BY:	

PROJECT NAME: **South Aud Block Phase II ESI**

CLIENT: **Erie Canal Harbor Development Corporation**

BORING CONTRACTOR: **Nature's Way Environmental**

GROUNDWATER: Not Encountered

					CAS.	SAMPLER	TUBE
DATE	**TIME**	**LEVEL**	**TYPE**	**TYPE**		Macro	
				DIA.		2"	
				WT.			
				FALL			

DEPTH FEET	SAMPLE STRATA	"S" NO.	"N" NO.	BLOWS PER 6"	REC% RQD%	DESCRIPTION COLOR	CONSISTENCY HARDNESS	MATERIAL DESCRIPTION	USCS	REMARKS
1				NA	75%	brown	stiff	0-2.1' Clean Cover - silty sand loam / #2 angular gravel / silt, dry to moist	FILL	0 ppm
						brown	very firm	2.1-5.3' Clean Cover - fine Sand and Silt with some #2 Gravel, dry to moist	FILL	0 ppm
5				NA	88%	black	loose	5.3-8' Historic Fill - fine Sand and Silt with red brick fragments, cinders, slag, concrete fragments, and pottery shards, dry to moist	FILL	0 ppm
10				NA	50%	blue-gray	stiff	8-15' Native Clay, some silt, medium plasticity, moist to wet	CL	0 ppm
15				NA	100%					
20								End of boring @ 15.0' bgs		
25										
30										
35										

COMMENTS: Samples obtained: 5.3-7' and 8-9.8' for TCL SVOCs and TAL Metals

PROJECT NO.: 09-75-104

BORING NO.: LB-06

APPENDIX B

LABORATORY ANALYTICAL DATA

Included on attached CD

May 25, 2018 Service Request No:R1804645

Mr. Jon Williams
The LiRo Group
690 Delaware Ave.
Buffalo, NY 14209

Laboratory Results for: South Ave Block Phase II

Dear Mr.Williams,

Enclosed are the results of the sample(s) submitted to our laboratory May 21, 2018
For your reference, these analyses have been assigned our service request number **R1804645.**

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and ALS Environmental is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. The measurement uncertainty of the results included in this report is within that expected when using the prescribed method(s) for analysis of these samples, and represented by Laboratory Control Sample control limits. Any events, such as QC failures, which may add to the uncertainty are explained in the report narrative.

Please contact me if you have any questions. My extension is 7475. You may also contact me via email at Lisa.Reyes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Lisa Reyes
Project Manager

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
PHONE +1 585 288 5380 | FAX +1 585 288 8475
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

ALS Environmental

Client: The LiRo Group
Project: South Ave Block Phase II
Sample Matrix: Soil

Service Request: R1804645
Date Received: 05/21/2018

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Any parameters that are not included in the lab's NELAC accreditation are identified on a "Non-Certified Analytes" report in the Miscellaneous Forms Section of this report. Individual analytical results requiring further explanation are flagged with qualifiers and/or discussed below. The flags are explained in the Report Qualifiers and Definitions page in the Miscellaneous Forms section of this report.

Sample Receipt:

Nine soil samples were received for analysis at ALS Environmental on 05/21/2018. Any discrepancies noted upon initial sample inspection are noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at 6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Semivolatiles by GC/MS:

Method 8270D, 05/22/2018: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 05/22/2018: The lower control limit for the spike recovery of the Matrix Spike Sample (MS) was exceeded for one or more analytes. Precision was also outside limits. There were no detections of the analyte(s) in the associated field samples. The Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) were within limits for all analytes. The analytes affected are flagged in the MS Summary.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by _____ Date 05/24/2018

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-01-2.5-3.5			Lab ID: R1804645-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	86.7				Percent	ALS SOP
Aluminum, Total	6180		11	12	mg/Kg	6010C
Arsenic, Total	26.1		0.4	1.2	mg/Kg	6010C
Barium, Total	171		0.09	2.3	mg/Kg	6010C
Beryllium, Total	0.38		0.05	0.35	mg/Kg	6010C
Cadmium, Total	0.57	J	0.02	0.58	mg/Kg	6010C
Calcium, Total	47200		60	1200	mg/Kg	6010C
Chromium, Total	12.6		0.2	1.2	mg/Kg	6010C
Cobalt, Total	4.8	J	0.4	5.8	mg/Kg	6010C
Copper, Total	47.5		0.6	2.3	mg/Kg	6010C
Iron, Total	19000		130	140	mg/Kg	6010C
Lead, Total	281		0.3	5.8	mg/Kg	6010C
Magnesium, Total	7270		30	120	mg/Kg	6010C
Manganese, Total	302		1.2	2.3	mg/Kg	6010C
Mercury, Total	0.454		0.007	0.037	mg/Kg	7471B
Nickel, Total	12.7		0.8	4.6	mg/Kg	6010C
Potassium, Total	1000		20	230	mg/Kg	6010C
Selenium, Total	0.6	J	0.5	1.2	mg/Kg	6010C
Sodium, Total	240		80	120	mg/Kg	6010C
Vanadium, Total	18.4		0.8	5.8	mg/Kg	6010C
Zinc, Total	236		0.4	2.3	mg/Kg	6010C
2-Methylnaphthalene	200	J	180	760	ug/Kg	8270D
Acenaphthene	500	J	170	760	ug/Kg	8270D
Acenaphthylene	200	J	160	760	ug/Kg	8270D
Anthracene	1700		150	760	ug/Kg	8270D
Benz(a)anthracene	3800		140	760	ug/Kg	8270D
Benzo(a)pyrene	3500		160	760	ug/Kg	8270D
Benzo(b)fluoranthene	4000		140	760	ug/Kg	8270D
Benzo(g,h,i)perylene	2200		180	760	ug/Kg	8270D
Benzo(k)fluoranthene	1600		180	760	ug/Kg	8270D
Carbazole	980		190	760	ug/Kg	8270D
Chrysene	3700		150	760	ug/Kg	8270D
Dibenz(a,h)anthracene	600	J	140	760	ug/Kg	8270D
Dibenzofuran	400	J	160	760	ug/Kg	8270D
Fluoranthene	8300		180	760	ug/Kg	8270D
Fluorene	690	J	200	760	ug/Kg	8270D
Indeno(1,2,3-cd)pyrene	2400		170	760	ug/Kg	8270D
Naphthalene	370	J	160	760	ug/Kg	8270D
Phenanthrene	6800		160	760	ug/Kg	8270D
Pyrene	6900		150	760	ug/Kg	8270D

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-02-2.2-3.2			Lab ID: R1804645-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	87.9				Percent	ALS SOP
Aluminum, Total	5820		11	11	mg/Kg	6010C
Arsenic, Total	6.3		0.4	1.1	mg/Kg	6010C
Barium, Total	153		0.09	2.3	mg/Kg	6010C
Beryllium, Total	0.41		0.05	0.34	mg/Kg	6010C
Cadmium, Total	0.39	J	0.02	0.56	mg/Kg	6010C
Calcium, Total	115000		60	1100	mg/Kg	6010C
Chromium, Total	9.1		0.2	1.1	mg/Kg	6010C
Cobalt, Total	3.5	J	0.4	5.6	mg/Kg	6010C
Copper, Total	35.8		0.6	2.3	mg/Kg	6010C
Iron, Total	11800		130	140	mg/Kg	6010C
Lead, Total	282		0.3	5.6	mg/Kg	6010C
Magnesium, Total	7950		30	110	mg/Kg	6010C
Manganese, Total	391		1.2	2.3	mg/Kg	6010C
Mercury, Total	0.232		0.007	0.037	mg/Kg	7471B
Nickel, Total	8.9		0.8	4.5	mg/Kg	6010C
Potassium, Total	970		20	230	mg/Kg	6010C
Selenium, Total	0.7	J	0.5	1.1	mg/Kg	6010C
Sodium, Total	230		80	110	mg/Kg	6010C
Thallium, Total	3.1		0.6	1.1	mg/Kg	6010C
Vanadium, Total	12.1		0.8	5.6	mg/Kg	6010C
Zinc, Total	136		0.4	2.3	mg/Kg	6010C
Acenaphthene	120	J	83	380	ug/Kg	8270D
Anthracene	430		73	380	ug/Kg	8270D
Benz(a)anthracene	1000		66	380	ug/Kg	8270D
Benzo(a)pyrene	910		76	380	ug/Kg	8270D
Benzo(b)fluoranthene	1000		69	380	ug/Kg	8270D
Benzo(g,h,i)perylene	620		86	380	ug/Kg	8270D
Benzo(k)fluoranthene	400		84	380	ug/Kg	8270D
Carbazole	200	J	93	380	ug/Kg	8270D
Chrysene	990		74	380	ug/Kg	8270D
Dibenz(a,h)anthracene	160	J	68	380	ug/Kg	8270D
Dibenzofuran	100	J	77	380	ug/Kg	8270D
Fluoranthene	2100		88	380	ug/Kg	8270D
Fluorene	170	J	95	380	ug/Kg	8270D
Indeno(1,2,3-cd)pyrene	650		83	380	ug/Kg	8270D
Phenanthrene	1700		78	380	ug/Kg	8270D
Pyrene	1900		73	380	ug/Kg	8270D

CLIENT ID: LB-02-8-9			Lab ID: R1804645-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	81.1				Percent	ALS SOP

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-02-8-9			Lab ID: R1804645-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Aluminum, Total	5330		11	12	mg/Kg	6010C
Arsenic, Total	11.1		0.4	1.2	mg/Kg	6010C
Barium, Total	44.5		0.09	2.4	mg/Kg	6010C
Beryllium, Total	0.27	J	0.05	0.37	mg/Kg	6010C
Cadmium, Total	0.29	BJ	0.03	0.61	mg/Kg	6010C
Calcium, Total	19600		7	120	mg/Kg	6010C
Chromium, Total	8.5		0.2	1.2	mg/Kg	6010C
Cobalt, Total	4.1	J	0.5	6.1	mg/Kg	6010C
Copper, Total	53.0		0.6	2.4	mg/Kg	6010C
Iron, Total	14100		140	150	mg/Kg	6010C
Lead, Total	205		0.3	6.1	mg/Kg	6010C
Magnesium, Total	7450		30	120	mg/Kg	6010C
Manganese, Total	224		1.3	2.4	mg/Kg	6010C
Mercury, Total	2.90		0.04	0.20	mg/Kg	7471B
Nickel, Total	10.3		0.9	4.9	mg/Kg	6010C
Potassium, Total	830		30	240	mg/Kg	6010C
Selenium, Total	0.7	J	0.5	1.2	mg/Kg	6010C
Silver, Total	0.2	J	0.09	1.2	mg/Kg	6010C
Sodium, Total	210		80	120	mg/Kg	6010C
Vanadium, Total	13.1		0.9	6.1	mg/Kg	6010C
Zinc, Total	201		0.4	2.4	mg/Kg	6010C
Anthracene	200	J	78	400	ug/Kg	8270D
Benz(a)anthracene	510		71	400	ug/Kg	8270D
Benzo(a)pyrene	460		81	400	ug/Kg	8270D
Benzo(b)fluoranthene	550		74	400	ug/Kg	8270D
Benzo(g,h,i)perylene	310	J	92	400	ug/Kg	8270D
Benzo(k)fluoranthene	180	J	91	400	ug/Kg	8270D
Chrysene	490		79	400	ug/Kg	8270D
Dibenz(a,h)anthracene	85	J	73	400	ug/Kg	8270D
Fluoranthene	1000		95	400	ug/Kg	8270D
Indeno(1,2,3-cd)pyrene	300	J	89	400	ug/Kg	8270D
Phenanthrene	720		84	400	ug/Kg	8270D
Pyrene	870		79	400	ug/Kg	8270D

CLIENT ID: LB-03-2.4-3.4			Lab ID: R1804645-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	62.9				Percent	ALS SOP
Aluminum, Total	7300		14	15	mg/Kg	6010C
Arsenic, Total	11.8		0.5	1.5	mg/Kg	6010C
Barium, Total	102		0.2	3.0	mg/Kg	6010C
Beryllium, Total	0.41	J	0.07	0.45	mg/Kg	6010C
Cadmium, Total	0.42	J	0.03	0.76	mg/Kg	6010C

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-03-2.4-3.4			Lab ID: R1804645-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Calcium, Total	65000		80	1500	mg/Kg	6010C
Chromium, Total	12.5		0.2	1.5	mg/Kg	6010C
Cobalt, Total	5.0	J	0.5	7.6	mg/Kg	6010C
Copper, Total	61.5		0.8	3.0	mg/Kg	6010C
Iron, Total	14100		170	180	mg/Kg	6010C
Lead, Total	232		0.3	7.6	mg/Kg	6010C
Magnesium, Total	16500		30	150	mg/Kg	6010C
Manganese, Total	324		1.6	3.0	mg/Kg	6010C
Mercury, Total	0.798		0.009	0.049	mg/Kg	7471B
Nickel, Total	11.8		1.1	6.1	mg/Kg	6010C
Potassium, Total	1360		30	300	mg/Kg	6010C
Silver, Total	0.1	J	0.10	1.5	mg/Kg	6010C
Sodium, Total	420		100	150	mg/Kg	6010C
Thallium, Total	1.0	J	0.8	1.5	mg/Kg	6010C
Vanadium, Total	23.8		1.1	7.6	mg/Kg	6010C
Zinc, Total	183		0.5	3.0	mg/Kg	6010C
Benz(a)anthracene	290	J	92	520	ug/Kg	8270D
Benzo(a)pyrene	260	J	110	520	ug/Kg	8270D
Benzo(b)fluoranthene	320	J	96	520	ug/Kg	8270D
Benzo(g,h,i)perylene	200	J	120	520	ug/Kg	8270D
Chrysene	330	J	110	520	ug/Kg	8270D
Fluoranthene	560		130	520	ug/Kg	8270D
Indeno(1,2,3-cd)pyrene	190	J	120	520	ug/Kg	8270D
Phenanthrene	460	J	110	520	ug/Kg	8270D
Pyrene	500	J	110	520	ug/Kg	8270D

CLIENT ID: LB-03-8-8.9			Lab ID: R1804645-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	85.4				Percent	ALS SOP
Aluminum, Total	6030		11	12	mg/Kg	6010C
Arsenic, Total	3.3	B	0.4	1.2	mg/Kg	6010C
Barium, Total	46.9		0.09	2.3	mg/Kg	6010C
Beryllium, Total	0.28	J	0.05	0.35	mg/Kg	6010C
Cadmium, Total	0.20	BJ	0.02	0.58	mg/Kg	6010C
Calcium, Total	46400		60	1200	mg/Kg	6010C
Chromium, Total	10.2		0.2	1.2	mg/Kg	6010C
Cobalt, Total	3.8	J	0.4	5.8	mg/Kg	6010C
Copper, Total	16.1		0.6	2.3	mg/Kg	6010C
Iron, Total	10100		130	140	mg/Kg	6010C
Lead, Total	73.7		0.3	5.8	mg/Kg	6010C
Magnesium, Total	9160		30	120	mg/Kg	6010C
Manganese, Total	196		1.2	2.3	mg/Kg	6010C

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-03-8-8.9			Lab ID: R1804645-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Mercury, Total	0.233		0.007	0.036	mg/Kg	7471B
Nickel, Total	9.7		0.8	4.6	mg/Kg	6010C
Potassium, Total	1150		20	230	mg/Kg	6010C
Sodium, Total	250		80	120	mg/Kg	6010C
Vanadium, Total	13.5		0.8	5.8	mg/Kg	6010C
Zinc, Total	49.7		0.4	2.3	mg/Kg	6010C
Benz(a)anthracene	140	J	67	380	ug/Kg	8270D
Benzo(a)pyrene	130	J	78	380	ug/Kg	8270D
Benzo(b)fluoranthene	150	J	70	380	ug/Kg	8270D
Benzo(g,h,i)perylene	100	J	88	380	ug/Kg	8270D
Chrysene	130	J	76	380	ug/Kg	8270D
Fluoranthene	270	J	91	380	ug/Kg	8270D
Indeno(1,2,3-cd)pyrene	98	J	85	380	ug/Kg	8270D
Phenanthrene	240	J	80	380	ug/Kg	8270D
Pyrene	240	J	75	380	ug/Kg	8270D

CLIENT ID: LB-04-1.9-3			Lab ID: R1804645-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	75.4				Percent	ALS SOP
Aluminum, Total	4720		12	13	mg/Kg	6010C
Antimony, Total	8.6		1.4	7.8	mg/Kg	6010C
Arsenic, Total	50.4		0.4	1.3	mg/Kg	6010C
Barium, Total	1470		0.10	2.6	mg/Kg	6010C
Beryllium, Total	0.66		0.06	0.39	mg/Kg	6010C
Cadmium, Total	2.94		0.03	0.65	mg/Kg	6010C
Calcium, Total	24300		7	130	mg/Kg	6010C
Chromium, Total	34.4		0.2	1.3	mg/Kg	6010C
Cobalt, Total	8.6		0.5	6.5	mg/Kg	6010C
Copper, Total	253		0.7	2.6	mg/Kg	6010C
Iron, Total	38200		150	160	mg/Kg	6010C
Lead, Total	5660		3	65	mg/Kg	6010C
Magnesium, Total	4760		30	130	mg/Kg	6010C
Manganese, Total	281		1.4	2.6	mg/Kg	6010C
Mercury, Total	66.7		0.4	2.2	mg/Kg	7471B
Nickel, Total	13.7		0.9	5.2	mg/Kg	6010C
Potassium, Total	720		30	260	mg/Kg	6010C
Selenium, Total	4.0		0.5	1.3	mg/Kg	6010C
Silver, Total	1.1	J	0.09	1.3	mg/Kg	6010C
Sodium, Total	440		90	130	mg/Kg	6010C
Vanadium, Total	19.5		0.9	6.5	mg/Kg	6010C
Zinc, Total	2050		4	26	mg/Kg	6010C
2-Methylnaphthalene	350	J	300	1300	ug/Kg	8270D

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-04-1.9-3			Lab ID: R1804645-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Acenaphthene	880	J	290	1300	ug/Kg	8270D
Acenaphthylene	430	J	270	1300	ug/Kg	8270D
Anthracene	2500		250	1300	ug/Kg	8270D
Benz(a)anthracene	5700		230	1300	ug/Kg	8270D
Benzo(a)pyrene	5200		270	1300	ug/Kg	8270D
Benzo(b)fluoranthene	6500		240	1300	ug/Kg	8270D
Benzo(g,h,i)perylene	3500		300	1300	ug/Kg	8270D
Benzo(k)fluoranthene	2400		300	1300	ug/Kg	8270D
Carbazole	2100		330	1300	ug/Kg	8270D
Chrysene	6400		260	1300	ug/Kg	8270D
Dibenz(a,h)anthracene	1000	J	240	1300	ug/Kg	8270D
Dibenzofuran	950	J	270	1300	ug/Kg	8270D
Fluoranthene	14000		310	1300	ug/Kg	8270D
Fluorene	1300	J	330	1300	ug/Kg	8270D
Indeno(1,2,3-cd)pyrene	3800		290	1300	ug/Kg	8270D
Naphthalene	600	J	270	1300	ug/Kg	8270D
Phenanthrene	13000		270	1300	ug/Kg	8270D
Pyrene	11000		260	1300	ug/Kg	8270D

CLIENT ID: LB-05-1.7-3			Lab ID: R1804645-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	79.4				Percent	ALS SOP
Aluminum, Total	4750		12	12	mg/Kg	6010C
Antimony, Total	5.9	J	1.3	7.3	mg/Kg	6010C
Arsenic, Total	13.8		0.4	1.2	mg/Kg	6010C
Barium, Total	258		0.09	2.4	mg/Kg	6010C
Beryllium, Total	0.48		0.05	0.37	mg/Kg	6010C
Cadmium, Total	0.83		0.03	0.61	mg/Kg	6010C
Calcium, Total	26100		7	120	mg/Kg	6010C
Chromium, Total	13.3		0.2	1.2	mg/Kg	6010C
Cobalt, Total	5.9	J	0.5	6.1	mg/Kg	6010C
Copper, Total	1270		6	24	mg/Kg	6010C
Iron, Total	12500		140	150	mg/Kg	6010C
Lead, Total	2140		3	61	mg/Kg	6010C
Magnesium, Total	2640		30	120	mg/Kg	6010C
Manganese, Total	303		1.3	2.4	mg/Kg	6010C
Mercury, Total	3.23		0.04	0.20	mg/Kg	7471B
Nickel, Total	7.2		0.9	4.9	mg/Kg	6010C
Potassium, Total	750		30	240	mg/Kg	6010C
Selenium, Total	1.5		0.5	1.2	mg/Kg	6010C
Silver, Total	0.8	J	0.09	1.2	mg/Kg	6010C
Sodium, Total	520		80	120	mg/Kg	6010C

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-05-1.7-3			Lab ID: R1804645-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Vanadium, Total	16.6		0.9	6.1	mg/Kg	6010C
Zinc, Total	543		4	24	mg/Kg	6010C
Acenaphthene	110	J	92	410	ug/Kg	8270D
Anthracene	300	J	80	410	ug/Kg	8270D
Benz(a)anthracene	660		73	410	ug/Kg	8270D
Benzo(a)pyrene	660		84	410	ug/Kg	8270D
Benzo(b)fluoranthene	850		76	410	ug/Kg	8270D
Benzo(g,h,i)perylene	490		95	410	ug/Kg	8270D
Benzo(k)fluoranthene	300	J	93	410	ug/Kg	8270D
Carbazole	120	J	110	410	ug/Kg	8270D
Chrysene	680		82	410	ug/Kg	8270D
Dibenz(a,h)anthracene	140	J	75	410	ug/Kg	8270D
Dibenzofuran	97	J	85	410	ug/Kg	8270D
Fluoranthene	1300		98	410	ug/Kg	8270D
Fluorene	120	J	110	410	ug/Kg	8270D
Indeno(1,2,3-cd)pyrene	540		92	410	ug/Kg	8270D
Phenanthrene	1100		86	410	ug/Kg	8270D
Pyrene	1100		81	410	ug/Kg	8270D

CLIENT ID: LB-06-5.3-7			Lab ID: R1804645-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	83.6				Percent	ALS SOP
Aluminum, Total	4260		11	12	mg/Kg	6010C
Arsenic, Total	7.8		0.4	1.2	mg/Kg	6010C
Barium, Total	78.3		0.09	2.4	mg/Kg	6010C
Beryllium, Total	0.21	J	0.05	0.36	mg/Kg	6010C
Cadmium, Total	0.50	J	0.03	0.59	mg/Kg	6010C
Calcium, Total	39200		70	1200	mg/Kg	6010C
Chromium, Total	9.7		0.2	1.2	mg/Kg	6010C
Cobalt, Total	3.4	J	0.4	5.9	mg/Kg	6010C
Copper, Total	129		0.6	2.4	mg/Kg	6010C
Iron, Total	10600		140	140	mg/Kg	6010C
Lead, Total	149		0.3	5.9	mg/Kg	6010C
Magnesium, Total	5740		30	120	mg/Kg	6010C
Manganese, Total	178		1.2	2.4	mg/Kg	6010C
Mercury, Total	1.73		0.007	0.038	mg/Kg	7471B
Nickel, Total	7.6		0.9	4.7	mg/Kg	6010C
Potassium, Total	930		30	240	mg/Kg	6010C
Silver, Total	0.2	J	0.08	1.2	mg/Kg	6010C
Sodium, Total	370		80	120	mg/Kg	6010C
Vanadium, Total	11.2		0.8	5.9	mg/Kg	6010C
Zinc, Total	364		0.4	2.4	mg/Kg	6010C

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-06-5.3-7			Lab ID: R1804645-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
2-Methylnaphthalene	92	J	89	390	ug/Kg	8270D
Acenaphthene	270	J	87	390	ug/Kg	8270D
Anthracene	830		76	390	ug/Kg	8270D
Benz(a)anthracene	1300		69	390	ug/Kg	8270D
Benzo(a)pyrene	1200		80	390	ug/Kg	8270D
Benzo(b)fluoranthene	1300		72	390	ug/Kg	8270D
Benzo(g,h,i)perylene	660		90	390	ug/Kg	8270D
Benzo(k)fluoranthene	490		89	390	ug/Kg	8270D
Carbazole	350	J	98	390	ug/Kg	8270D
Chrysene	1300		78	390	ug/Kg	8270D
Dibenz(a,h)anthracene	190	J	72	390	ug/Kg	8270D
Dibenzofuran	210	J	81	390	ug/Kg	8270D
Fluoranthene	2900		93	390	ug/Kg	8270D
Fluorene	350	J	99	390	ug/Kg	8270D
Indeno(1,2,3-cd)pyrene	740		87	390	ug/Kg	8270D
Naphthalene	110	J	81	390	ug/Kg	8270D
Phenanthrene	3100		82	390	ug/Kg	8270D
Pyrene	2500		77	390	ug/Kg	8270D

CLIENT ID: LB-06-8.8-9.8			Lab ID: R1804645-009			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Total Solids	85.0				Percent	ALS SOP
Aluminum, Total	2420		11	11	mg/Kg	6010C
Arsenic, Total	3.9		0.4	1.1	mg/Kg	6010C
Barium, Total	189		0.09	2.3	mg/Kg	6010C
Beryllium, Total	0.13	J	0.05	0.34	mg/Kg	6010C
Cadmium, Total	0.43	J	0.02	0.57	mg/Kg	6010C
Calcium, Total	57500		60	1100	mg/Kg	6010C
Chromium, Total	7.5		0.2	1.1	mg/Kg	6010C
Cobalt, Total	2.2	J	0.4	5.7	mg/Kg	6010C
Copper, Total	16.6		0.6	2.3	mg/Kg	6010C
Iron, Total	7080		130	140	mg/Kg	6010C
Lead, Total	176		0.3	5.7	mg/Kg	6010C
Magnesium, Total	4340		30	110	mg/Kg	6010C
Manganese, Total	109		1.2	2.3	mg/Kg	6010C
Mercury, Total	0.643		0.007	0.039	mg/Kg	7471B
Nickel, Total	6.4		0.8	4.6	mg/Kg	6010C
Potassium, Total	660		20	230	mg/Kg	6010C
Sodium, Total	500		80	110	mg/Kg	6010C
Thallium, Total	1.7		0.6	1.1	mg/Kg	6010C
Vanadium, Total	8.0		0.8	5.7	mg/Kg	6010C
Zinc, Total	430		0.4	2.3	mg/Kg	6010C

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-06-8.8-9.8			Lab ID: R1804645-009			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Phenanthrene	100	J	81	390	ug/Kg	8270D

Sample Receipt Information

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Client: The LiRo Group **Service Request:**R1804645

Project: South Ave Block Phase II/09-75-104

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1804645-001	LB-01-2.5-3.5	5/18/2018	0920
R1804645-002	LB-02-2.2-3.2	5/18/2018	1150
R1804645-003	LB-02-8-9	5/18/2018	1205
R1804645-004	LB-03-2.4-3.4	5/18/2018	1300
R1804645-005	LB-03-8-8.9	5/18/2018	1315
R1804645-006	LB-04-1.9-3	5/18/2018	1345
R1804645-007	LB-05-1.7-3	5/18/2018	1400
R1804645-008	LB-06-5.3-7	5/18/2018	1430
R1804645-009	LB-06-8.8-9.8	5/18/2018	1500

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 51296

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

Project Name: South Ave Block Phase II	Project Number: 09-75-104
Project Manager: Steve Frank	Report CC: Jon Williams
Company/Address: LiRo Engineers, Inc. 690 Delaware Avenue Buffalo NY 14209	
Phone #: 716-882-5476	Email: williamsj@liro.com
Sampler's Signature:	Sampler's Printed Name: Jon Williams

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

PRESERVATIVE: 8 | 8

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs • 8260 • 624 • CLP	GC/MS SVOAs • 8270 • 625	GC VOAs • 8021 • 601/602	PESTICIDES • 8081 • 608	PCBs • 8082 • 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)
LB-01-2.5-3.5		5/18/18	0920	Soil	2		X				X	
LB-02-2.2-3.2			1150		2		X				X	
LB-02-8-9			1205		2		X				X	
LB-03-2.4-3.4			1300		2		X				X	
LB-03-8-8.9			1315		2		X				X	
LB-04-1.9-3			1345		2		X				X	
LB-05-1.7-3			1400		2		X				X	
LB-06-5.3-7			1430		2		X				X	
LB-06-8.8-9.8			1500		2		X				X	

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

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS
Metals
NYSDEC Equis EDD

See QAPP ☐

STATE WHERE SAMPLES WERE COLLECTED: New York

TURNAROUND REQUIREMENTS
X RUSH (SURCHARGES APPLY)
___ 1 day ___ 2 day X 3 day
___ 4 day ___ 5 day
___ Standard (10 business days-No Surcharge)

REQUESTED REPORT DATE: 5/24/18

REPORT REQUIREMENTS
___ I. Results Only
___ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)
___ III. Results + QC and Calibration Summaries
X IV. Data Validation Report with Raw Data

Edata X Yes ___ No

INVOICE INFORMATION
PO # 09-75-104
BILL TO: LiRo Engineers, Inc.
690 Delaware Ave.
Buffalo NY 14209
Attn. Anette Gorecki

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature Gary Boban	Signature Gary Boban	Signature	Signature	Signature
Printed Name Jon Williams	Printed Name Gary Boban	Printed Name Gary Boban	Printed Name Daniel Mroz	Printed Name	
Firm LiRo	Firm ALS	Firm ALS	Firm ALS	Firm	
Date/Time 5/21/18 0900	Date/Time 5/21/18 1320	Date/Time 5/21/18 1545	Date/Time 05/21/18/ 1545	Date/Time	

R1804645 5
The LiRo Group
South Ave Block Phase II

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

Cooler Receipt and Preservation Check Form

R1804645 — 5
The LIRo Group
South Ave Block Phase II

Project/Client LiRo Eng. Folder Number

Cooler received on 5/21/18 by: DR

COURIER: ~~ALS~~ UPS FEDEX VELOCITY CLIENT

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

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

8. Temperature Readings Date: 5/21/18 Time: 1658 ID: IR#7 ~~IR#9~~ From: Temp Blank Sample Bottle

Observed Temp (°C)	5.7 C						
Correction Factor (°C)	+0.0						
Corrected Temp (°C)	5.7						
Temp from:Type of bottle							
Within 0-6°C?	(Y) N	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

If out of Temperature, note packing/ice condition: Ice melted Poorly Packed (described below) Same Day Rule

&Client Approval to Run Samples: Standing Approval Client aware at drop-off Client notified by:

All samples held in storage location: R-002 by DR on 5/21/18 at 1658
5035 samples placed in storage location: by on at

Cooler Breakdown/Preservation Check**: Date: 5/22/18 Time: 0910 by:

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

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-						
		HCl	**	**						

**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).

Bottle lot numbers: 021918-15K 021918-13NY

Explain all Discrepancies/ Other Comments:

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

Labels secondary reviewed by:

PC Secondary Review:

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

Miscellaneous Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

REPORT QUALIFIERS AND DEFINITIONS

U	Analyte was analyzed for but not detected. The sample quantitation limit has been corrected for dilution and for percent moisture, unless otherwise noted in the case narrative.
J	Estimated value due to either being a Tentatively Identified Compound (TIC) or that the concentration is between the MRL and the MDL. Concentrations are not verified within the linear range of the calibration. For DoD: concentration >40% difference between two GC columns (pesticides/Arclors).
B	Analyte was also detected in the associated method blank at a concentration that may have contributed to the sample result.
E	Inorganics- Concentration is estimated due to the serial dilution was outside control limits.
E	Organics- Concentration has exceeded the calibration range for that specific analysis.
D	Concentration is a result of a dilution, typically a secondary analysis of the sample due to exceeding the calibration range or that a surrogate has been diluted out of the sample and cannot be assessed.
*	Indicates that a quality control parameter has exceeded laboratory limits. Under the ñNotesò column of the Form I, this qualifier denotes analysis was performed out of Holding Time.
H	Analysis was performed out of hold time for tests that have an ñimmediateò hold time criteria.
#	Spike was diluted out.
+	Correlation coefficient for MSA is <0.995.
N	Inorganics- Matrix spike recovery was outside laboratory limits.
N	Organics- Presumptive evidence of a compound (reported as a TIC) based on the MS library search.
S	Concentration has been determined using Method of Standard Additions (MSA).
W	Post-Digestion Spike recovery is outside control limits and the sample absorbance is <50% of the spike absorbance.
P	Concentration >40% difference between the two GC columns.
C	Confirmed by GC/MS
Q	DoD reports: indicates a pesticide/Aroclor is not confirmed (Ó100% Difference between two GC columns).
X	See Case Narrative for discussion.
MRL LOQ	Method Reporting Limit. Also known as: Limit of Quantitation (LOQ) The lowest concentration at which the method analyte may be reliably quantified under the method conditions.
MDL	Method Detection Limit. A statistical value derived from a study designed to provide the lowest concentration that will be detected 99% of the time. Values between the MDL and MRL are estimated (see J qualifier).
LOD	Limit of Detection. A value at or above the MDL which has been verified to be detectable.
ND	Non-Detect. Analyte was not detected at the concentration listed. Same as U qualifier.

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Delaware Approved	New Jersey ID # NY004	
DoD ELAP #65817	New York ID # 10145	Pennsylvania ID# 68-786
Florida ID # E87674	North Carolina #676	Rhode Island ID # 158
		Virginia #460167

[1] Analyses were performed according to our laboratoryôs NELAP-approved quality assurance program and any applicable state or agency requirements. The test results meet requirements of the current NELAP/TNI standards or state or agency requirements, where applicable, except as noted in the case narrative. Since not all analyte/method/matrix combinations are offered for state/NELAC accreditation, this report may contain results which are not accredited. For a specific list of accredited analytes, contact the laboratory or go to https://www.alsglobal.com/locations/americas/north-america/usa/new-york/rochester-environmental

ALS Laboratory Group

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client: The LiRo Group **Service Request:** R1804645
Project: South Ave Block Phase II/09-75-104

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
ALS SOP	Soil	Total Solids

Client: The LiRo Group
Project: South Ave Block Phase II/09-75-104
Service Request: R1804645

Sample Name: LB-01-2.5-3.5
Lab Code: R1804645-001
Sample Matrix: Soil
Date Collected: 05/18/18
Date Received: 05/21/18

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7471B	KMCLAEN	KMCLAEN
8270D	DMURPHY	JMISIUREWICZ
ALS SOP		KWONG

Sample Name: LB-02-2.2-3.2
Lab Code: R1804645-002
Sample Matrix: Soil
Date Collected: 05/18/18
Date Received: 05/21/18

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7471B	KMCLAEN	KMCLAEN
8270D	DMURPHY	JMISIUREWICZ
ALS SOP		KWONG

Sample Name: LB-02-8-9
Lab Code: R1804645-003
Sample Matrix: Soil
Date Collected: 05/18/18
Date Received: 05/21/18

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7471B	KMCLAEN	KMCLAEN
8270D	DMURPHY	JMISIUREWICZ
ALS SOP		KWONG

Sample Name: LB-03-2.4-3.4
Lab Code: R1804645-004
Sample Matrix: Soil
Date Collected: 05/18/18
Date Received: 05/21/18

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN

Client: The LiRo Group **Service Request:** R1804645
Project: South Ave Block Phase II/09-75-104

Sample Name: LB-03-2.4-3.4 **Date Collected:** 05/18/18
Lab Code: R1804645-004 **Date Received:** 05/21/18
Sample Matrix: Soil

Analysis Method	Extracted/Digested By	Analyzed By
7471B	KMCLAEN	KMCLAEN
8270D	DMURPHY	JMISIUREWICZ
ALS SOP		KWONG

Sample Name: LB-03-8-8.9 **Date Collected:** 05/18/18
Lab Code: R1804645-005 **Date Received:** 05/21/18
Sample Matrix: Soil

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7471B	KMCLAEN	KMCLAEN
8270D	DMURPHY	JMISIUREWICZ
ALS SOP		KWONG

Sample Name: LB-04-1.9-3 **Date Collected:** 05/18/18
Lab Code: R1804645-006 **Date Received:** 05/21/18
Sample Matrix: Soil

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7471B	KMCLAEN	KMCLAEN
8270D	DMURPHY	JMISIUREWICZ
ALS SOP		KWONG

Sample Name: LB-05-1.7-3 **Date Collected:** 05/18/18
Lab Code: R1804645-007 **Date Received:** 05/21/18
Sample Matrix: Soil

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7471B	KMCLAEN	KMCLAEN

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104		

Sample Name:	LB-05-1.7-3	**Date Collected:**	05/18/18
Lab Code:	R1804645-007	**Date Received:**	05/21/18
Sample Matrix:	Soil		

Analysis Method	Extracted/Digested By	Analyzed By
8270D	DMURPHY	JMISIUREWICZ
ALS SOP		KWONG

Sample Name:	LB-06-5.3-7	**Date Collected:**	05/18/18
Lab Code:	R1804645-008	**Date Received:**	05/21/18
Sample Matrix:	Soil		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7471B	KMCLAEN	KMCLAEN
8270D	DMURPHY	JMISIUREWICZ
ALS SOP		KWONG

Sample Name:	LB-06-8.8-9.8	**Date Collected:**	05/18/18
Lab Code:	R1804645-009	**Date Received:**	05/21/18
Sample Matrix:	Soil		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7471B	KMCLAEN	KMCLAEN
8270D	DMURPHY	JMISIUREWICZ
ALS SOP		KWONG

The preparation methods associated with this report are found in these tables unless discussed in the case narrative.

Water/Liquid Matrix

Analytical Method	Preparation Method
200.7	200.2
200.8	200.2
6010C	3005A/3010A
6020A	ILM05.3
9014 Cyanide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Reactivity	SW846 Ch7, 7.3.4.2
9034 Sulfide Acid Soluble	9030B
9056A Bomb (Halogens)	5050A
9066 Manual Distillation	9065
SM 4500-CN-E Residual Cyanide	SM 4500-CN-G
SM 4500-CN-E WAD Cyanide	SM 4500-CN-I

Solid/Soil/Non-Aqueous Matrix

Analytical Method	Preparation Method
6010C	3050B
6020A	3050B
6010C TCLP (1311) extract	3005A/3010A
6010 SPLP (1312) extract	3005A/3010A
7196A	3060A
7199	3060A
9056A Halogens/Halides	5050
300.0 Anions/ 350.1/ 353.2/ SM 2320B/ SM 5210B/ 9056A Anions	DI extraction

For analytical methods not listed, the preparation method is the same as the analytical method reference.

Sample Results

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
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Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 09:20
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-01-2.5-3.5	**Units:**	ug/Kg
Lab Code:	R1804645-001	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	760 U	760	230	2	05/23/18 14:50	5/22/18	
2,3,4,6-Tetrachlorophenol	760 U	760	190	2	05/23/18 14:50	5/22/18	
2,4,5-Trichlorophenol	760 U	760	190	2	05/23/18 14:50	5/22/18	
2,4,6-Trichlorophenol	760 U	760	200	2	05/23/18 14:50	5/22/18	
2,4-Dichlorophenol	760 U	760	160	2	05/23/18 14:50	5/22/18	
2,4-Dimethylphenol	760 U	760	150	2	05/23/18 14:50	5/22/18	
2,4-Dinitrophenol	3900 U	3900	150	2	05/23/18 14:50	5/22/18	
2,4-Dinitrotoluene	760 U	760	200	2	05/23/18 14:50	5/22/18	
2,6-Dinitrotoluene	760 U	760	270	2	05/23/18 14:50	5/22/18	
2-Chloronaphthalene	760 U	760	170	2	05/23/18 14:50	5/22/18	
2-Chlorophenol	760 U	760	190	2	05/23/18 14:50	5/22/18	
2-Methylnaphthalene	**200 J**	760	180	2	05/23/18 14:50	5/22/18	
2-Methylphenol	760 U	760	190	2	05/23/18 14:50	5/22/18	
2-Nitroaniline	3900 U	3900	220	2	05/23/18 14:50	5/22/18	
2-Nitrophenol	760 U	760	180	2	05/23/18 14:50	5/22/18	
3,3'-Dichlorobenzidine	760 U	760	240	2	05/23/18 14:50	5/22/18	
3- and 4-Methylphenol Coelution	760 U	760	200	2	05/23/18 14:50	5/22/18	
3-Nitroaniline	3900 U	3900	170	2	05/23/18 14:50	5/22/18	
4,6-Dinitro-2-methylphenol	3900 U	3900	170	2	05/23/18 14:50	5/22/18	
4-Bromophenyl Phenyl Ether	760 U	760	220	2	05/23/18 14:50	5/22/18	
4-Chloro-3-methylphenol	760 U	760	180	2	05/23/18 14:50	5/22/18	
4-Chloroaniline	760 U	760	91	2	05/23/18 14:50	5/22/18	
4-Chlorophenyl Phenyl Ether	760 U	760	190	2	05/23/18 14:50	5/22/18	
4-Nitroaniline	3900 U	3900	170	2	05/23/18 14:50	5/22/18	
4-Nitrophenol	3900 U	3900	450	2	05/23/18 14:50	5/22/18	
Acenaphthene	**500 J**	760	170	2	05/23/18 14:50	5/22/18	
Acenaphthylene	**200 J**	760	160	2	05/23/18 14:50	5/22/18	
Acetophenone	760 U	760	180	2	05/23/18 14:50	5/22/18	
Anthracene	**1700**	760	150	2	05/23/18 14:50	5/22/18	
Atrazine	760 U	760	210	2	05/23/18 14:50	5/22/18	
Benz(a)anthracene	**3800**	760	140	2	05/23/18 14:50	5/22/18	
Benzaldehyde	3900 U	3900	190	2	05/23/18 14:50	5/22/18	
Benzo(a)pyrene	**3500**	760	160	2	05/23/18 14:50	5/22/18	
Benzo(b)fluoranthene	**4000**	760	140	2	05/23/18 14:50	5/22/18	
Benzo(g,h,i)perylene	**2200**	760	180	2	05/23/18 14:50	5/22/18	
Benzo(k)fluoranthene	**1600**	760	180	2	05/23/18 14:50	5/22/18	
Biphenyl	760 U	760	180	2	05/23/18 14:50	5/22/18	
2,2'-Oxybis(1-chloropropane)	760 U	760	190	2	05/23/18 14:50	5/22/18	
Bis(2-chloroethoxy)methane	760 U	760	180	2	05/23/18 14:50	5/22/18	
Bis(2-chloroethyl) Ether	760 U	760	140	2	05/23/18 14:50	5/22/18	
Bis(2-ethylhexyl) Phthalate	1200 U	1200	1100	2	05/23/18 14:50	5/22/18	
Butyl Benzyl Phthalate	760 U	760	150	2	05/23/18 14:50	5/22/18	
Caprolactam	760 U	760	170	2	05/23/18 14:50	5/22/18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 09:20
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-01-2.5-3.5	**Units:**	ug/Kg
Lab Code:	R1804645-001	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	**980**	760	190	2	05/23/18 14:50	5/22/18	
Chrysene	**3700**	760	150	2	05/23/18 14:50	5/22/18	
Di-n-butyl Phthalate	760 U	760	260	2	05/23/18 14:50	5/22/18	
Di-n-octyl Phthalate	760 U	760	230	2	05/23/18 14:50	5/22/18	
Dibenz(a,h)anthracene	**600 J**	760	140	2	05/23/18 14:50	5/22/18	
Dibenzofuran	**400 J**	760	160	2	05/23/18 14:50	5/22/18	
Diethyl Phthalate	760 U	760	420	2	05/23/18 14:50	5/22/18	
Dimethyl Phthalate	760 U	760	210	2	05/23/18 14:50	5/22/18	
Fluoranthene	**8300**	760	180	2	05/23/18 14:50	5/22/18	
Fluorene	**690 J**	760	200	2	05/23/18 14:50	5/22/18	
Hexachlorobenzene	760 U	760	180	2	05/23/18 14:50	5/22/18	
Hexachlorobutadiene	760 U	760	130	2	05/23/18 14:50	5/22/18	
Hexachlorocyclopentadiene	760 U	760	130	2	05/23/18 14:50	5/22/18	
Hexachloroethane	760 U	760	140	2	05/23/18 14:50	5/22/18	
Indeno(1,2,3-cd)pyrene	**2400**	760	170	2	05/23/18 14:50	5/22/18	
Isophorone	760 U	760	170	2	05/23/18 14:50	5/22/18	
N-Nitrosodi-n-propylamine	760 U	760	140	2	05/23/18 14:50	5/22/18	
N-Nitrosodiphenylamine	760 U	760	340	2	05/23/18 14:50	5/22/18	
Naphthalene	**370 J**	760	160	2	05/23/18 14:50	5/22/18	
Nitrobenzene	760 U	760	160	2	05/23/18 14:50	5/22/18	
Pentachlorophenol (PCP)	3900 U	3900	260	2	05/23/18 14:50	5/22/18	
Phenanthrene	**6800**	760	160	2	05/23/18 14:50	5/22/18	
Phenol	760 U	760	170	2	05/23/18 14:50	5/22/18	
Pyrene	**6900**	760	150	2	05/23/18 14:50	5/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	77	10 - 109	05/23/18 14:50	
2-Fluorobiphenyl	44	10 - 102	05/23/18 14:50	
2-Fluorophenol	39	10 - 88	05/23/18 14:50	
Nitrobenzene-d5	41	10 - 95	05/23/18 14:50	
Phenol-d6	43	10 - 145	05/23/18 14:50	
Terphenyl-d14	82	10 - 106	05/23/18 14:50	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 11:50
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-02-2.2-3.2	**Units:**	ug/Kg
Lab Code:	R1804645-002	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	380 U	380	110	1	05/22/18 17:24	5/22/18	
2,3,4,6-Tetrachlorophenol	380 U	380	93	1	05/22/18 17:24	5/22/18	
2,4,5-Trichlorophenol	380 U	380	94	1	05/22/18 17:24	5/22/18	
2,4,6-Trichlorophenol	380 U	380	97	1	05/22/18 17:24	5/22/18	
2,4-Dichlorophenol	380 U	380	77	1	05/22/18 17:24	5/22/18	
2,4-Dimethylphenol	380 U	380	72	1	05/22/18 17:24	5/22/18	
2,4-Dinitrophenol	1900 U	1900	70	1	05/22/18 17:24	5/22/18	
2,4-Dinitrotoluene	380 U	380	98	1	05/22/18 17:24	5/22/18	
2,6-Dinitrotoluene	380 U	380	140	1	05/22/18 17:24	5/22/18	
2-Chloronaphthalene	380 U	380	83	1	05/22/18 17:24	5/22/18	
2-Chlorophenol	380 U	380	91	1	05/22/18 17:24	5/22/18	
2-Methylnaphthalene	380 U	380	85	1	05/22/18 17:24	5/22/18	
2-Methylphenol	380 U	380	91	1	05/22/18 17:24	5/22/18	
2-Nitroaniline	1900 U	1900	110	1	05/22/18 17:24	5/22/18	
2-Nitrophenol	380 U	380	86	1	05/22/18 17:24	5/22/18	
3,3'-Dichlorobenzidine	380 U	380	120	1	05/22/18 17:24	5/22/18	
3- and 4-Methylphenol Coelution	380 U	380	95	1	05/22/18 17:24	5/22/18	
3-Nitroaniline	1900 U	1900	81	1	05/22/18 17:24	5/22/18	
4,6-Dinitro-2-methylphenol	1900 U	1900	82	1	05/22/18 17:24	5/22/18	
4-Bromophenyl Phenyl Ether	380 U	380	110	1	05/22/18 17:24	5/22/18	
4-Chloro-3-methylphenol	380 U	380	86	1	05/22/18 17:24	5/22/18	
4-Chloroaniline	380 U	380	45	1	05/22/18 17:24	5/22/18	
4-Chlorophenyl Phenyl Ether	380 U	380	90	1	05/22/18 17:24	5/22/18	
4-Nitroaniline	1900 U	1900	83	1	05/22/18 17:24	5/22/18	
4-Nitrophenol	1900 U	1900	220	1	05/22/18 17:24	5/22/18	
Acenaphthene	**120 J**	380	83	1	05/22/18 17:24	5/22/18	
Acenaphthylene	380 U	380	77	1	05/22/18 17:24	5/22/18	
Acetophenone	380 U	380	88	1	05/22/18 17:24	5/22/18	
Anthracene	**430**	380	73	1	05/22/18 17:24	5/22/18	
Atrazine	380 U	380	110	1	05/22/18 17:24	5/22/18	
Benz(a)anthracene	**1000**	380	66	1	05/22/18 17:24	5/22/18	
Benzaldehyde	1900 U	1900	89	1	05/22/18 17:24	5/22/18	
Benzo(a)pyrene	**910**	380	76	1	05/22/18 17:24	5/22/18	
Benzo(b)fluoranthene	**1000**	380	69	1	05/22/18 17:24	5/22/18	
Benzo(g,h,i)perylene	**620**	380	86	1	05/22/18 17:24	5/22/18	
Benzo(k)fluoranthene	**400**	380	84	1	05/22/18 17:24	5/22/18	
Biphenyl	380 U	380	88	1	05/22/18 17:24	5/22/18	
2,2'-Oxybis(1-chloropropane)	380 U	380	92	1	05/22/18 17:24	5/22/18	
Bis(2-chloroethoxy)methane	380 U	380	86	1	05/22/18 17:24	5/22/18	
Bis(2-chloroethyl) Ether	380 U	380	69	1	05/22/18 17:24	5/22/18	
Bis(2-ethylhexyl) Phthalate	570 U	570	520	1	05/22/18 17:24	5/22/18	
Butyl Benzyl Phthalate	380 U	380	72	1	05/22/18 17:24	5/22/18	
Caprolactam	380 U	380	84	1	05/22/18 17:24	5/22/18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 11:50
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-02-2.2-3.2	**Units:**	ug/Kg
Lab Code:	R1804645-002	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	**200**	**J**	380	93	1	05/22/18 17:24	5/22/18	
Chrysene	**990**		380	74	1	05/22/18 17:24	5/22/18	
Di-n-butyl Phthalate	380	U	380	130	1	05/22/18 17:24	5/22/18	
Di-n-octyl Phthalate	380	U	380	120	1	05/22/18 17:24	5/22/18	
Dibenz(a,h)anthracene	**160**	**J**	380	68	1	05/22/18 17:24	5/22/18	
Dibenzofuran	**100**	**J**	380	77	1	05/22/18 17:24	5/22/18	
Diethyl Phthalate	380	U	380	210	1	05/22/18 17:24	5/22/18	
Dimethyl Phthalate	380	U	380	110	1	05/22/18 17:24	5/22/18	
Fluoranthene	**2100**		380	88	1	05/22/18 17:24	5/22/18	
Fluorene	**170**	**J**	380	95	1	05/22/18 17:24	5/22/18	
Hexachlorobenzene	380	U	380	88	1	05/22/18 17:24	5/22/18	
Hexachlorobutadiene	380	U	380	64	1	05/22/18 17:24	5/22/18	
Hexachlorocyclopentadiene	380	U	380	62	1	05/22/18 17:24	5/22/18	
Hexachloroethane	380	U	380	66	1	05/22/18 17:24	5/22/18	
Indeno(1,2,3-cd)pyrene	**650**		380	83	1	05/22/18 17:24	5/22/18	
Isophorone	380	U	380	81	1	05/22/18 17:24	5/22/18	
N-Nitrosodi-n-propylamine	380	U	380	68	1	05/22/18 17:24	5/22/18	
N-Nitrosodiphenylamine	380	U	380	170	1	05/22/18 17:24	5/22/18	
Naphthalene	380	U	380	77	1	05/22/18 17:24	5/22/18	
Nitrobenzene	380	U	380	77	1	05/22/18 17:24	5/22/18	
Pentachlorophenol (PCP)	1900	U	1900	130	1	05/22/18 17:24	5/22/18	
Phenanthrene	**1700**		380	78	1	05/22/18 17:24	5/22/18	
Phenol	380	U	380	82	1	05/22/18 17:24	5/22/18	
Pyrene	**1900**		380	73	1	05/22/18 17:24	5/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	73	10 - 109	05/22/18 17:24	
2-Fluorobiphenyl	46	10 - 102	05/22/18 17:24	
2-Fluorophenol	40	10 - 88	05/22/18 17:24	
Nitrobenzene-d5	45	10 - 95	05/22/18 17:24	
Phenol-d6	44	10 - 145	05/22/18 17:24	
Terphenyl-d14	74	10 - 106	05/22/18 17:24	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 12:05
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-02-8-9	**Units:**	ug/Kg
Lab Code:	R1804645-003	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	400 U	400	120	1	05/22/18 17:52	5/22/18	
2,3,4,6-Tetrachlorophenol	400 U	400	100	1	05/22/18 17:52	5/22/18	
2,4,5-Trichlorophenol	400 U	400	110	1	05/22/18 17:52	5/22/18	
2,4,6-Trichlorophenol	400 U	400	110	1	05/22/18 17:52	5/22/18	
2,4-Dichlorophenol	400 U	400	83	1	05/22/18 17:52	5/22/18	
2,4-Dimethylphenol	400 U	400	77	1	05/22/18 17:52	5/22/18	
2,4-Dinitrophenol	2100 U	2100	76	1	05/22/18 17:52	5/22/18	
2,4-Dinitrotoluene	400 U	400	110	1	05/22/18 17:52	5/22/18	
2,6-Dinitrotoluene	400 U	400	150	1	05/22/18 17:52	5/22/18	
2-Chloronaphthalene	400 U	400	89	1	05/22/18 17:52	5/22/18	
2-Chlorophenol	400 U	400	98	1	05/22/18 17:52	5/22/18	
2-Methylnaphthalene	400 U	400	91	1	05/22/18 17:52	5/22/18	
2-Methylphenol	400 U	400	98	1	05/22/18 17:52	5/22/18	
2-Nitroaniline	2100 U	2100	120	1	05/22/18 17:52	5/22/18	
2-Nitrophenol	400 U	400	92	1	05/22/18 17:52	5/22/18	
3,3'-Dichlorobenzidine	400 U	400	130	1	05/22/18 17:52	5/22/18	
3- and 4-Methylphenol Coelution	400 U	400	110	1	05/22/18 17:52	5/22/18	
3-Nitroaniline	2100 U	2100	87	1	05/22/18 17:52	5/22/18	
4,6-Dinitro-2-methylphenol	2100 U	2100	87	1	05/22/18 17:52	5/22/18	
4-Bromophenyl Phenyl Ether	400 U	400	120	1	05/22/18 17:52	5/22/18	
4-Chloro-3-methylphenol	400 U	400	92	1	05/22/18 17:52	5/22/18	
4-Chloroaniline	400 U	400	49	1	05/22/18 17:52	5/22/18	
4-Chlorophenyl Phenyl Ether	400 U	400	96	1	05/22/18 17:52	5/22/18	
4-Nitroaniline	2100 U	2100	89	1	05/22/18 17:52	5/22/18	
4-Nitrophenol	2100 U	2100	240	1	05/22/18 17:52	5/22/18	
Acenaphthene	400 U	400	89	1	05/22/18 17:52	5/22/18	
Acenaphthylene	400 U	400	82	1	05/22/18 17:52	5/22/18	
Acetophenone	400 U	400	94	1	05/22/18 17:52	5/22/18	
Anthracene	**200 J**	400	78	1	05/22/18 17:52	5/22/18	
Atrazine	400 U	400	110	1	05/22/18 17:52	5/22/18	
Benz(a)anthracene	**510**	400	71	1	05/22/18 17:52	5/22/18	
Benzaldehyde	2100 U	2100	96	1	05/22/18 17:52	5/22/18	
Benzo(a)pyrene	**460**	400	81	1	05/22/18 17:52	5/22/18	
Benzo(b)fluoranthene	**550**	400	74	1	05/22/18 17:52	5/22/18	
Benzo(g,h,i)perylene	**310 J**	400	92	1	05/22/18 17:52	5/22/18	
Benzo(k)fluoranthene	**180 J**	400	91	1	05/22/18 17:52	5/22/18	
Biphenyl	400 U	400	94	1	05/22/18 17:52	5/22/18	
2,2'-Oxybis(1-chloropropane)	400 U	400	99	1	05/22/18 17:52	5/22/18	
Bis(2-chloroethoxy)methane	400 U	400	92	1	05/22/18 17:52	5/22/18	
Bis(2-chloroethyl) Ether	400 U	400	74	1	05/22/18 17:52	5/22/18	
Bis(2-ethylhexyl) Phthalate	610 U	610	560	1	05/22/18 17:52	5/22/18	
Butyl Benzyl Phthalate	400 U	400	77	1	05/22/18 17:52	5/22/18	
Caprolactam	400 U	400	90	1	05/22/18 17:52	5/22/18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 12:05
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-02-8-9	**Units:**	ug/Kg
Lab Code:	R1804645-003	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	400	U	400	100	1	05/22/18 17:52	5/22/18	
Chrysene	**490**		400	79	1	05/22/18 17:52	5/22/18	
Di-n-butyl Phthalate	400	U	400	140	1	05/22/18 17:52	5/22/18	
Di-n-octyl Phthalate	400	U	400	130	1	05/22/18 17:52	5/22/18	
Dibenz(a,h)anthracene	**85**	**J**	400	73	1	05/22/18 17:52	5/22/18	
Dibenzofuran	400	U	400	83	1	05/22/18 17:52	5/22/18	
Diethyl Phthalate	400	U	400	220	1	05/22/18 17:52	5/22/18	
Dimethyl Phthalate	400	U	400	120	1	05/22/18 17:52	5/22/18	
Fluoranthene	**1000**		400	95	1	05/22/18 17:52	5/22/18	
Fluorene	400	U	400	110	1	05/22/18 17:52	5/22/18	
Hexachlorobenzene	400	U	400	94	1	05/22/18 17:52	5/22/18	
Hexachlorobutadiene	400	U	400	68	1	05/22/18 17:52	5/22/18	
Hexachlorocyclopentadiene	400	U	400	67	1	05/22/18 17:52	5/22/18	
Hexachloroethane	400	U	400	71	1	05/22/18 17:52	5/22/18	
Indeno(1,2,3-cd)pyrene	**300**	**J**	400	89	1	05/22/18 17:52	5/22/18	
Isophorone	400	U	400	87	1	05/22/18 17:52	5/22/18	
N-Nitrosodi-n-propylamine	400	U	400	73	1	05/22/18 17:52	5/22/18	
N-Nitrosodiphenylamine	400	U	400	180	1	05/22/18 17:52	5/22/18	
Naphthalene	400	U	400	83	1	05/22/18 17:52	5/22/18	
Nitrobenzene	400	U	400	83	1	05/22/18 17:52	5/22/18	
Pentachlorophenol (PCP)	2100	U	2100	140	1	05/22/18 17:52	5/22/18	
Phenanthrene	**720**		400	84	1	05/22/18 17:52	5/22/18	
Phenol	400	U	400	88	1	05/22/18 17:52	5/22/18	
Pyrene	**870**		400	79	1	05/22/18 17:52	5/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	74	10 - 109	05/22/18 17:52	
2-Fluorobiphenyl	50	10 - 102	05/22/18 17:52	
2-Fluorophenol	48	10 - 88	05/22/18 17:52	
Nitrobenzene-d5	49	10 - 95	05/22/18 17:52	
Phenol-d6	51	10 - 145	05/22/18 17:52	
Terphenyl-d14	78	10 - 106	05/22/18 17:52	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 13:00
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-03-2.4-3.4	**Units:**	ug/Kg
Lab Code:	R1804645-004	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	520 U	520	160	1	05/22/18 18:20	5/22/18	
2,3,4,6-Tetrachlorophenol	520 U	520	130	1	05/22/18 18:20	5/22/18	
2,4,5-Trichlorophenol	520 U	520	140	1	05/22/18 18:20	5/22/18	
2,4,6-Trichlorophenol	520 U	520	140	1	05/22/18 18:20	5/22/18	
2,4-Dichlorophenol	520 U	520	110	1	05/22/18 18:20	5/22/18	
2,4-Dimethylphenol	520 U	520	100	1	05/22/18 18:20	5/22/18	
2,4-Dinitrophenol	2700 U	2700	98	1	05/22/18 18:20	5/22/18	
2,4-Dinitrotoluene	520 U	520	140	1	05/22/18 18:20	5/22/18	
2,6-Dinitrotoluene	520 U	520	190	1	05/22/18 18:20	5/22/18	
2-Chloronaphthalene	520 U	520	120	1	05/22/18 18:20	5/22/18	
2-Chlorophenol	520 U	520	130	1	05/22/18 18:20	5/22/18	
2-Methylnaphthalene	520 U	520	120	1	05/22/18 18:20	5/22/18	
2-Methylphenol	520 U	520	130	1	05/22/18 18:20	5/22/18	
2-Nitroaniline	2700 U	2700	160	1	05/22/18 18:20	5/22/18	
2-Nitrophenol	520 U	520	120	1	05/22/18 18:20	5/22/18	
3,3'-Dichlorobenzidine	520 U	520	170	1	05/22/18 18:20	5/22/18	
3- and 4-Methylphenol Coelution	520 U	520	140	1	05/22/18 18:20	5/22/18	
3-Nitroaniline	2700 U	2700	120	1	05/22/18 18:20	5/22/18	
4,6-Dinitro-2-methylphenol	2700 U	2700	120	1	05/22/18 18:20	5/22/18	
4-Bromophenyl Phenyl Ether	520 U	520	150	1	05/22/18 18:20	5/22/18	
4-Chloro-3-methylphenol	520 U	520	120	1	05/22/18 18:20	5/22/18	
4-Chloroaniline	520 U	520	63	1	05/22/18 18:20	5/22/18	
4-Chlorophenyl Phenyl Ether	520 U	520	130	1	05/22/18 18:20	5/22/18	
4-Nitroaniline	2700 U	2700	120	1	05/22/18 18:20	5/22/18	
4-Nitrophenol	2700 U	2700	310	1	05/22/18 18:20	5/22/18	
Acenaphthene	520 U	520	120	1	05/22/18 18:20	5/22/18	
Acenaphthylene	520 U	520	110	1	05/22/18 18:20	5/22/18	
Acetophenone	520 U	520	130	1	05/22/18 18:20	5/22/18	
Anthracene	520 U	520	110	1	05/22/18 18:20	5/22/18	
Atrazine	520 U	520	150	1	05/22/18 18:20	5/22/18	
Benz(a)anthracene	**290 J**	520	92	1	05/22/18 18:20	5/22/18	
Benzaldehyde	2700 U	2700	130	1	05/22/18 18:20	5/22/18	
Benzo(a)pyrene	**260 J**	520	110	1	05/22/18 18:20	5/22/18	
Benzo(b)fluoranthene	**320 J**	520	96	1	05/22/18 18:20	5/22/18	
Benzo(g,h,i)perylene	**200 J**	520	120	1	05/22/18 18:20	5/22/18	
Benzo(k)fluoranthene	520 U	520	120	1	05/22/18 18:20	5/22/18	
Biphenyl	520 U	520	130	1	05/22/18 18:20	5/22/18	
2,2'-Oxybis(1-chloropropane)	520 U	520	130	1	05/22/18 18:20	5/22/18	
Bis(2-chloroethoxy)methane	520 U	520	120	1	05/22/18 18:20	5/22/18	
Bis(2-chloroethyl) Ether	520 U	520	96	1	05/22/18 18:20	5/22/18	
Bis(2-ethylhexyl) Phthalate	790 U	790	730	1	05/22/18 18:20	5/22/18	
Butyl Benzyl Phthalate	520 U	520	100	1	05/22/18 18:20	5/22/18	
Caprolactam	520 U	520	120	1	05/22/18 18:20	5/22/18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 13:00
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-03-2.4-3.4	**Units:**	ug/Kg
Lab Code:	R1804645-004	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	520 U	520	130	1	05/22/18 18:20	5/22/18	
Chrysene	**330 J**	520	110	1	05/22/18 18:20	5/22/18	
Di-n-butyl Phthalate	520 U	520	180	1	05/22/18 18:20	5/22/18	
Di-n-octyl Phthalate	520 U	520	160	1	05/22/18 18:20	5/22/18	
Dibenz(a,h)anthracene	520 U	520	95	1	05/22/18 18:20	5/22/18	
Dibenzofuran	520 U	520	110	1	05/22/18 18:20	5/22/18	
Diethyl Phthalate	520 U	520	290	1	05/22/18 18:20	5/22/18	
Dimethyl Phthalate	520 U	520	150	1	05/22/18 18:20	5/22/18	
Fluoranthene	**560**	520	130	1	05/22/18 18:20	5/22/18	
Fluorene	520 U	520	140	1	05/22/18 18:20	5/22/18	
Hexachlorobenzene	520 U	520	130	1	05/22/18 18:20	5/22/18	
Hexachlorobutadiene	520 U	520	89	1	05/22/18 18:20	5/22/18	
Hexachlorocyclopentadiene	520 U	520	87	1	05/22/18 18:20	5/22/18	
Hexachloroethane	520 U	520	92	1	05/22/18 18:20	5/22/18	
Indeno(1,2,3-cd)pyrene	**190 J**	520	120	1	05/22/18 18:20	5/22/18	
Isophorone	520 U	520	120	1	05/22/18 18:20	5/22/18	
N-Nitrosodi-n-propylamine	520 U	520	95	1	05/22/18 18:20	5/22/18	
N-Nitrosodiphenylamine	520 U	520	240	1	05/22/18 18:20	5/22/18	
Naphthalene	520 U	520	110	1	05/22/18 18:20	5/22/18	
Nitrobenzene	520 U	520	110	1	05/22/18 18:20	5/22/18	
Pentachlorophenol (PCP)	2700 U	2700	180	1	05/22/18 18:20	5/22/18	
Phenanthrene	**460 J**	520	110	1	05/22/18 18:20	5/22/18	
Phenol	520 U	520	120	1	05/22/18 18:20	5/22/18	
Pyrene	**500 J**	520	110	1	05/22/18 18:20	5/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	72	10 - 109	05/22/18 18:20	
2-Fluorobiphenyl	41	10 - 102	05/22/18 18:20	
2-Fluorophenol	39	10 - 88	05/22/18 18:20	
Nitrobenzene-d5	41	10 - 95	05/22/18 18:20	
Phenol-d6	43	10 - 145	05/22/18 18:20	
Terphenyl-d14	72	10 - 106	05/22/18 18:20	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 13:15
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-03-8-8.9	**Units:**	ug/Kg
Lab Code:	R1804645-005	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	380 U	380	120	1	05/22/18 18:48	5/22/18	
2,3,4,6-Tetrachlorophenol	380 U	380	95	1	05/22/18 18:48	5/22/18	
2,4,5-Trichlorophenol	380 U	380	96	1	05/22/18 18:48	5/22/18	
2,4,6-Trichlorophenol	380 U	380	100	1	05/22/18 18:48	5/22/18	
2,4-Dichlorophenol	380 U	380	79	1	05/22/18 18:48	5/22/18	
2,4-Dimethylphenol	380 U	380	73	1	05/22/18 18:48	5/22/18	
2,4-Dinitrophenol	2000 U	2000	72	1	05/22/18 18:48	5/22/18	
2,4-Dinitrotoluene	380 U	380	100	1	05/22/18 18:48	5/22/18	
2,6-Dinitrotoluene	380 U	380	140	1	05/22/18 18:48	5/22/18	
2-Chloronaphthalene	380 U	380	85	1	05/22/18 18:48	5/22/18	
2-Chlorophenol	380 U	380	94	1	05/22/18 18:48	5/22/18	
2-Methylnaphthalene	380 U	380	86	1	05/22/18 18:48	5/22/18	
2-Methylphenol	380 U	380	93	1	05/22/18 18:48	5/22/18	
2-Nitroaniline	2000 U	2000	110	1	05/22/18 18:48	5/22/18	
2-Nitrophenol	380 U	380	88	1	05/22/18 18:48	5/22/18	
3,3'-Dichlorobenzidine	380 U	380	120	1	05/22/18 18:48	5/22/18	
3- and 4-Methylphenol Coelution	380 U	380	97	1	05/22/18 18:48	5/22/18	
3-Nitroaniline	2000 U	2000	83	1	05/22/18 18:48	5/22/18	
4,6-Dinitro-2-methylphenol	2000 U	2000	83	1	05/22/18 18:48	5/22/18	
4-Bromophenyl Phenyl Ether	380 U	380	110	1	05/22/18 18:48	5/22/18	
4-Chloro-3-methylphenol	380 U	380	88	1	05/22/18 18:48	5/22/18	
4-Chloroaniline	380 U	380	46	1	05/22/18 18:48	5/22/18	
4-Chlorophenyl Phenyl Ether	380 U	380	92	1	05/22/18 18:48	5/22/18	
4-Nitroaniline	2000 U	2000	85	1	05/22/18 18:48	5/22/18	
4-Nitrophenol	2000 U	2000	230	1	05/22/18 18:48	5/22/18	
Acenaphthene	380 U	380	85	1	05/22/18 18:48	5/22/18	
Acenaphthylene	380 U	380	79	1	05/22/18 18:48	5/22/18	
Acetophenone	380 U	380	90	1	05/22/18 18:48	5/22/18	
Anthracene	380 U	380	74	1	05/22/18 18:48	5/22/18	
Atrazine	380 U	380	110	1	05/22/18 18:48	5/22/18	
Benz(a)anthracene	**140 J**	380	67	1	05/22/18 18:48	5/22/18	
Benzaldehyde	2000 U	2000	91	1	05/22/18 18:48	5/22/18	
Benzo(a)pyrene	**130 J**	380	78	1	05/22/18 18:48	5/22/18	
Benzo(b)fluoranthene	**150 J**	380	70	1	05/22/18 18:48	5/22/18	
Benzo(g,h,i)perylene	**100 J**	380	88	1	05/22/18 18:48	5/22/18	
Benzo(k)fluoranthene	380 U	380	86	1	05/22/18 18:48	5/22/18	
Biphenyl	380 U	380	90	1	05/22/18 18:48	5/22/18	
2,2'-Oxybis(1-chloropropane)	380 U	380	94	1	05/22/18 18:48	5/22/18	
Bis(2-chloroethoxy)methane	380 U	380	88	1	05/22/18 18:48	5/22/18	
Bis(2-chloroethyl) Ether	380 U	380	70	1	05/22/18 18:48	5/22/18	
Bis(2-ethylhexyl) Phthalate	580 U	580	540	1	05/22/18 18:48	5/22/18	
Butyl Benzyl Phthalate	380 U	380	74	1	05/22/18 18:48	5/22/18	
Caprolactam	380 U	380	86	1	05/22/18 18:48	5/22/18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 13:15
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-03-8-8.9	**Units:**	ug/Kg
Lab Code:	R1804645-005	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	380 U	380	95	1	05/22/18 18:48	5/22/18	
Chrysene	**130 J**	380	76	1	05/22/18 18:48	5/22/18	
Di-n-butyl Phthalate	380 U	380	130	1	05/22/18 18:48	5/22/18	
Di-n-octyl Phthalate	380 U	380	120	1	05/22/18 18:48	5/22/18	
Dibenz(a,h)anthracene	380 U	380	70	1	05/22/18 18:48	5/22/18	
Dibenzofuran	380 U	380	79	1	05/22/18 18:48	5/22/18	
Diethyl Phthalate	380 U	380	210	1	05/22/18 18:48	5/22/18	
Dimethyl Phthalate	380 U	380	110	1	05/22/18 18:48	5/22/18	
Fluoranthene	**270 J**	380	91	1	05/22/18 18:48	5/22/18	
Fluorene	380 U	380	97	1	05/22/18 18:48	5/22/18	
Hexachlorobenzene	380 U	380	90	1	05/22/18 18:48	5/22/18	
Hexachlorobutadiene	380 U	380	65	1	05/22/18 18:48	5/22/18	
Hexachlorocyclopentadiene	380 U	380	64	1	05/22/18 18:48	5/22/18	
Hexachloroethane	380 U	380	67	1	05/22/18 18:48	5/22/18	
Indeno(1,2,3-cd)pyrene	**98 J**	380	85	1	05/22/18 18:48	5/22/18	
Isophorone	380 U	380	83	1	05/22/18 18:48	5/22/18	
N-Nitrosodi-n-propylamine	380 U	380	70	1	05/22/18 18:48	5/22/18	
N-Nitrosodiphenylamine	380 U	380	180	1	05/22/18 18:48	5/22/18	
Naphthalene	380 U	380	79	1	05/22/18 18:48	5/22/18	
Nitrobenzene	380 U	380	79	1	05/22/18 18:48	5/22/18	
Pentachlorophenol (PCP)	2000 U	2000	130	1	05/22/18 18:48	5/22/18	
Phenanthrene	**240 J**	380	80	1	05/22/18 18:48	5/22/18	
Phenol	380 U	380	84	1	05/22/18 18:48	5/22/18	
Pyrene	**240 J**	380	75	1	05/22/18 18:48	5/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	66	10 - 109	05/22/18 18:48	
2-Fluorobiphenyl	47	10 - 102	05/22/18 18:48	
2-Fluorophenol	44	10 - 88	05/22/18 18:48	
Nitrobenzene-d5	44	10 - 95	05/22/18 18:48	
Phenol-d6	50	10 - 145	05/22/18 18:48	
Terphenyl-d14	65	10 - 106	05/22/18 18:48	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 13:45
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-04-1.9-3	**Units:**	ug/Kg
Lab Code:	R1804645-006	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	1300 U	1300	380	3	05/23/18 15:18	5/22/18	
2,3,4,6-Tetrachlorophenol	1300 U	1300	320	3	05/23/18 15:18	5/22/18	
2,4,5-Trichlorophenol	1300 U	1300	330	3	05/23/18 15:18	5/22/18	
2,4,6-Trichlorophenol	1300 U	1300	340	3	05/23/18 15:18	5/22/18	
2,4-Dichlorophenol	1300 U	1300	270	3	05/23/18 15:18	5/22/18	
2,4-Dimethylphenol	1300 U	1300	250	3	05/23/18 15:18	5/22/18	
2,4-Dinitrophenol	6700 U	6700	250	3	05/23/18 15:18	5/22/18	
2,4-Dinitrotoluene	1300 U	1300	340	3	05/23/18 15:18	5/22/18	
2,6-Dinitrotoluene	1300 U	1300	460	3	05/23/18 15:18	5/22/18	
2-Chloronaphthalene	1300 U	1300	290	3	05/23/18 15:18	5/22/18	
2-Chlorophenol	1300 U	1300	320	3	05/23/18 15:18	5/22/18	
2-Methylnaphthalene	**350 J**	1300	300	3	05/23/18 15:18	5/22/18	
2-Methylphenol	1300 U	1300	320	3	05/23/18 15:18	5/22/18	
2-Nitroaniline	6700 U	6700	380	3	05/23/18 15:18	5/22/18	
2-Nitrophenol	1300 U	1300	300	3	05/23/18 15:18	5/22/18	
3,3'-Dichlorobenzidine	1300 U	1300	400	3	05/23/18 15:18	5/22/18	
3- and 4-Methylphenol Coelution	1300 U	1300	330	3	05/23/18 15:18	5/22/18	
3-Nitroaniline	6700 U	6700	290	3	05/23/18 15:18	5/22/18	
4,6-Dinitro-2-methylphenol	6700 U	6700	290	3	05/23/18 15:18	5/22/18	
4-Bromophenyl Phenyl Ether	1300 U	1300	370	3	05/23/18 15:18	5/22/18	
4-Chloro-3-methylphenol	1300 U	1300	300	3	05/23/18 15:18	5/22/18	
4-Chloroaniline	1300 U	1300	160	3	05/23/18 15:18	5/22/18	
4-Chlorophenyl Phenyl Ether	1300 U	1300	310	3	05/23/18 15:18	5/22/18	
4-Nitroaniline	6700 U	6700	290	3	05/23/18 15:18	5/22/18	
4-Nitrophenol	6700 U	6700	760	3	05/23/18 15:18	5/22/18	
Acenaphthene	**880 J**	1300	290	3	05/23/18 15:18	5/22/18	
Acenaphthylene	**430 J**	1300	270	3	05/23/18 15:18	5/22/18	
Acetophenone	1300 U	1300	310	3	05/23/18 15:18	5/22/18	
Anthracene	**2500**	1300	250	3	05/23/18 15:18	5/22/18	
Atrazine	1300 U	1300	360	3	05/23/18 15:18	5/22/18	
Benz(a)anthracene	**5700**	1300	230	3	05/23/18 15:18	5/22/18	
Benzaldehyde	6700 U	6700	310	3	05/23/18 15:18	5/22/18	
Benzo(a)pyrene	**5200**	1300	270	3	05/23/18 15:18	5/22/18	
Benzo(b)fluoranthene	**6500**	1300	240	3	05/23/18 15:18	5/22/18	
Benzo(g,h,i)perylene	**3500**	1300	300	3	05/23/18 15:18	5/22/18	
Benzo(k)fluoranthene	**2400**	1300	300	3	05/23/18 15:18	5/22/18	
Biphenyl	1300 U	1300	310	3	05/23/18 15:18	5/22/18	
2,2'-Oxybis(1-chloropropane)	1300 U	1300	320	3	05/23/18 15:18	5/22/18	
Bis(2-chloroethoxy)methane	1300 U	1300	300	3	05/23/18 15:18	5/22/18	
Bis(2-chloroethyl) Ether	1300 U	1300	240	3	05/23/18 15:18	5/22/18	
Bis(2-ethylhexyl) Phthalate	2000 U	2000	1800	3	05/23/18 15:18	5/22/18	
Butyl Benzyl Phthalate	1300 U	1300	250	3	05/23/18 15:18	5/22/18	
Caprolactam	1300 U	1300	290	3	05/23/18 15:18	5/22/18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 13:45
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-04-1.9-3	**Units:**	ug/Kg
Lab Code:	R1804645-006	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	**2100**	1300	330	3	05/23/18 15:18	5/22/18	
Chrysene	**6400**	1300	260	3	05/23/18 15:18	5/22/18	
Di-n-butyl Phthalate	1300 U	1300	440	3	05/23/18 15:18	5/22/18	
Di-n-octyl Phthalate	1300 U	1300	390	3	05/23/18 15:18	5/22/18	
Dibenz(a,h)anthracene	**1000 J**	1300	240	3	05/23/18 15:18	5/22/18	
Dibenzofuran	**950 J**	1300	270	3	05/23/18 15:18	5/22/18	
Diethyl Phthalate	1300 U	1300	710	3	05/23/18 15:18	5/22/18	
Dimethyl Phthalate	1300 U	1300	360	3	05/23/18 15:18	5/22/18	
Fluoranthene	**14000**	1300	310	3	05/23/18 15:18	5/22/18	
Fluorene	**1300 J**	1300	330	3	05/23/18 15:18	5/22/18	
Hexachlorobenzene	1300 U	1300	310	3	05/23/18 15:18	5/22/18	
Hexachlorobutadiene	1300 U	1300	220	3	05/23/18 15:18	5/22/18	
Hexachlorocyclopentadiene	1300 U	1300	220	3	05/23/18 15:18	5/22/18	
Hexachloroethane	1300 U	1300	230	3	05/23/18 15:18	5/22/18	
Indeno(1,2,3-cd)pyrene	**3800**	1300	290	3	05/23/18 15:18	5/22/18	
Isophorone	1300 U	1300	280	3	05/23/18 15:18	5/22/18	
N-Nitrosodi-n-propylamine	1300 U	1300	240	3	05/23/18 15:18	5/22/18	
N-Nitrosodiphenylamine	1300 U	1300	580	3	05/23/18 15:18	5/22/18	
Naphthalene	**600 J**	1300	270	3	05/23/18 15:18	5/22/18	
Nitrobenzene	1300 U	1300	270	3	05/23/18 15:18	5/22/18	
Pentachlorophenol (PCP)	6700 U	6700	430	3	05/23/18 15:18	5/22/18	
Phenanthrene	**13000**	1300	270	3	05/23/18 15:18	5/22/18	
Phenol	1300 U	1300	290	3	05/23/18 15:18	5/22/18	
Pyrene	**11000**	1300	260	3	05/23/18 15:18	5/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	62	10 - 109	05/23/18 15:18	
2-Fluorobiphenyl	37	10 - 102	05/23/18 15:18	
2-Fluorophenol	32	10 - 88	05/23/18 15:18	
Nitrobenzene-d5	34	10 - 95	05/23/18 15:18	
Phenol-d6	39	10 - 145	05/23/18 15:18	
Terphenyl-d14	65	10 - 106	05/23/18 15:18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 14:00
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-05-1.7-3	**Units:**	ug/Kg
Lab Code:	R1804645-007	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	410 U	410	130	1	05/22/18 19:44	5/22/18	
2,3,4,6-Tetrachlorophenol	410 U	410	110	1	05/22/18 19:44	5/22/18	
2,4,5-Trichlorophenol	410 U	410	110	1	05/22/18 19:44	5/22/18	
2,4,6-Trichlorophenol	410 U	410	110	1	05/22/18 19:44	5/22/18	
2,4-Dichlorophenol	410 U	410	86	1	05/22/18 19:44	5/22/18	
2,4-Dimethylphenol	410 U	410	79	1	05/22/18 19:44	5/22/18	
2,4-Dinitrophenol	2100 U	2100	78	1	05/22/18 19:44	5/22/18	
2,4-Dinitrotoluene	410 U	410	110	1	05/22/18 19:44	5/22/18	
2,6-Dinitrotoluene	410 U	410	150	1	05/22/18 19:44	5/22/18	
2-Chloronaphthalene	410 U	410	92	1	05/22/18 19:44	5/22/18	
2-Chlorophenol	410 U	410	110	1	05/22/18 19:44	5/22/18	
2-Methylnaphthalene	410 U	410	93	1	05/22/18 19:44	5/22/18	
2-Methylphenol	410 U	410	110	1	05/22/18 19:44	5/22/18	
2-Nitroaniline	2100 U	2100	120	1	05/22/18 19:44	5/22/18	
2-Nitrophenol	410 U	410	94	1	05/22/18 19:44	5/22/18	
3,3'-Dichlorobenzidine	410 U	410	130	1	05/22/18 19:44	5/22/18	
3- and 4-Methylphenol Coelution	410 U	410	110	1	05/22/18 19:44	5/22/18	
3-Nitroaniline	2100 U	2100	90	1	05/22/18 19:44	5/22/18	
4,6-Dinitro-2-methylphenol	2100 U	2100	90	1	05/22/18 19:44	5/22/18	
4-Bromophenyl Phenyl Ether	410 U	410	120	1	05/22/18 19:44	5/22/18	
4-Chloro-3-methylphenol	410 U	410	95	1	05/22/18 19:44	5/22/18	
4-Chloroaniline	410 U	410	50	1	05/22/18 19:44	5/22/18	
4-Chlorophenyl Phenyl Ether	410 U	410	99	1	05/22/18 19:44	5/22/18	
4-Nitroaniline	2100 U	2100	92	1	05/22/18 19:44	5/22/18	
4-Nitrophenol	2100 U	2100	250	1	05/22/18 19:44	5/22/18	
Acenaphthene	**110 J**	410	92	1	05/22/18 19:44	5/22/18	
Acenaphthylene	410 U	410	85	1	05/22/18 19:44	5/22/18	
Acetophenone	410 U	410	97	1	05/22/18 19:44	5/22/18	
Anthracene	**300 J**	410	80	1	05/22/18 19:44	5/22/18	
Atrazine	410 U	410	120	1	05/22/18 19:44	5/22/18	
Benz(a)anthracene	**660**	410	73	1	05/22/18 19:44	5/22/18	
Benzaldehyde	2100 U	2100	99	1	05/22/18 19:44	5/22/18	
Benzo(a)pyrene	**660**	410	84	1	05/22/18 19:44	5/22/18	
Benzo(b)fluoranthene	**850**	410	76	1	05/22/18 19:44	5/22/18	
Benzo(g,h,i)perylene	**490**	410	95	1	05/22/18 19:44	5/22/18	
Benzo(k)fluoranthene	**300 J**	410	93	1	05/22/18 19:44	5/22/18	
Biphenyl	410 U	410	97	1	05/22/18 19:44	5/22/18	
2,2'-Oxybis(1-chloropropane)	410 U	410	110	1	05/22/18 19:44	5/22/18	
Bis(2-chloroethoxy)methane	410 U	410	95	1	05/22/18 19:44	5/22/18	
Bis(2-chloroethyl) Ether	410 U	410	76	1	05/22/18 19:44	5/22/18	
Bis(2-ethylhexyl) Phthalate	630 U	630	580	1	05/22/18 19:44	5/22/18	
Butyl Benzyl Phthalate	410 U	410	79	1	05/22/18 19:44	5/22/18	
Caprolactam	410 U	410	92	1	05/22/18 19:44	5/22/18	

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 14:00
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-05-1.7-3	**Units:**	ug/Kg
Lab Code:	R1804645-007	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	**120 J**	410	110	1	05/22/18 19:44	5/22/18	
Chrysene	**680**	410	82	1	05/22/18 19:44	5/22/18	
Di-n-butyl Phthalate	410 U	410	140	1	05/22/18 19:44	5/22/18	
Di-n-octyl Phthalate	410 U	410	130	1	05/22/18 19:44	5/22/18	
Dibenz(a,h)anthracene	**140 J**	410	75	1	05/22/18 19:44	5/22/18	
Dibenzofuran	**97 J**	410	85	1	05/22/18 19:44	5/22/18	
Diethyl Phthalate	410 U	410	230	1	05/22/18 19:44	5/22/18	
Dimethyl Phthalate	410 U	410	120	1	05/22/18 19:44	5/22/18	
Fluoranthene	**1300**	410	98	1	05/22/18 19:44	5/22/18	
Fluorene	**120 J**	410	110	1	05/22/18 19:44	5/22/18	
Hexachlorobenzene	410 U	410	97	1	05/22/18 19:44	5/22/18	
Hexachlorobutadiene	410 U	410	70	1	05/22/18 19:44	5/22/18	
Hexachlorocyclopentadiene	410 U	410	69	1	05/22/18 19:44	5/22/18	
Hexachloroethane	410 U	410	73	1	05/22/18 19:44	5/22/18	
Indeno(1,2,3-cd)pyrene	**540**	410	92	1	05/22/18 19:44	5/22/18	
Isophorone	410 U	410	90	1	05/22/18 19:44	5/22/18	
N-Nitrosodi-n-propylamine	410 U	410	76	1	05/22/18 19:44	5/22/18	
N-Nitrosodiphenylamine	410 U	410	190	1	05/22/18 19:44	5/22/18	
Naphthalene	410 U	410	85	1	05/22/18 19:44	5/22/18	
Nitrobenzene	410 U	410	85	1	05/22/18 19:44	5/22/18	
Pentachlorophenol (PCP)	2100 U	2100	140	1	05/22/18 19:44	5/22/18	
Phenanthrene	**1100**	410	86	1	05/22/18 19:44	5/22/18	
Phenol	410 U	410	91	1	05/22/18 19:44	5/22/18	
Pyrene	**1100**	410	81	1	05/22/18 19:44	5/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	60	10 - 109	05/22/18 19:44	
2-Fluorobiphenyl	52	10 - 102	05/22/18 19:44	
2-Fluorophenol	47	10 - 88	05/22/18 19:44	
Nitrobenzene-d5	49	10 - 95	05/22/18 19:44	
Phenol-d6	53	10 - 145	05/22/18 19:44	
Terphenyl-d14	61	10 - 106	05/22/18 19:44	

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 14:30
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-06-5.3-7	**Units:**	ug/Kg
Lab Code:	R1804645-008	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	390	U	390	120	1	05/22/18 20:12	5/22/18	
2,3,4,6-Tetrachlorophenol	390	U	390	98	1	05/22/18 20:12	5/22/18	
2,4,5-Trichlorophenol	390	U	390	98	1	05/22/18 20:12	5/22/18	
2,4,6-Trichlorophenol	390	U	390	110	1	05/22/18 20:12	5/22/18	
2,4-Dichlorophenol	390	U	390	81	1	05/22/18 20:12	5/22/18	
2,4-Dimethylphenol	390	U	390	75	1	05/22/18 20:12	5/22/18	
2,4-Dinitrophenol	2000	U	2000	74	1	05/22/18 20:12	5/22/18	
2,4-Dinitrotoluene	390	U	390	110	1	05/22/18 20:12	5/22/18	
2,6-Dinitrotoluene	390	U	390	140	1	05/22/18 20:12	5/22/18	
2-Chloronaphthalene	390	U	390	87	1	05/22/18 20:12	5/22/18	
2-Chlorophenol	390	U	390	96	1	05/22/18 20:12	5/22/18	
2-Methylnaphthalene	**92**	**J**	390	89	1	05/22/18 20:12	5/22/18	
2-Methylphenol	390	U	390	96	1	05/22/18 20:12	5/22/18	
2-Nitroaniline	2000	U	2000	120	1	05/22/18 20:12	5/22/18	
2-Nitrophenol	390	U	390	90	1	05/22/18 20:12	5/22/18	
3,3'-Dichlorobenzidine	390	U	390	130	1	05/22/18 20:12	5/22/18	
3- and 4-Methylphenol Coelution	390	U	390	99	1	05/22/18 20:12	5/22/18	
3-Nitroaniline	2000	U	2000	86	1	05/22/18 20:12	5/22/18	
4,6-Dinitro-2-methylphenol	2000	U	2000	86	1	05/22/18 20:12	5/22/18	
4-Bromophenyl Phenyl Ether	390	U	390	120	1	05/22/18 20:12	5/22/18	
4-Chloro-3-methylphenol	390	U	390	90	1	05/22/18 20:12	5/22/18	
4-Chloroaniline	390	U	390	47	1	05/22/18 20:12	5/22/18	
4-Chlorophenyl Phenyl Ether	390	U	390	94	1	05/22/18 20:12	5/22/18	
4-Nitroaniline	2000	U	2000	87	1	05/22/18 20:12	5/22/18	
4-Nitrophenol	2000	U	2000	230	1	05/22/18 20:12	5/22/18	
Acenaphthene	**270**	**J**	390	87	1	05/22/18 20:12	5/22/18	
Acenaphthylene	390	U	390	81	1	05/22/18 20:12	5/22/18	
Acetophenone	390	U	390	92	1	05/22/18 20:12	5/22/18	
Anthracene	**830**		390	76	1	05/22/18 20:12	5/22/18	
Atrazine	390	U	390	110	1	05/22/18 20:12	5/22/18	
Benz(a)anthracene	**1300**		390	69	1	05/22/18 20:12	5/22/18	
Benzaldehyde	2000	U	2000	94	1	05/22/18 20:12	5/22/18	
Benzo(a)pyrene	**1200**		390	80	1	05/22/18 20:12	5/22/18	
Benzo(b)fluoranthene	**1300**		390	72	1	05/22/18 20:12	5/22/18	
Benzo(g,h,i)perylene	**660**		390	90	1	05/22/18 20:12	5/22/18	
Benzo(k)fluoranthene	**490**		390	89	1	05/22/18 20:12	5/22/18	
Biphenyl	390	U	390	92	1	05/22/18 20:12	5/22/18	
2,2'-Oxybis(1-chloropropane)	390	U	390	97	1	05/22/18 20:12	5/22/18	
Bis(2-chloroethoxy)methane	390	U	390	90	1	05/22/18 20:12	5/22/18	
Bis(2-chloroethyl) Ether	390	U	390	72	1	05/22/18 20:12	5/22/18	
Bis(2-ethylhexyl) Phthalate	600	U	600	550	1	05/22/18 20:12	5/22/18	
Butyl Benzyl Phthalate	390	U	390	75	1	05/22/18 20:12	5/22/18	
Caprolactam	390	U	390	88	1	05/22/18 20:12	5/22/18	

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 14:30
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-06-5.3-7	**Units:**	ug/Kg
Lab Code:	R1804645-008	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	**350**	**J**	390	98	1	05/22/18 20:12	5/22/18	
Chrysene	**1300**		390	78	1	05/22/18 20:12	5/22/18	
Di-n-butyl Phthalate	390	U	390	140	1	05/22/18 20:12	5/22/18	
Di-n-octyl Phthalate	390	U	390	120	1	05/22/18 20:12	5/22/18	
Dibenz(a,h)anthracene	**190**	**J**	390	72	1	05/22/18 20:12	5/22/18	
Dibenzofuran	**210**	**J**	390	81	1	05/22/18 20:12	5/22/18	
Diethyl Phthalate	390	U	390	220	1	05/22/18 20:12	5/22/18	
Dimethyl Phthalate	390	U	390	110	1	05/22/18 20:12	5/22/18	
Fluoranthene	**2900**		390	93	1	05/22/18 20:12	5/22/18	
Fluorene	**350**	**J**	390	99	1	05/22/18 20:12	5/22/18	
Hexachlorobenzene	390	U	390	92	1	05/22/18 20:12	5/22/18	
Hexachlorobutadiene	390	U	390	67	1	05/22/18 20:12	5/22/18	
Hexachlorocyclopentadiene	390	U	390	66	1	05/22/18 20:12	5/22/18	
Hexachloroethane	390	U	390	69	1	05/22/18 20:12	5/22/18	
Indeno(1,2,3-cd)pyrene	**740**		390	87	1	05/22/18 20:12	5/22/18	
Isophorone	390	U	390	85	1	05/22/18 20:12	5/22/18	
N-Nitrosodi-n-propylamine	390	U	390	72	1	05/22/18 20:12	5/22/18	
N-Nitrosodiphenylamine	390	U	390	180	1	05/22/18 20:12	5/22/18	
Naphthalene	**110**	**J**	390	81	1	05/22/18 20:12	5/22/18	
Nitrobenzene	390	U	390	81	1	05/22/18 20:12	5/22/18	
Pentachlorophenol (PCP)	2000	U	2000	140	1	05/22/18 20:12	5/22/18	
Phenanthrene	**3100**		390	82	1	05/22/18 20:12	5/22/18	
Phenol	390	U	390	86	1	05/22/18 20:12	5/22/18	
Pyrene	**2500**		390	77	1	05/22/18 20:12	5/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	66	10 - 109	05/22/18 20:12	
2-Fluorobiphenyl	38	10 - 102	05/22/18 20:12	
2-Fluorophenol	36	10 - 88	05/22/18 20:12	
Nitrobenzene-d5	37	10 - 95	05/22/18 20:12	
Phenol-d6	37	10 - 145	05/22/18 20:12	
Terphenyl-d14	65	10 - 106	05/22/18 20:12	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 15:00
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-06-8.8-9.8	**Units:**	ug/Kg
Lab Code:	R1804645-009	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	390 U	390	120	1	05/22/18 20:40	5/22/18	
2,3,4,6-Tetrachlorophenol	390 U	390	96	1	05/22/18 20:40	5/22/18	
2,4,5-Trichlorophenol	390 U	390	97	1	05/22/18 20:40	5/22/18	
2,4,6-Trichlorophenol	390 U	390	100	1	05/22/18 20:40	5/22/18	
2,4-Dichlorophenol	390 U	390	80	1	05/22/18 20:40	5/22/18	
2,4-Dimethylphenol	390 U	390	74	1	05/22/18 20:40	5/22/18	
2,4-Dinitrophenol	2000 U	2000	73	1	05/22/18 20:40	5/22/18	
2,4-Dinitrotoluene	390 U	390	110	1	05/22/18 20:40	5/22/18	
2,6-Dinitrotoluene	390 U	390	140	1	05/22/18 20:40	5/22/18	
2-Chloronaphthalene	390 U	390	86	1	05/22/18 20:40	5/22/18	
2-Chlorophenol	390 U	390	94	1	05/22/18 20:40	5/22/18	
2-Methylnaphthalene	390 U	390	87	1	05/22/18 20:40	5/22/18	
2-Methylphenol	390 U	390	94	1	05/22/18 20:40	5/22/18	
2-Nitroaniline	2000 U	2000	120	1	05/22/18 20:40	5/22/18	
2-Nitrophenol	390 U	390	88	1	05/22/18 20:40	5/22/18	
3,3'-Dichlorobenzidine	390 U	390	120	1	05/22/18 20:40	5/22/18	
3- and 4-Methylphenol Coelution	390 U	390	98	1	05/22/18 20:40	5/22/18	
3-Nitroaniline	2000 U	2000	84	1	05/22/18 20:40	5/22/18	
4,6-Dinitro-2-methylphenol	2000 U	2000	84	1	05/22/18 20:40	5/22/18	
4-Bromophenyl Phenyl Ether	390 U	390	110	1	05/22/18 20:40	5/22/18	
4-Chloro-3-methylphenol	390 U	390	88	1	05/22/18 20:40	5/22/18	
4-Chloroaniline	390 U	390	47	1	05/22/18 20:40	5/22/18	
4-Chlorophenyl Phenyl Ether	390 U	390	92	1	05/22/18 20:40	5/22/18	
4-Nitroaniline	2000 U	2000	85	1	05/22/18 20:40	5/22/18	
4-Nitrophenol	2000 U	2000	230	1	05/22/18 20:40	5/22/18	
Acenaphthene	390 U	390	86	1	05/22/18 20:40	5/22/18	
Acenaphthylene	390 U	390	79	1	05/22/18 20:40	5/22/18	
Acetophenone	390 U	390	90	1	05/22/18 20:40	5/22/18	
Anthracene	390 U	390	75	1	05/22/18 20:40	5/22/18	
Atrazine	390 U	390	110	1	05/22/18 20:40	5/22/18	
Benz(a)anthracene	390 U	390	68	1	05/22/18 20:40	5/22/18	
Benzaldehyde	2000 U	2000	92	1	05/22/18 20:40	5/22/18	
Benzo(a)pyrene	390 U	390	78	1	05/22/18 20:40	5/22/18	
Benzo(b)fluoranthene	390 U	390	71	1	05/22/18 20:40	5/22/18	
Benzo(g,h,i)perylene	390 U	390	88	1	05/22/18 20:40	5/22/18	
Benzo(k)fluoranthene	390 U	390	87	1	05/22/18 20:40	5/22/18	
Biphenyl	390 U	390	91	1	05/22/18 20:40	5/22/18	
2,2'-Oxybis(1-chloropropane)	390 U	390	95	1	05/22/18 20:40	5/22/18	
Bis(2-chloroethoxy)methane	390 U	390	89	1	05/22/18 20:40	5/22/18	
Bis(2-chloroethyl) Ether	390 U	390	71	1	05/22/18 20:40	5/22/18	
Bis(2-ethylhexyl) Phthalate	590 U	590	540	1	05/22/18 20:40	5/22/18	
Butyl Benzyl Phthalate	390 U	390	74	1	05/22/18 20:40	5/22/18	
Caprolactam	390 U	390	86	1	05/22/18 20:40	5/22/18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 15:00
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-06-8.8-9.8	**Units:**	ug/Kg
Lab Code:	R1804645-009	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result		MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	390	U	390	96	1	05/22/18 20:40	5/22/18	
Chrysene	390	U	390	76	1	05/22/18 20:40	5/22/18	
Di-n-butyl Phthalate	390	U	390	130	1	05/22/18 20:40	5/22/18	
Di-n-octyl Phthalate	390	U	390	120	1	05/22/18 20:40	5/22/18	
Dibenz(a,h)anthracene	390	U	390	70	1	05/22/18 20:40	5/22/18	
Dibenzofuran	390	U	390	79	1	05/22/18 20:40	5/22/18	
Diethyl Phthalate	390	U	390	220	1	05/22/18 20:40	5/22/18	
Dimethyl Phthalate	390	U	390	110	1	05/22/18 20:40	5/22/18	
Fluoranthene	390	U	390	91	1	05/22/18 20:40	5/22/18	
Fluorene	390	U	390	97	1	05/22/18 20:40	5/22/18	
Hexachlorobenzene	390	U	390	90	1	05/22/18 20:40	5/22/18	
Hexachlorobutadiene	390	U	390	66	1	05/22/18 20:40	5/22/18	
Hexachlorocyclopentadiene	390	U	390	64	1	05/22/18 20:40	5/22/18	
Hexachloroethane	390	U	390	68	1	05/22/18 20:40	5/22/18	
Indeno(1,2,3-cd)pyrene	390	U	390	85	1	05/22/18 20:40	5/22/18	
Isophorone	390	U	390	84	1	05/22/18 20:40	5/22/18	
N-Nitrosodi-n-propylamine	390	U	390	70	1	05/22/18 20:40	5/22/18	
N-Nitrosodiphenylamine	390	U	390	180	1	05/22/18 20:40	5/22/18	
Naphthalene	390	U	390	80	1	05/22/18 20:40	5/22/18	
Nitrobenzene	390	U	390	80	1	05/22/18 20:40	5/22/18	
Pentachlorophenol (PCP)	2000	U	2000	130	1	05/22/18 20:40	5/22/18	
Phenanthrene	**100**	**J**	390	81	1	05/22/18 20:40	5/22/18	
Phenol	390	U	390	85	1	05/22/18 20:40	5/22/18	
Pyrene	390	U	390	76	1	05/22/18 20:40	5/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	68	10 - 109	05/22/18 20:40	
2-Fluorobiphenyl	55	10 - 102	05/22/18 20:40	
2-Fluorophenol	52	10 - 88	05/22/18 20:40	
Nitrobenzene-d5	55	10 - 95	05/22/18 20:40	
Phenol-d6	53	10 - 145	05/22/18 20:40	
Terphenyl-d14	68	10 - 106	05/22/18 20:40	

Metals

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 09:20
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-01-2.5-3.5	**Basis:**	Dry
Lab Code:	R1804645-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum, Total	6010C	**6180**	mg/Kg	12	11	1	05/23/18 14:30	05/22/18	
Antimony, Total	6010C	6.9 U	mg/Kg	6.9	1.2	1	05/23/18 14:30	05/22/18	
Arsenic, Total	6010C	**26.1**	mg/Kg	1.2	0.4	1	05/23/18 14:30	05/22/18	
Barium, Total	6010C	**171**	mg/Kg	2.3	0.09	1	05/23/18 14:30	05/22/18	
Beryllium, Total	6010C	**0.38**	mg/Kg	0.35	0.05	1	05/23/18 14:30	05/22/18	
Cadmium, Total	6010C	**0.57 J**	mg/Kg	0.58	0.02	1	05/23/18 14:30	05/22/18	
Calcium, Total	6010C	**47200**	mg/Kg	1200	60	10	05/23/18 15:50	05/22/18	
Chromium, Total	6010C	**12.6**	mg/Kg	1.2	0.2	1	05/23/18 14:30	05/22/18	
Cobalt, Total	6010C	**4.8 J**	mg/Kg	5.8	0.4	1	05/23/18 14:30	05/22/18	
Copper, Total	6010C	**47.5**	mg/Kg	2.3	0.6	1	05/23/18 14:30	05/22/18	
Iron, Total	6010C	**19000**	mg/Kg	140	130	10	05/23/18 15:50	05/22/18	
Lead, Total	6010C	**281**	mg/Kg	5.8	0.3	1	05/23/18 14:30	05/22/18	
Magnesium, Total	6010C	**7270**	mg/Kg	120	30	1	05/23/18 14:30	05/22/18	
Manganese, Total	6010C	**302**	mg/Kg	2.3	1.2	1	05/23/18 14:30	05/22/18	
Mercury, Total	7471B	**0.454**	mg/Kg	0.037	0.007	1	05/24/18 14:40	05/22/18	
Nickel, Total	6010C	**12.7**	mg/Kg	4.6	0.8	1	05/23/18 14:30	05/22/18	
Potassium, Total	6010C	**1000**	mg/Kg	230	20	1	05/23/18 14:30	05/22/18	
Selenium, Total	6010C	**0.6 J**	mg/Kg	1.2	0.5	1	05/23/18 14:30	05/22/18	
Silver, Total	6010C	1.2 U	mg/Kg	1.2	0.08	1	05/23/18 14:30	05/22/18	
Sodium, Total	6010C	**240**	mg/Kg	120	80	1	05/23/18 14:30	05/22/18	
Thallium, Total	6010C	1.2 U	mg/Kg	1.2	0.6	1	05/23/18 14:30	05/22/18	
Vanadium, Total	6010C	**18.4**	mg/Kg	5.8	0.8	1	05/23/18 14:30	05/22/18	
Zinc, Total	6010C	**236**	mg/Kg	2.3	0.4	1	05/23/18 14:30	05/22/18	

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 11:50
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-02-2.2-3.2	**Basis:**	Dry
Lab Code:	R1804645-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum, Total	6010C	**5820**	mg/Kg	11	11	1	05/23/18 14:33	05/22/18	
Antimony, Total	6010C	6.8 U	mg/Kg	6.8	1.2	1	05/23/18 14:33	05/22/18	
Arsenic, Total	6010C	**6.3**	mg/Kg	1.1	0.4	1	05/23/18 14:33	05/22/18	
Barium, Total	6010C	**153**	mg/Kg	2.3	0.09	1	05/23/18 14:33	05/22/18	
Beryllium, Total	6010C	**0.41**	mg/Kg	0.34	0.05	1	05/23/18 14:33	05/22/18	
Cadmium, Total	6010C	**0.39 J**	mg/Kg	0.56	0.02	1	05/23/18 14:33	05/22/18	
Calcium, Total	6010C	**115000**	mg/Kg	1100	60	10	05/23/18 15:53	05/22/18	
Chromium, Total	6010C	**9.1**	mg/Kg	1.1	0.2	1	05/23/18 14:33	05/22/18	
Cobalt, Total	6010C	**3.5 J**	mg/Kg	5.6	0.4	1	05/23/18 14:33	05/22/18	
Copper, Total	6010C	**35.8**	mg/Kg	2.3	0.6	1	05/23/18 14:33	05/22/18	
Iron, Total	6010C	**11800**	mg/Kg	140	130	10	05/23/18 15:53	05/22/18	
Lead, Total	6010C	**282**	mg/Kg	5.6	0.3	1	05/23/18 14:33	05/22/18	
Magnesium, Total	6010C	**7950**	mg/Kg	110	30	1	05/23/18 14:33	05/22/18	
Manganese, Total	6010C	**391**	mg/Kg	2.3	1.2	1	05/23/18 14:33	05/22/18	
Mercury, Total	7471B	**0.232**	mg/Kg	0.037	0.007	1	05/24/18 14:42	05/22/18	
Nickel, Total	6010C	**8.9**	mg/Kg	4.5	0.8	1	05/23/18 14:33	05/22/18	
Potassium, Total	6010C	**970**	mg/Kg	230	20	1	05/23/18 14:33	05/22/18	
Selenium, Total	6010C	**0.7 J**	mg/Kg	1.1	0.5	1	05/23/18 14:33	05/22/18	
Silver, Total	6010C	1.1 U	mg/Kg	1.1	0.08	1	05/23/18 14:33	05/22/18	
Sodium, Total	6010C	**230**	mg/Kg	110	80	1	05/23/18 14:33	05/22/18	
Thallium, Total	6010C	**3.1**	mg/Kg	1.1	0.6	1	05/23/18 14:33	05/22/18	
Vanadium, Total	6010C	**12.1**	mg/Kg	5.6	0.8	1	05/23/18 14:33	05/22/18	
Zinc, Total	6010C	**136**	mg/Kg	2.3	0.4	1	05/23/18 14:33	05/22/18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 12:05
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-02-8-9	**Basis:**	Dry
Lab Code:	R1804645-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum, Total	6010C	**5330**	mg/Kg	12	11	1	05/23/18 14:36	05/22/18	
Antimony, Total	6010C	7.3 U	mg/Kg	7.3	1.3	1	05/23/18 14:36	05/22/18	
Arsenic, Total	6010C	**11.1**	mg/Kg	1.2	0.4	1	05/23/18 14:36	05/22/18	
Barium, Total	6010C	**44.5**	mg/Kg	2.4	0.09	1	05/23/18 14:36	05/22/18	
Beryllium, Total	6010C	**0.27 J**	mg/Kg	0.37	0.05	1	05/23/18 14:36	05/22/18	
Cadmium, Total	6010C	**0.29 BJ**	mg/Kg	0.61	0.03	1	05/23/18 14:36	05/22/18	
Calcium, Total	6010C	**19600**	mg/Kg	120	7	1	05/23/18 14:36	05/22/18	
Chromium, Total	6010C	**8.5**	mg/Kg	1.2	0.2	1	05/23/18 14:36	05/22/18	
Cobalt, Total	6010C	**4.1 J**	mg/Kg	6.1	0.5	1	05/23/18 14:36	05/22/18	
Copper, Total	6010C	**53.0**	mg/Kg	2.4	0.6	1	05/23/18 14:36	05/22/18	
Iron, Total	6010C	**14100**	mg/Kg	150	140	10	05/23/18 15:57	05/22/18	
Lead, Total	6010C	**205**	mg/Kg	6.1	0.3	1	05/23/18 14:36	05/22/18	
Magnesium, Total	6010C	**7450**	mg/Kg	120	30	1	05/23/18 14:36	05/22/18	
Manganese, Total	6010C	**224**	mg/Kg	2.4	1.3	1	05/23/18 14:36	05/22/18	
Mercury, Total	7471B	**2.90**	mg/Kg	0.20	0.04	5	05/24/18 14:58	05/22/18	
Nickel, Total	6010C	**10.3**	mg/Kg	4.9	0.9	1	05/23/18 14:36	05/22/18	
Potassium, Total	6010C	**830**	mg/Kg	240	30	1	05/23/18 14:36	05/22/18	
Selenium, Total	6010C	**0.7 J**	mg/Kg	1.2	0.5	1	05/23/18 14:36	05/22/18	
Silver, Total	6010C	**0.2 J**	mg/Kg	1.2	0.09	1	05/23/18 14:36	05/22/18	
Sodium, Total	6010C	**210**	mg/Kg	120	80	1	05/23/18 14:36	05/22/18	
Thallium, Total	6010C	1.2 U	mg/Kg	1.2	0.7	1	05/23/18 14:36	05/22/18	
Vanadium, Total	6010C	**13.1**	mg/Kg	6.1	0.9	1	05/23/18 14:36	05/22/18	
Zinc, Total	6010C	**201**	mg/Kg	2.4	0.4	1	05/23/18 14:36	05/22/18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 13:00
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-03-2.4-3.4	**Basis:**	Dry
Lab Code:	R1804645-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum, Total	6010C	**7300**	mg/Kg	15	14	1	05/23/18 14:40	05/22/18	
Antimony, Total	6010C	9.1 U	mg/Kg	9.1	1.6	1	05/23/18 14:40	05/22/18	
Arsenic, Total	6010C	**11.8**	mg/Kg	1.5	0.5	1	05/23/18 14:40	05/22/18	
Barium, Total	6010C	**102**	mg/Kg	3.0	0.2	1	05/23/18 14:40	05/22/18	
Beryllium, Total	6010C	**0.41 J**	mg/Kg	0.45	0.07	1	05/23/18 14:40	05/22/18	
Cadmium, Total	6010C	**0.42 J**	mg/Kg	0.76	0.03	1	05/23/18 14:40	05/22/18	
Calcium, Total	6010C	**65000**	mg/Kg	1500	80	10	05/23/18 16:00	05/22/18	
Chromium, Total	6010C	**12.5**	mg/Kg	1.5	0.2	1	05/23/18 14:40	05/22/18	
Cobalt, Total	6010C	**5.0 J**	mg/Kg	7.6	0.5	1	05/23/18 14:40	05/22/18	
Copper, Total	6010C	**61.5**	mg/Kg	3.0	0.8	1	05/23/18 14:40	05/22/18	
Iron, Total	6010C	**14100**	mg/Kg	180	170	10	05/23/18 16:00	05/22/18	
Lead, Total	6010C	**232**	mg/Kg	7.6	0.3	1	05/23/18 14:40	05/22/18	
Magnesium, Total	6010C	**16500**	mg/Kg	150	30	1	05/23/18 14:40	05/22/18	
Manganese, Total	6010C	**324**	mg/Kg	3.0	1.6	1	05/23/18 14:40	05/22/18	
Mercury, Total	7471B	**0.798**	mg/Kg	0.049	0.009	1	05/24/18 14:48	05/22/18	
Nickel, Total	6010C	**11.8**	mg/Kg	6.1	1.1	1	05/23/18 14:40	05/22/18	
Potassium, Total	6010C	**1360**	mg/Kg	300	30	1	05/23/18 14:40	05/22/18	
Selenium, Total	6010C	1.5 U	mg/Kg	1.5	0.6	1	05/23/18 14:40	05/22/18	
Silver, Total	6010C	**0.1 J**	mg/Kg	1.5	0.10	1	05/23/18 14:40	05/22/18	
Sodium, Total	6010C	**420**	mg/Kg	150	100	1	05/23/18 14:40	05/22/18	
Thallium, Total	6010C	**1.0 J**	mg/Kg	1.5	0.8	1	05/23/18 14:40	05/22/18	
Vanadium, Total	6010C	**23.8**	mg/Kg	7.6	1.1	1	05/23/18 14:40	05/22/18	
Zinc, Total	6010C	**183**	mg/Kg	3.0	0.5	1	05/23/18 14:40	05/22/18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 13:15
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-03-8-8.9	**Basis:**	Dry
Lab Code:	R1804645-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result		Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum, Total	6010C	**6030**		mg/Kg	12	11	1	05/23/18 14:43	05/22/18	
Antimony, Total	6010C	7.0	U	mg/Kg	7.0	1.2	1	05/23/18 14:43	05/22/18	
Arsenic, Total	6010C	**3.3**	**B**	mg/Kg	1.2	0.4	1	05/23/18 14:43	05/22/18	
Barium, Total	6010C	**46.9**		mg/Kg	2.3	0.09	1	05/23/18 14:43	05/22/18	
Beryllium, Total	6010C	**0.28**	**J**	mg/Kg	0.35	0.05	1	05/23/18 14:43	05/22/18	
Cadmium, Total	6010C	**0.20**	**BJ**	mg/Kg	0.58	0.02	1	05/23/18 14:43	05/22/18	
Calcium, Total	6010C	**46400**		mg/Kg	1200	60	10	05/23/18 16:03	05/22/18	
Chromium, Total	6010C	**10.2**		mg/Kg	1.2	0.2	1	05/23/18 14:43	05/22/18	
Cobalt, Total	6010C	**3.8**	**J**	mg/Kg	5.8	0.4	1	05/23/18 14:43	05/22/18	
Copper, Total	6010C	**16.1**		mg/Kg	2.3	0.6	1	05/23/18 14:43	05/22/18	
Iron, Total	6010C	**10100**		mg/Kg	140	130	10	05/23/18 16:03	05/22/18	
Lead, Total	6010C	**73.7**		mg/Kg	5.8	0.3	1	05/23/18 14:43	05/22/18	
Magnesium, Total	6010C	**9160**		mg/Kg	120	30	1	05/23/18 14:43	05/22/18	
Manganese, Total	6010C	**196**		mg/Kg	2.3	1.2	1	05/23/18 14:43	05/22/18	
Mercury, Total	7471B	**0.233**		mg/Kg	0.036	0.007	1	05/24/18 14:50	05/22/18	
Nickel, Total	6010C	**9.7**		mg/Kg	4.6	0.8	1	05/23/18 14:43	05/22/18	
Potassium, Total	6010C	**1150**		mg/Kg	230	20	1	05/23/18 14:43	05/22/18	
Selenium, Total	6010C	1.2	U	mg/Kg	1.2	0.5	1	05/23/18 14:43	05/22/18	
Silver, Total	6010C	1.2	U	mg/Kg	1.2	0.08	1	05/23/18 14:43	05/22/18	
Sodium, Total	6010C	**250**		mg/Kg	120	80	1	05/23/18 14:43	05/22/18	
Thallium, Total	6010C	1.2	U	mg/Kg	1.2	0.7	1	05/23/18 14:43	05/22/18	
Vanadium, Total	6010C	**13.5**		mg/Kg	5.8	0.8	1	05/23/18 14:43	05/22/18	
Zinc, Total	6010C	**49.7**		mg/Kg	2.3	0.4	1	05/23/18 14:43	05/22/18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 13:45
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-04-1.9-3	**Basis:**	Dry
Lab Code:	R1804645-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum, Total	6010C	**4720**	mg/Kg	13	12	1	05/23/18 14:53	05/22/18	
Antimony, Total	6010C	**8.6**	mg/Kg	7.8	1.4	1	05/23/18 14:53	05/22/18	
Arsenic, Total	6010C	**50.4**	mg/Kg	1.3	0.4	1	05/23/18 14:53	05/22/18	
Barium, Total	6010C	**1470**	mg/Kg	2.6	0.10	1	05/23/18 14:53	05/22/18	
Beryllium, Total	6010C	**0.66**	mg/Kg	0.39	0.06	1	05/23/18 14:53	05/22/18	
Cadmium, Total	6010C	**2.94**	mg/Kg	0.65	0.03	1	05/23/18 14:53	05/22/18	
Calcium, Total	6010C	**24300**	mg/Kg	130	7	1	05/23/18 14:53	05/22/18	
Chromium, Total	6010C	**34.4**	mg/Kg	1.3	0.2	1	05/23/18 14:53	05/22/18	
Cobalt, Total	6010C	**8.6**	mg/Kg	6.5	0.5	1	05/23/18 14:53	05/22/18	
Copper, Total	6010C	**253**	mg/Kg	2.6	0.7	1	05/23/18 14:53	05/22/18	
Iron, Total	6010C	**38200**	mg/Kg	160	150	10	05/23/18 16:13	05/22/18	
Lead, Total	6010C	**5660**	mg/Kg	65	3	10	05/23/18 16:13	05/22/18	
Magnesium, Total	6010C	**4760**	mg/Kg	130	30	1	05/23/18 14:53	05/22/18	
Manganese, Total	6010C	**281**	mg/Kg	2.6	1.4	1	05/23/18 14:53	05/22/18	
Mercury, Total	7471B	**66.7**	mg/Kg	2.2	0.4	50	05/24/18 15:11	05/22/18	
Nickel, Total	6010C	**13.7**	mg/Kg	5.2	0.9	1	05/23/18 14:53	05/22/18	
Potassium, Total	6010C	**720**	mg/Kg	260	30	1	05/23/18 14:53	05/22/18	
Selenium, Total	6010C	**4.0**	mg/Kg	1.3	0.5	1	05/23/18 14:53	05/22/18	
Silver, Total	6010C	**1.1**	mg/Kg	1.3	0.09	1	05/23/18 14:53	05/22/18	**J**
Sodium, Total	6010C	**440**	mg/Kg	130	90	1	05/23/18 14:53	05/22/18	
Thallium, Total	6010C	1.3	mg/Kg	1.3	0.7	1	05/23/18 14:53	05/22/18	U
Vanadium, Total	6010C	**19.5**	mg/Kg	6.5	0.9	1	05/23/18 14:53	05/22/18	
Zinc, Total	6010C	**2050**	mg/Kg	26	4	10	05/23/18 16:13	05/22/18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 14:00
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-05-1.7-3	**Basis:**	Dry
Lab Code:	R1804645-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum, Total	6010C	**4750**	mg/Kg	12	12	1	05/23/18 14:56	05/22/18	
Antimony, Total	6010C	**5.9 J**	mg/Kg	7.3	1.3	1	05/23/18 14:56	05/22/18	
Arsenic, Total	6010C	**13.8**	mg/Kg	1.2	0.4	1	05/23/18 14:56	05/22/18	
Barium, Total	6010C	**258**	mg/Kg	2.4	0.09	1	05/23/18 14:56	05/22/18	
Beryllium, Total	6010C	**0.48**	mg/Kg	0.37	0.05	1	05/23/18 14:56	05/22/18	
Cadmium, Total	6010C	**0.83**	mg/Kg	0.61	0.03	1	05/23/18 14:56	05/22/18	
Calcium, Total	6010C	**26100**	mg/Kg	120	7	1	05/23/18 14:56	05/22/18	
Chromium, Total	6010C	**13.3**	mg/Kg	1.2	0.2	1	05/23/18 14:56	05/22/18	
Cobalt, Total	6010C	**5.9 J**	mg/Kg	6.1	0.5	1	05/23/18 14:56	05/22/18	
Copper, Total	6010C	**1270**	mg/Kg	24	6	10	05/23/18 16:17	05/22/18	
Iron, Total	6010C	**12500**	mg/Kg	150	140	10	05/23/18 16:17	05/22/18	
Lead, Total	6010C	**2140**	mg/Kg	61	3	10	05/23/18 16:17	05/22/18	
Magnesium, Total	6010C	**2640**	mg/Kg	120	30	1	05/23/18 14:56	05/22/18	
Manganese, Total	6010C	**303**	mg/Kg	2.4	1.3	1	05/23/18 14:56	05/22/18	
Mercury, Total	7471B	**3.23**	mg/Kg	0.20	0.04	5	05/24/18 15:02	05/22/18	
Nickel, Total	6010C	**7.2**	mg/Kg	4.9	0.9	1	05/23/18 14:56	05/22/18	
Potassium, Total	6010C	**750**	mg/Kg	240	30	1	05/23/18 14:56	05/22/18	
Selenium, Total	6010C	**1.5**	mg/Kg	1.2	0.5	1	05/23/18 14:56	05/22/18	
Silver, Total	6010C	**0.8 J**	mg/Kg	1.2	0.09	1	05/23/18 14:56	05/22/18	
Sodium, Total	6010C	**520**	mg/Kg	120	80	1	05/23/18 14:56	05/22/18	
Thallium, Total	6010C	1.2 U	mg/Kg	1.2	0.7	1	05/23/18 14:56	05/22/18	
Vanadium, Total	6010C	**16.6**	mg/Kg	6.1	0.9	1	05/23/18 14:56	05/22/18	
Zinc, Total	6010C	**543**	mg/Kg	24	4	10	05/23/18 16:17	05/22/18	

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 14:30
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-06-5.3-7	**Basis:**	Dry
Lab Code:	R1804645-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum, Total	6010C	**4260**	mg/Kg	12	11	1	05/23/18 15:00	05/22/18	
Antimony, Total	6010C	7.1 U	mg/Kg	7.1	1.2	1	05/23/18 15:00	05/22/18	
Arsenic, Total	6010C	**7.8**	mg/Kg	1.2	0.4	1	05/23/18 15:00	05/22/18	
Barium, Total	6010C	**78.3**	mg/Kg	2.4	0.09	1	05/23/18 15:00	05/22/18	
Beryllium, Total	6010C	**0.21 J**	mg/Kg	0.36	0.05	1	05/23/18 15:00	05/22/18	
Cadmium, Total	6010C	**0.50 J**	mg/Kg	0.59	0.03	1	05/23/18 15:00	05/22/18	
Calcium, Total	6010C	**39200**	mg/Kg	1200	70	10	05/23/18 16:20	05/22/18	
Chromium, Total	6010C	**9.7**	mg/Kg	1.2	0.2	1	05/23/18 15:00	05/22/18	
Cobalt, Total	6010C	**3.4 J**	mg/Kg	5.9	0.4	1	05/23/18 15:00	05/22/18	
Copper, Total	6010C	**129**	mg/Kg	2.4	0.6	1	05/23/18 15:00	05/22/18	
Iron, Total	6010C	**10600**	mg/Kg	140	140	10	05/23/18 16:20	05/22/18	
Lead, Total	6010C	**149**	mg/Kg	5.9	0.3	1	05/23/18 15:00	05/22/18	
Magnesium, Total	6010C	**5740**	mg/Kg	120	30	1	05/23/18 15:00	05/22/18	
Manganese, Total	6010C	**178**	mg/Kg	2.4	1.2	1	05/23/18 15:00	05/22/18	
Mercury, Total	7471B	**1.73**	mg/Kg	0.038	0.007	1	05/24/18 14:55	05/22/18	
Nickel, Total	6010C	**7.6**	mg/Kg	4.7	0.9	1	05/23/18 15:00	05/22/18	
Potassium, Total	6010C	**930**	mg/Kg	240	30	1	05/23/18 15:00	05/22/18	
Selenium, Total	6010C	1.2 U	mg/Kg	1.2	0.5	1	05/23/18 15:00	05/22/18	
Silver, Total	6010C	**0.2 J**	mg/Kg	1.2	0.08	1	05/23/18 15:00	05/22/18	
Sodium, Total	6010C	**370**	mg/Kg	120	80	1	05/23/18 15:00	05/22/18	
Thallium, Total	6010C	1.2 U	mg/Kg	1.2	0.7	1	05/23/18 15:00	05/22/18	
Vanadium, Total	6010C	**11.2**	mg/Kg	5.9	0.8	1	05/23/18 15:00	05/22/18	
Zinc, Total	6010C	**364**	mg/Kg	2.4	0.4	1	05/23/18 15:00	05/22/18	

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 15:00
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-06-8.8-9.8	**Basis:**	Dry
Lab Code:	R1804645-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum, Total	6010C	**2420**	mg/Kg	11	11	1	05/23/18 15:03	05/22/18	
Antimony, Total	6010C	6.9 U	mg/Kg	6.9	1.2	1	05/23/18 15:03	05/22/18	
Arsenic, Total	6010C	**3.9**	mg/Kg	1.1	0.4	1	05/23/18 15:03	05/22/18	
Barium, Total	6010C	**189**	mg/Kg	2.3	0.09	1	05/23/18 15:03	05/22/18	
Beryllium, Total	6010C	**0.13 J**	mg/Kg	0.34	0.05	1	05/23/18 15:03	05/22/18	
Cadmium, Total	6010C	**0.43 J**	mg/Kg	0.57	0.02	1	05/23/18 15:03	05/22/18	
Calcium, Total	6010C	**57500**	mg/Kg	1100	60	10	05/23/18 16:23	05/22/18	
Chromium, Total	6010C	**7.5**	mg/Kg	1.1	0.2	1	05/23/18 15:03	05/22/18	
Cobalt, Total	6010C	**2.2 J**	mg/Kg	5.7	0.4	1	05/23/18 15:03	05/22/18	
Copper, Total	6010C	**16.6**	mg/Kg	2.3	0.6	1	05/23/18 15:03	05/22/18	
Iron, Total	6010C	**7080**	mg/Kg	140	130	10	05/23/18 16:23	05/22/18	
Lead, Total	6010C	**176**	mg/Kg	5.7	0.3	1	05/23/18 15:03	05/22/18	
Magnesium, Total	6010C	**4340**	mg/Kg	110	30	1	05/23/18 15:03	05/22/18	
Manganese, Total	6010C	**109**	mg/Kg	2.3	1.2	1	05/23/18 15:03	05/22/18	
Mercury, Total	7471B	**0.643**	mg/Kg	0.039	0.007	1	05/24/18 14:57	05/22/18	
Nickel, Total	6010C	**6.4**	mg/Kg	4.6	0.8	1	05/23/18 15:03	05/22/18	
Potassium, Total	6010C	**660**	mg/Kg	230	20	1	05/23/18 15:03	05/22/18	
Selenium, Total	6010C	1.1 U	mg/Kg	1.1	0.5	1	05/23/18 15:03	05/22/18	
Silver, Total	6010C	1.1 U	mg/Kg	1.1	0.08	1	05/23/18 15:03	05/22/18	
Sodium, Total	6010C	**500**	mg/Kg	110	80	1	05/23/18 15:03	05/22/18	
Thallium, Total	6010C	**1.7**	mg/Kg	1.1	0.6	1	05/23/18 15:03	05/22/18	
Vanadium, Total	6010C	**8.0**	mg/Kg	5.7	0.8	1	05/23/18 15:03	05/22/18	
Zinc, Total	6010C	**430**	mg/Kg	2.3	0.4	1	05/23/18 15:03	05/22/18	

General Chemistry

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Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 09:20
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-01-2.5-3.5	**Basis:**	As Received
Lab Code:	R1804645-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**86.7**	Percent	-	1	05/22/18 12:50	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 11:50
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-02-2.2-3.2	**Basis:**	As Received
Lab Code:	R1804645-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**87.9**	Percent	-	1	05/22/18 12:50	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 12:05
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-02-8-9	**Basis:**	As Received
Lab Code:	R1804645-003		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**81.1**	Percent	-	1	05/22/18 12:50	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 13:00
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-03-2.4-3.4	**Basis:**	As Received
Lab Code:	R1804645-004		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**62.9**	Percent	-	1	05/22/18 12:50	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 13:15
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-03-8-8.9	**Basis:**	As Received
Lab Code:	R1804645-005		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**85.4**	Percent	-	1	05/22/18 12:50	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 13:45
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-04-1.9-3	**Basis:**	As Received
Lab Code:	R1804645-006		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**75.4**	Percent	-	1	05/22/18 12:50	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 14:00
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-05-1.7-3	**Basis:**	As Received
Lab Code:	R1804645-007		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**79.4**	Percent	-	1	05/22/18 12:50	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 14:30
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-06-5.3-7	**Basis:**	As Received
Lab Code:	R1804645-008		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**83.6**	Percent	-	1	05/22/18 12:50	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18 15:00
Sample Matrix:	Soil	**Date Received:**	05/21/18 15:45
Sample Name:	LB-06-8.8-9.8	**Basis:**	As Received
Lab Code:	R1804645-009		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Total Solids	ALS SOP	**85.0**	Percent	-	1	05/22/18 12:50	

QC Summary Forms

ALS Environmental—Rochester Laboratory
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Semivolatile Organic Compounds by GC/MS

ALS Environmental—Rochester Laboratory
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www.alsglobal.com

Client: The LiRo Group **Service Request:** R1804645
Project: South Ave Block Phase II/09-75-104
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3541

Sample Name	Lab Code	2,4,6-Tribromophenol 10 - 109	2-Fluorobiphenyl 10 - 102	2-Fluorophenol 10 - 88
LB-01-2.5-3.5	R1804645-001	77	44	39
LB-02-2.2-3.2	R1804645-002	73	46	40
LB-02-8-9	R1804645-003	74	50	48
LB-03-2.4-3.4	R1804645-004	72	41	39
LB-03-8-8.9	R1804645-005	66	47	44
LB-04-1.9-3	R1804645-006	62	37	32
LB-05-1.7-3	R1804645-007	60	52	47
LB-06-5.3-7	R1804645-008	66	38	36
LB-06-8.8-9.8	R1804645-009	68	55	52
Method Blank	RQ1804936-01	48	35	43
Lab Control Sample	RQ1804936-02	77	57	46
Duplicate Lab Control Sample	RQ1804936-03	77	56	44
LB-06-8.8-9.8 MS	RQ1804936-04	47	42	41
LB-06-8.8-9.8 DMS	RQ1804936-05	72	49	35

Client: The LiRo Group **Service Request:** R1804645
Project: South Ave Block Phase II/09-75-104
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3541

Sample Name	Lab Code	Nitrobenzene-d5 10 - 95	Phenol-d6 10 - 145	Terphenyl-d14 10 - 106
LB-01-2.5-3.5	R1804645-001	41	43	82
LB-02-2.2-3.2	R1804645-002	45	44	74
LB-02-8-9	R1804645-003	49	51	78
LB-03-2.4-3.4	R1804645-004	41	43	72
LB-03-8-8.9	R1804645-005	44	50	65
LB-04-1.9-3	R1804645-006	34	39	65
LB-05-1.7-3	R1804645-007	49	53	61
LB-06-5.3-7	R1804645-008	37	37	65
LB-06-8.8-9.8	R1804645-009	55	53	68
Method Blank	RQ1804936-01	40	49	78
Lab Control Sample	RQ1804936-02	49	51	87
Duplicate Lab Control Sample	RQ1804936-03	48	49	84
LB-06-8.8-9.8 MS	RQ1804936-04	40	43	52
LB-06-8.8-9.8 DMS	RQ1804936-05	39	39	76

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18
Sample Matrix:	Soil	**Date Received:**	05/21/18
		Date Analyzed:	05/22/18
		Date Extracted:	05/22/18

Duplicate Matrix Spike Summary
Semivolatile Organic Compounds by GC/MS

Sample Name:	LB-06-8.8-9.8	**Units:**	ug/Kg
Lab Code:	R1804645-009	**Basis:**	Dry
Analysis Method:	8270D		
Prep Method:	EPA 3541		

		Matrix Spike			Duplicate Matrix Spike					
		RQ1804936-04			RQ1804936-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4,5-Tetrachlorobenzene	390 U	1630	4020	40	1830	4010	46	10-115	14	30
2,3,4,6-Tetrachlorophenol	390 U	1600	3920	41	2620	3910	67	10-123	48*	30
2,4,5-Trichlorophenol	390 U	2170	3920	55	2970	3910	76	12-109	32*	30
2,4,6-Trichlorophenol	390 U	1880	3920	48	2630	3910	67	13-149	33*	30
2,4-Dichlorophenol	390 U	1800	3920	46	2100	3910	54	16-98	16	30
2,4-Dimethylphenol	390 U	1800	3920	46	2080	3910	53	10-98	14	30
2,4-Dinitrophenol	2000 U	592 J	3920	15	556 J	3910	14	10-129	7	30
2,4-Dinitrotoluene	390 U	2050	3920	52	2940	3910	75	10-124	36*	30
2,6-Dinitrotoluene	390 U	2080	3920	53	2830	3910	72	13-112	30	30
2-Chloronaphthalene	390 U	1790	3920	46	2090	3910	54	10-94	16	30
2-Chlorophenol	390 U	1750	3920	45	1510	3910	39	14-99	14	30
2-Methylnaphthalene	390 U	1640	3920	42	1840	3910	47	10-90	11	30
2-Methylphenol	390 U	1830	3920	47	1660	3910	42	10-86	11	30
2-Nitroaniline	2000 U	2290	3920	58	3080	3910	79	10-109	31*	30
2-Nitrophenol	390 U	1830	3920	47	1650	3910	42	10-90	11	30
3,3'-Dichlorobenzidine	390 U	1780	3920	46	2720	3910	70	10-118	41*	30
3- and 4-Methylphenol Coelution	390 U	1630	3920	42	1610	3910	41	11-101	2	30
3-Nitroaniline	2000 U	1830 J	3920	47	2770	3910	71	10-104	41*	30
4,6-Dinitro-2-methylphenol	2000 U	762 J	3920	19	1090 J	3910	28	10-123	38*	30
4-Bromophenyl Phenyl Ether	390 U	2040	3920	52	2890	3910	74	10-99	35*	30
4-Chloro-3-methylphenol	390 U	1850	3920	47	2840	3910	73	10-108	43*	30
4-Chloroaniline	390 U	1510	3920	38	1820	3910	47	10-91	21	30
4-Chlorophenyl Phenyl Ether	390 U	1970	3920	50	2750	3910	70	10-95	33*	30
4-Nitroaniline	2000 U	1980 J	3920	51	2960	3910	76	10-137	39*	30
4-Nitrophenol	2000 U	2090	3920	53	3130	3910	80	10-130	41*	30
Acenaphthene	390 U	1810	3920	46	2390	3910	61	10-100	28	30
Acenaphthylene	390 U	1850	3920	47	2380	3910	61	10-102	26	30
Acetophenone	390 U	3030	7840	39	2750	7820	35	12-99	11	30
Anthracene	390 U	2040	3920	52	3060	3910	78	10-129	40*	30
Atrazine	390 U	2820	3920	72	4050 E	3910	104	15-133	36*	30
Benz(a)anthracene	390 U	2060	3920	53	3130	3910	80	10-122	41*	30
Benzaldehyde	2000 U	1810 J	3920	46	1590 J	3910	41	10-103	11	30
Benzo(a)pyrene	390 U	2090	3920	53	3210	3910	82	10-122	43*	30
Benzo(b)fluoranthene	390 U	1890	3920	48	2990	3910	77	10-112	46*	30
Benzo(g,h,i)perylene	390 U	2250	3920	58	3210	3910	82	10-136	34*	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18
Sample Matrix:	Soil	**Date Received:**	05/21/18
		Date Analyzed:	05/22/18
		Date Extracted:	05/22/18

Duplicate Matrix Spike Summary
Semivolatile Organic Compounds by GC/MS

Sample Name:	LB-06-8.8-9.8	**Units:**	ug/Kg
Lab Code:	R1804645-009	**Basis:**	Dry
Analysis Method:	8270D		
Prep Method:	EPA 3541		

		Matrix Spike			Duplicate Matrix Spike					
		RQ1804936-04			RQ1804936-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Benzo(k)fluoranthene	390 U	1930	3920	49	3050	3910	78	10-112	46*	30
Biphenyl	390 U	1790	3920	46	2050	3910	52	10-99	12	30
2,2'-Oxybis(1-chloropropane)	390 U	1770	3920	45	1580	3910	40	10-87	12	30
Bis(2-chloroethoxy)methane	390 U	1710	3920	44	1670	3910	43	16-93	2	30
Bis(2-chloroethyl) Ether	390 U	1550	3920	40	1410	3910	36	10-79	11	30
Bis(2-ethylhexyl) Phthalate	590 U	2180	3920	56	3320	3910	85	10-116	41*	30
Butyl Benzyl Phthalate	390 U	2050	3920	52	3070	3910	79	10-128	41*	30
Caprolactam	390 U	1730	3920	44	3120	3910	80	10-112	58*	30
Carbazole	390 U	2130	3920	54	3230	3910	83	10-138	42*	30
Chrysene	390 U	2120	3920	54	3280	3910	84	10-113	43*	30
Di-n-butyl Phthalate	390 U	2000	3920	51	3030	3910	77	10-119	41*	30
Di-n-octyl Phthalate	390 U	1910	3920	49	3110	3910	80	10-121	48*	30
Dibenz(a,h)anthracene	390 U	2100	3920	54	3040	3910	78	10-130	36*	30
Dibenzofuran	390 U	1880	3920	48	2520	3910	64	10-102	29	30
Diethyl Phthalate	390 U	1730	3920	44	2550	3910	65	10-101	39*	30
Dimethyl Phthalate	390 U	1780	3920	45	2410	3910	62	10-113	32*	30
Fluoranthene	390 U	2080	3920	53	3230	3910	83	10-125	44*	30
Fluorene	390 U	1900	3920	49	2670	3910	68	10-109	32*	30
Hexachlorobenzene	390 U	1980	3920	51	2870	3910	73	10-106	35*	30
Hexachlorobutadiene	390 U	1480	3920	38	1540	3910	39	10-142	3	30
Hexachlorocyclopentadiene	390 U	327 J	3920	8 *	508	3910	13	10-133	48*	30
Hexachloroethane	390 U	1270	3920	32	1150	3910	29	10-129	10	30
Indeno(1,2,3-cd)pyrene	390 U	2140	3920	55	3190	3910	82	10-124	39*	30
Isophorone	390 U	1600	3920	41	1710	3910	44	10-81	7	30
N-Nitrosodi-n-propylamine	390 U	1570	3920	40	1440	3910	37	10-76	8	30
N-Nitrosodiphenylamine	390 U	2280	3920	58	3270	3910	84	10-114	37*	30
Naphthalene	390 U	1590	3920	41	1620	3910	41	10-89	<1	30
Nitrobenzene	390 U	1440	3920	37	1420	3910	36	10-77	3	30
Pentachlorophenol (PCP)	2000 U	1680 J	3920	43	2630	3910	67	10-118	44*	30
Phenanthrene	100 J	2160	3920	52	3060	3910	76	10-137	38*	30
Phenol	390 U	1820	3920	46	1570	3910	40	10-144	14	30
Pyrene	390 U	2230	3920	57	3220	3910	82	10-118	36*	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1804936-01	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	330 U	330	96	1	05/22/18 15:33	5/22/18	
2,3,4,6-Tetrachlorophenol	330 U	330	82	1	05/22/18 15:33	5/22/18	
2,4,5-Trichlorophenol	330 U	330	82	1	05/22/18 15:33	5/22/18	
2,4,6-Trichlorophenol	330 U	330	86	1	05/22/18 15:33	5/22/18	
2,4-Dichlorophenol	330 U	330	68	1	05/22/18 15:33	5/22/18	
2,4-Dimethylphenol	330 U	330	63	1	05/22/18 15:33	5/22/18	
2,4-Dinitrophenol	1700 U	1700	62	1	05/22/18 15:33	5/22/18	
2,4-Dinitrotoluene	330 U	330	86	1	05/22/18 15:33	5/22/18	
2,6-Dinitrotoluene	330 U	330	120	1	05/22/18 15:33	5/22/18	
2-Chloronaphthalene	330 U	330	73	1	05/22/18 15:33	5/22/18	
2-Chlorophenol	330 U	330	80	1	05/22/18 15:33	5/22/18	
2-Methylnaphthalene	330 U	330	74	1	05/22/18 15:33	5/22/18	
2-Methylphenol	330 U	330	80	1	05/22/18 15:33	5/22/18	
2-Nitroaniline	1700 U	1700	95	1	05/22/18 15:33	5/22/18	
2-Nitrophenol	330 U	330	75	1	05/22/18 15:33	5/22/18	
3,3'-Dichlorobenzidine	330 U	330	110	1	05/22/18 15:33	5/22/18	
3- and 4-Methylphenol Coelution	330 U	330	83	1	05/22/18 15:33	5/22/18	
3-Nitroaniline	1700 U	1700	72	1	05/22/18 15:33	5/22/18	
4,6-Dinitro-2-methylphenol	1700 U	1700	72	1	05/22/18 15:33	5/22/18	
4-Bromophenyl Phenyl Ether	330 U	330	94	1	05/22/18 15:33	5/22/18	
4-Chloro-3-methylphenol	330 U	330	75	1	05/22/18 15:33	5/22/18	
4-Chloroaniline	330 U	330	40	1	05/22/18 15:33	5/22/18	
4-Chlorophenyl Phenyl Ether	330 U	330	79	1	05/22/18 15:33	5/22/18	
4-Nitroaniline	1700 U	1700	73	1	05/22/18 15:33	5/22/18	
4-Nitrophenol	1700 U	1700	200	1	05/22/18 15:33	5/22/18	
Acenaphthene	330 U	330	73	1	05/22/18 15:33	5/22/18	
Acenaphthylene	330 U	330	68	1	05/22/18 15:33	5/22/18	
Acetophenone	330 U	330	77	1	05/22/18 15:33	5/22/18	
Anthracene	330 U	330	64	1	05/22/18 15:33	5/22/18	
Atrazine	330 U	330	89	1	05/22/18 15:33	5/22/18	
Benz(a)anthracene	330 U	330	58	1	05/22/18 15:33	5/22/18	
Benzaldehyde	1700 U	1700	79	1	05/22/18 15:33	5/22/18	
Benzo(a)pyrene	330 U	330	67	1	05/22/18 15:33	5/22/18	
Benzo(b)fluoranthene	330 U	330	60	1	05/22/18 15:33	5/22/18	
Benzo(g,h,i)perylene	330 U	330	75	1	05/22/18 15:33	5/22/18	
Benzo(k)fluoranthene	330 U	330	74	1	05/22/18 15:33	5/22/18	
Biphenyl	330 U	330	77	1	05/22/18 15:33	5/22/18	
2,2'-Oxybis(1-chloropropane)	330 U	330	81	1	05/22/18 15:33	5/22/18	
Bis(2-chloroethoxy)methane	330 U	330	76	1	05/22/18 15:33	5/22/18	
Bis(2-chloroethyl) Ether	330 U	330	60	1	05/22/18 15:33	5/22/18	
Bis(2-ethylhexyl) Phthalate	500 U	500	460	1	05/22/18 15:33	5/22/18	
Butyl Benzyl Phthalate	330 U	330	63	1	05/22/18 15:33	5/22/18	
Caprolactam	330 U	330	74	1	05/22/18 15:33	5/22/18	

Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1804936-01	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	330 U	330	82	1	05/22/18 15:33	5/22/18	
Chrysene	330 U	330	65	1	05/22/18 15:33	5/22/18	
Di-n-butyl Phthalate	330 U	330	110	1	05/22/18 15:33	5/22/18	
Di-n-octyl Phthalate	330 U	330	99	1	05/22/18 15:33	5/22/18	
Dibenz(a,h)anthracene	330 U	330	60	1	05/22/18 15:33	5/22/18	
Dibenzofuran	330 U	330	68	1	05/22/18 15:33	5/22/18	
Diethyl Phthalate	330 U	330	180	1	05/22/18 15:33	5/22/18	
Dimethyl Phthalate	330 U	330	91	1	05/22/18 15:33	5/22/18	
Fluoranthene	330 U	330	78	1	05/22/18 15:33	5/22/18	
Fluorene	330 U	330	83	1	05/22/18 15:33	5/22/18	
Hexachlorobenzene	330 U	330	77	1	05/22/18 15:33	5/22/18	
Hexachlorobutadiene	330 U	330	56	1	05/22/18 15:33	5/22/18	
Hexachlorocyclopentadiene	330 U	330	55	1	05/22/18 15:33	5/22/18	
Hexachloroethane	330 U	330	58	1	05/22/18 15:33	5/22/18	
Indeno(1,2,3-cd)pyrene	330 U	330	73	1	05/22/18 15:33	5/22/18	
Isophorone	330 U	330	71	1	05/22/18 15:33	5/22/18	
N-Nitrosodi-n-propylamine	330 U	330	60	1	05/22/18 15:33	5/22/18	
N-Nitrosodiphenylamine	330 U	330	150	1	05/22/18 15:33	5/22/18	
Naphthalene	330 U	330	68	1	05/22/18 15:33	5/22/18	
Nitrobenzene	330 U	330	68	1	05/22/18 15:33	5/22/18	
Pentachlorophenol (PCP)	1700 U	1700	110	1	05/22/18 15:33	5/22/18	
Phenanthrene	330 U	330	69	1	05/22/18 15:33	5/22/18	
Phenol	330 U	330	72	1	05/22/18 15:33	5/22/18	
Pyrene	330 U	330	65	1	05/22/18 15:33	5/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	48	10 - 109	05/22/18 15:33	
2-Fluorobiphenyl	35	10 - 102	05/22/18 15:33	
2-Fluorophenol	43	10 - 88	05/22/18 15:33	
Nitrobenzene-d5	40	10 - 95	05/22/18 15:33	
Phenol-d6	49	10 - 145	05/22/18 15:33	
Terphenyl-d14	78	10 - 106	05/22/18 15:33	

Client: The LiRo Group
Project: South Ave Block Phase II/09-75-104
Sample Matrix: Soil

Service Request: R1804645
Date Analyzed: 05/22/18

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

Units:ug/Kg
Basis: Dry

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1804936-02			RQ1804936-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4,5-Tetrachlorobenzene	8270D	1670	3420	49	1730	3420	51	10-115	4	30
2,3,4,6-Tetrachlorophenol	8270D	2550	3330	77	2590	3330	78	29-100	1	30
2,4,5-Trichlorophenol	8270D	2550	3330	76	2640	3330	79	29-97	4	30
2,4,6-Trichlorophenol	8270D	2250	3330	67	2380	3330	71	26-97	6	30
2,4-Dichlorophenol	8270D	2010	3330	60	1940	3330	58	25-90	3	30
2,4-Dimethylphenol	8270D	2000	3330	60	2020	3330	60	26-89	<1	30
2,4-Dinitrophenol	8270D	787 J	3330	24	966 J	3330	29	10-128	19	30
2,4-Dinitrotoluene	8270D	2880	3330	86	2820	3330	85	30-111	1	30
2,6-Dinitrotoluene	8270D	2640	3330	79	2700	3330	81	28-105	3	30
2-Chloronaphthalene	8270D	1950	3330	58	1950	3330	59	21-88	2	30
2-Chlorophenol	8270D	1620	3330	49	1600	3330	48	18-87	2	30
2-Methylnaphthalene	8270D	1780	3330	53	1790	3330	54	21-83	2	30
2-Methylphenol	8270D	1760	3330	53	1720	3330	52	22-86	2	30
2-Nitroaniline	8270D	2600	3330	78	2770	3330	83	27-105	6	30
2-Nitrophenol	8270D	1810	3330	54	1770	3330	53	20-88	2	30
3- and 4-Methylphenol Coelution	8270D	1710	3330	51	1660	3330	50	27-92	2	30
3-Nitroaniline	8270D	2520	3330	76	2500	3330	75	27-98	1	30
4,6-Dinitro-2-methylphenol	8270D	2030	3330	61	2110	3330	63	11-96	3	30
4-Bromophenyl Phenyl Ether	8270D	2560	3330	77	2560	3330	77	25-96	<1	30
4-Chloro-3-methylphenol	8270D	2340	3330	70	2400	3330	72	29-92	3	30
4-Chloroaniline	8270D	1830	3330	55	1870	3330	56	21-72	2	30
4-Chlorophenyl Phenyl Ether	8270D	2380	3330	72	2450	3330	73	25-92	1	30
4-Nitroaniline	8270D	2780	3330	83	2700	3330	81	27-102	2	30
4-Nitrophenol	8270D	2920	3330	87	2820	3330	85	10-130	2	30
Acenaphthene	8270D	2060	3330	62	2160	3330	65	25-92	5	30
Acenaphthylene	8270D	2150	3330	64	2230	3330	67	27-93	5	30
Acetophenone	8270D	2920	6670	44	2860	6670	43	23-87	2	30
Anthracene	8270D	2750	3330	82	2740	3330	82	32-106	<1	30
Benz(a)anthracene	8270D	2920	3330	88	2830	3330	85	33-109	3	30
Benzo(a)pyrene	8270D	3030	3330	91	3010	3330	90	34-115	1	30
Benzo(b)fluoranthene	8270D	2820	3330	85	2780	3330	84	31-107	1	30
Benzo(g,h,i)perylene	8270D	3390	3330	102	3360	3330	101	30-127	<1	30
Benzo(k)fluoranthene	8270D	2890	3330	87	2810	3330	84	34-111	4	30

Client: The LiRo Group
Project: South Ave Block Phase II/09-75-104
Sample Matrix: Soil

Service Request: R1804645
Date Analyzed: 05/22/18

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

Units:ug/Kg
Basis: Dry

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1804936-02			RQ1804936-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Biphenyl	8270D	1940	3330	58	2010	3330	60	26-88	3	30
2,2'-Oxybis(1-chloropropane)	8270D	1700	3330	51	1730	3330	52	10-82	2	30
Bis(2-chloroethoxy)methane	8270D	1800	3330	54	1800	3330	54	17-85	<1	30
Bis(2-chloroethyl) Ether	8270D	1410	3330	42	1470	3330	44	10-79	5	30
Bis(2-ethylhexyl) Phthalate	8270D	2790	3330	84	2680	3330	81	31-115	4	30
Butyl Benzyl Phthalate	8270D	2820	3330	84	2720	3330	82	31-115	2	30
Caprolactam	8270D	2730	3330	82	2810	3330	84	28-99	2	30
Carbazole	8270D	3040	3330	91	2980	3330	89	23-129	2	30
Chrysene	8270D	2970	3330	89	2940	3330	88	34-108	1	30
Di-n-butyl Phthalate	8270D	2830	3330	85	2750	3330	83	33-114	2	30
Di-n-octyl Phthalate	8270D	2780	3330	83	2750	3330	83	32-116	<1	30
Dibenz(a,h)anthracene	8270D	3130	3330	94	3050	3330	92	23-122	2	30
Dibenzofuran	8270D	2240	3330	67	2350	3330	71	27-94	6	30
Diethyl Phthalate	8270D	2260	3330	68	2280	3330	68	26-101	<1	30
Dimethyl Phthalate	8270D	2150	3330	64	2220	3330	67	27-98	5	30
Fluoranthene	8270D	2970	3330	89	2910	3330	87	34-111	2	30
Fluorene	8270D	2290	3330	69	2390	3330	72	27-95	4	30
Hexachlorobenzene	8270D	2620	3330	79	2650	3330	79	30-104	<1	30
Hexachlorobutadiene	8270D	1450	3330	44	1480	3330	44	10-142	<1	30
Hexachlorocyclopentadiene	8270D	1490	3330	45	1520	3330	45	10-133	<1	30
Hexachloroethane	8270D	1240	3330	37	1270	3330	38	10-129	3	30
Indeno(1,2,3-cd)pyrene	8270D	3250	3330	97	3180	3330	95	33-121	2	30
Isophorone	8270D	1850	3330	55	1830	3330	55	21-79	<1	30
N-Nitrosodi-n-propylamine	8270D	1590	3330	48	1610	3330	48	15-78	<1	30
N-Nitrosodiphenylamine	8270D	2860	3330	86	2890	3330	87	29-108	1	30
Naphthalene	8270D	1570	3330	47	1590	3330	48	18-81	2	30
Nitrobenzene	8270D	1440	3330	43	1390	3330	42	14-80	2	30
Pentachlorophenol (PCP)	8270D	2430	3330	73	2430	3330	73	13-117	<1	30
Phenanthrene	8270D	2640	3330	79	2680	3330	80	33-103	1	30
Phenol	8270D	1720	3330	52	1710	3330	51	10-144	2	30
Pyrene	8270D	2850	3330	86	2830	3330	85	33-111	1	30

Metals

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Analytical Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project:	South Ave Block Phase II/09-75-104	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	Dry
Lab Code:	R1804645-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aluminum, Total	6010C	10 U	mg/Kg	10	9	1	05/23/18 13:33	05/22/18	
Antimony, Total	6010C	6.0 U	mg/Kg	6.0	1.0	1	05/23/18 13:33	05/22/18	
Arsenic, Total	6010C	**0.4 J**	mg/Kg	1.0	0.3	1	05/23/18 13:33	05/22/18	
Barium, Total	6010C	2.0 U	mg/Kg	2.0	0.08	1	05/23/18 13:33	05/22/18	
Beryllium, Total	6010C	0.30 U	mg/Kg	0.30	0.04	1	05/23/18 13:33	05/22/18	
Cadmium, Total	6010C	**0.03 J**	mg/Kg	0.50	0.02	1	05/23/18 13:33	05/22/18	
Calcium, Total	6010C	**10 J**	mg/Kg	100	6	1	05/23/18 13:33	05/22/18	
Chromium, Total	6010C	1.0 U	mg/Kg	1.0	0.10	1	05/23/18 13:33	05/22/18	
Cobalt, Total	6010C	5.0 U	mg/Kg	5.0	0.4	1	05/23/18 13:33	05/22/18	
Copper, Total	6010C	2.0 U	mg/Kg	2.0	0.5	1	05/23/18 13:33	05/22/18	
Iron, Total	6010C	12 U	mg/Kg	12	11	1	05/23/18 13:33	05/22/18	
Lead, Total	6010C	5.0 U	mg/Kg	5.0	0.2	1	05/23/18 13:33	05/22/18	
Magnesium, Total	6010C	100 U	mg/Kg	100	20	1	05/23/18 13:33	05/22/18	
Manganese, Total	6010C	2.0 U	mg/Kg	2.0	1.0	1	05/23/18 13:33	05/22/18	
Mercury, Total	7471B	0.033 U	mg/Kg	0.033	0.006	1	05/24/18 14:15	05/22/18	
Nickel, Total	6010C	4.0 U	mg/Kg	4.0	0.7	1	05/23/18 13:33	05/22/18	
Potassium, Total	6010C	200 U	mg/Kg	200	20	1	05/23/18 13:33	05/22/18	
Selenium, Total	6010C	1.0 U	mg/Kg	1.0	0.4	1	05/23/18 13:33	05/22/18	
Silver, Total	6010C	1.0 U	mg/Kg	1.0	0.07	1	05/23/18 13:33	05/22/18	
Sodium, Total	6010C	100 U	mg/Kg	100	70	1	05/23/18 13:33	05/22/18	
Thallium, Total	6010C	1.0 U	mg/Kg	1.0	0.6	1	05/23/18 13:33	05/22/18	
Vanadium, Total	6010C	5.0 U	mg/Kg	5.0	0.7	1	05/23/18 13:33	05/22/18	
Zinc, Total	6010C	2.0 U	mg/Kg	2.0	0.4	1	05/23/18 13:33	05/22/18	

Client: The LiRo Group
Project: South Ave Block Phase II/09-75-104
Sample Matrix: Soil

Service Request: R1804645
Date Analyzed: 05/23/18 - 05/24/18

Lab Control Sample Summary
Inorganic Parameters

Units:mg/Kg
Basis: Dry

Lab Control Sample
R1804645-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Aluminum, Total	6010C	181	200	90	80-120
Antimony, Total	6010C	44.8	50.0	90	80-120
Arsenic, Total	6010C	3.67	4.0	92	80-120
Barium, Total	6010C	205	200	102	80-120
Beryllium, Total	6010C	4.72	5.00	94	80-120
Cadmium, Total	6010C	4.97	5.00	99	80-120
Calcium, Total	6010C	188	200	94	80-120
Chromium, Total	6010C	20.4	20.0	102	80-120
Cobalt, Total	6010C	50.7	50.0	101	80-120
Copper, Total	6010C	24.3	25.0	97	80-120
Iron, Total	6010C	99.4	100	99	80-120
Lead, Total	6010C	49.7	50.0	99	80-120
Magnesium, Total	6010C	191	200	96	80-120
Manganese, Total	6010C	50.2	50.0	100	80-120
Mercury, Total	7471B	0.170	0.167	102	80-120
Nickel, Total	6010C	48.9	50.0	98	80-120
Potassium, Total	6010C	1870	2000	93	80-120
Selenium, Total	6010C	90.2	101	89	80-120
Silver, Total	6010C	4.74	5.0	95	80-120
Sodium, Total	6010C	1960	2000	98	80-120
Thallium, Total	6010C	182	200	91	80-120
Vanadium, Total	6010C	48.7	50.0	97	80-120
Zinc, Total	6010C	46.8	50.0	94	80-120

General Chemistry

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QA/QC Report

Client:	The LiRo Group	**Service Request:**	R1804645
Project	South Ave Block Phase II/09-75-104	**Date Collected:**	05/18/18
Sample Matrix:	Soil	**Date Received:**	05/21/18
		Date Analyzed:	05/22/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	LB-01-2.5-3.5	**Units:**	Percent
Lab Code:	R1804645-001	**Basis:**	As Received

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample R1804645-001DUP Result	Average	RPD	RPD Limit
Total Solids	ALS SOP	-	86.7	86.7	86.7	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.