ENVIRONMENTAL REMEDIATION GROUP
3855 North Ocoee Street, Suite 200
Cleveland, TN 37312

August 15, 2014

Mr. Alex Czuhanich
New York State Dept. of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Re: Olin Parking Lot Parcels I and II
Soil Investigation Report
Olin Chemicals Buffalo Avenue Facility, Niagara Falls, NY
AOC Index No. R9-4171-94-08, NYSDEC Site No. 932051A

Dear Mr. Czuhanich:

Olin has prepared the attached *North Parking Lot Soil Investigation Report* for New York State Department of Environmental Conservation's (NYSDEC's) review. The soil investigation was performed in accordance with the *North Parking Lot Soil Investigation Work Plan* submitted to NYSDEC in January 2014.

If you have any questions or concerns, please contact me directly at (423) 336-4576.

Sincerely,

Richard W. McClure, PG
OLIN CORPORATION

cc: David Share: Olin ERG, Cleveland, TN
Rob Meyer: Olin, Niagara Falls, NY
Tony Englund: AMEC E&I, Kennesaw, GA

North Parking Lot Soil Investigation
Niagara Falls, New York

Prepared for:

OLIN CORPORATION

Prepared by:

AMEC Environment &Infrastructure, Inc.
1075 Big Shanty Road NW, Suite 100
Kennesaw, Georgia 30144

August 15, 2014
Project 6107-14-0002

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ABBREVIATIONS AND ACRONYMS

Acronym	Definition
DI	De-ionized
GPS	Global Positioning System
GWTS	Groundwater Treatment System
Hg	mercury
mg/kg	milligram per kilogram
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NELAP	National Environmental Laboratory Accreditation Program
NYSDEC	New York State Department of Environmental Conservation
QC	Quality Control
SCO	Soil Cleanup Objective
SS	Stainless Steel
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

The North Parking Lot site (Parcels I and II) is located north of Buffalo Avenue, across from Olin's Niagara Falls, Chlor-Alkali Plant (Figure 1.1). Olin has performed a surface soil investigation to fully characterize the Parking Lot Site surface soils in response to the NYSDEC letter dated September 27, 2013 and in accordance with the AMEC Work Plan submitted January 20, 2014. The Work Plan was approved by NYSDEC on March 26, 2014. This report describes the soil investigation and provides the characterization objectives, sample collection and analysis procedures, data results, data evaluation, and site recommendations resulting from these efforts.

2.0 OBJECTIVES

The characterization objectives are to:

- Collect representative surface soil samples for the North Parking Lot.
- Analyze the samples for Total Mercury (Hg) to characterize the North Parking Lot surface soils.
- Select an appropriate remedy for the North Parking Lot based on the surface soil sampling results.

3.0 SAMPLE COLLECTION AND ANALYSIS

This section describes the sample collection procedures, sampling equipment decontamination procedures, and analytical method.

3.1 SAMPLE COLLECTION

Fifty surface soil samples were obtained at the North Parking Lot. Approximate locations are shown on Figure 3.1. The latitude and longitude of the sample locations were surveyed with a handheld global positioning system (GPS) and the coordinates are provided in Table 3.1.

The sample locations were advanced using clean, stainless steel (SS) trowels. The samples were obtained at approximately 2-inches below the existing vegetation or cover material (gravel, etc.) as specified for surface soil investigations in NYSDEC Technical Guidance Document DER-10 (NYSDEC, 2010). Soil was collected from the locations and placed in clean, laboratory-supplied, 4-ounce glass jars.

Sample collection tools were decontaminated between samples. Following removal of loose soil, decontamination was as follows:

1. Liquinox and water wash
2. Potable water rinse
3. Nitric Acid rinse
4. De-ionized (DI) water rinse

Decontamination wash water was discharged to Olin's Groundwater Treatment System (GWTS) via the building floor sump

Field Quality Control (QC) samples consisted of five duplicate samples, two matrix spike/matrix spike duplicate (MS/MSD) pairs, and one equipment rinse blank. The duplicate samples and MS/MSD pairs were collected from randomly selected sample locations. The equipment rinse blank was prepared by rinsing the non-disposable, decontaminated, sampling equipment with DI water. The rinse water was then collected in a laboratory supplied container for total Hg analysis.

The sampling field notes are provided in Appendix A.

3.2 SAMPLE ANALYSIS

The samples were properly preserved and shipped to ALS Environmental in Rochester, NY which is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory. The sample chains of custody are provided in Appendix B. The samples were analyzed for Total Hg by United States Environmental Protection Agency (USEPA) SW-846 Method 7471B.

4.0 RESULTS AND EVALUATION

This section presents the results of the soil investigation.

4.1 DATA COMPLETENESS

A Level I completeness check was performed on the data generated from the samples collected with this work. This verification included checks that:

- All results are present for the parameters requested on the chain-of-custody for each sample submitted
- Requested methods were utilized
- Standard reporting limits were adhered to with the exception of dilutions necessary for accurate Hg analysis. Hg reporting limits were below commercial and industrial SCO values.
- Requested reporting units were provided
- The data package includes a definition of any qualifiers
- Exceptions to the data are documented

The completeness check showed that the data is complete. Two results were qualified with a J flag due to the relative percent difference between parent and duplicate samples being outside quality control limits. These estimated results are considered usable.

4.2 DATA RESULTS

The analytical results for the soil samples are provided in Table 4.1 and the original lab reports are provided in Appendix C. The results show that the Hg concentrations range from 0.43 milligrams per kilogram (mg/kg) to 53.5 mg/kg. Figure 4.1 shows the Hg concentration distribution at the Parking Lot Site.

4.3 DATA COMPARISON

The Restricted Use Industrial Soil Cleanup Objective (SCO) for Mercury is 5.7 mg/kg from Table 375-6.8(b) of NYSDEC Regulations Chapter IV, Subpart 375-6: Remedial Program Soil Cleanup Objectives. The footnotes to Table 375-6.8(b) explain that the Hg SCO is the lower of the values for Hg (elemental) or Hg (inorganic salts) and refers to New York State Brownfield Cleanup Program - Development of Soil Cleanup Objectives - Technical Support Document

Table 5.6-1 (NYSDEC, 2006). Table 5.6-1 of the Technical Support Document provides a Final Human Health-based Commercial Hg (inorganic salts) SCO of 47 mg/kg and an Industrial Hg (inorganic salts) SCO of 220 mg/kg.

The North Parking Lot Hg source was reported to be brine mud used for filling potholes (Woodward-Clyde, 1994). The chlor-alkali process involved passing an electric current through a salt (NaCl) brine solution as it flowed over a thin layer of liquid Hg inside a reaction cell. The process produced sodium hydroxide, chlorine gas, and hydrogen gas. The liquid Hg was recycled back to the process but some Hg was transferred to the spent brine solution.

The depleted brine solution was returned to the brine system for re-saturation and purification. Impurities that were potentially detrimental to the chlor-alkali process such as calcium, magnesium, sulfates, and heavy metals (including Hg) were precipitated from the brine solution into a sludge or “brine mud” which would have had concentrations of Hg. The brine mud would dry to a hard solid which made it useful, at the time, for on-site road repairs.

Based on the source of mercury as “brine mud” and because no elemental Hg was observed during the field sampling event, we conclude that Hg concentrations observed in the samples are inorganic salts.

Using USEPA’s ProUCL Software Version 5.00, a site-wide exposure point concentration was developed for mercury. The 95 percent upper confidence limit of the arithmetic mean was calculated as 9.0 mg/kg and the mean as 3.09 mg/kg. Only one data point of 50 sampled exceeded the commercial SCO of 47 mg/kg with a maximum concentration of 53.5 mg/kg (see Appendix D). The 95 percent upper confidence limit and the mean values remain well below both the commercial SCO of 47 mg/kg and the industrial SCO of 220 mg/kg, the regulatory benchmarks for the Site. Ninety-eight percent of the locations sampled did not exceed the commercial SCO, the more conservative of the regulatory benchmarks, indicating that the North Parking Lot as a whole would not pose a risk under commercial and/or industrial land use.

5.0 CONCLUSIONS

The North Parking Lot surface soil investigation shows that Hg surface soil exposure point concentrations are below the Commercial and Industrial Hg (Inorganic Salts) SCOs. This is consistent with the current commercial and/or industrial use restriction. The attached Notice and Declaration of Restrictive Covenants (Appendix E) submitted on November 30, 2012 restricts the land use to commercial and/or industrial purposes.

6.0 REFERENCES

NYSDEC. (2010). *DER 10 / Technical Guidance for Site Investigation and Remediation.* Albany, NY: NYSDEC.

Woodward-Clyde. (1994). *RCRA Facility Investigation Report for the Olin Buffalo Avenue Plant.* Amherst, NY: Woodward-Clyde Consultants, Inc.

TABLES

Table 3.1
May 2014 Soil Boring Coordinates

Location ID	X Coordinate	Y Coordinate
PLS-SS-1	1028210.7	1123921.73
PLS-SS-2	1028314.74	1123927.04
PLS-SS-3	1028349.1	1123923.74
PLS-SS-4	1028381.13	1123922.64
PLS-SS-5	1028412.85	1123918.23
PLS-SS-6	1028451.12	1123911.95
PLS-SS-7	1028479.06	1123903.42
PLS-SS-8	1028510.28	1123901.47
PLS-SS-9	1028547.58	1123900.33
PLS-SS-10	1028575.69	1123902.6
PLS-SS-11	1028635.37	1123887.73
PLS-SS-12	1028637.88	1123909.11
PLS-SS-13	1028698.82	1123875.5
PLS-SS-14	1028700.43	1123900.64
PLS-SS-15	1028763.55	1123866.01
PLS-SS-16	1028770.58	1123886.39
PLS-SS-17	1028827.84	1123861.48
PLS-SS-18	1028830.23	1123881.15
PLS-SS-19	1028894.16	1123853.96
PLS-SS-20	1028896.81	1123884.08
PLS-SS-21	1028957.64	1123848.02
PLS-SS-22	1028965.31	1123869.3
PLS-SS-23	1029018.91	1123860.93
PLS-SS-24	1029025.47	1123878.08
PLS-SS-25	1029084.11	1123855.46
PLS-SS-26	1029086.35	1123872.52
PLS-SS-27	1029148.19	1123846.61
PLS-SS-28	1029148.98	1123864.14
PLS-SS-29	1029208.8	1123841.94
PLS-SS-30	1029215.2	1123857.29
PLS-SS-31	1029360.42	1123811.78
PLS-SS-32	1029357.3	1123836.31
PLS-SS-33	1029415.82	1123805.95
PLS-SS-34	1029424.63	1123829.93
PLS-SS-35	1029459.27	1123792.72
PLS-SS-36	1029460.94	1123826.97
PLS-SS-37	1029505.09	1123797.57
PLS-SS-38	1029509.93	1123819.59
PLS-SS-39	1029551.5	1123792.11
PLS-SS-40	1029557.62	1123817.11
PLS-SS-41	1029596.56	1123787.46

Table 3.1
May 2014 Soil Boring Coordinates

Location ID	X Coordinate	Y Coordinate
PLS-SS-42	1029599.22	1123811.41
PLS-SS-43	1029647.72	1123786.2
PLS-SS-44	1029650.13	1123809.79
PLS-SS-45	1029698.51	1123775.74
PLS-SS-46	1029712.99	1123809.82
PLS-SS-47	1029743.99	1123772.6
PLS-SS-48	1029741.32	1123805.2
PLS-SS-49	1029816.46	1123772.05
PLS-SS-50	1029825.71	1123803.12

Note:
1. Coordinates surveyed with Leica GS20 handheld GPS.
2. Coordinates are NAD83 NY State Plane West coordinates.

Prepared By: AWE 6/2/2014
Checked By: JDD 6/2/2014

Table 4.1
May 2014 Soil Sampling Results

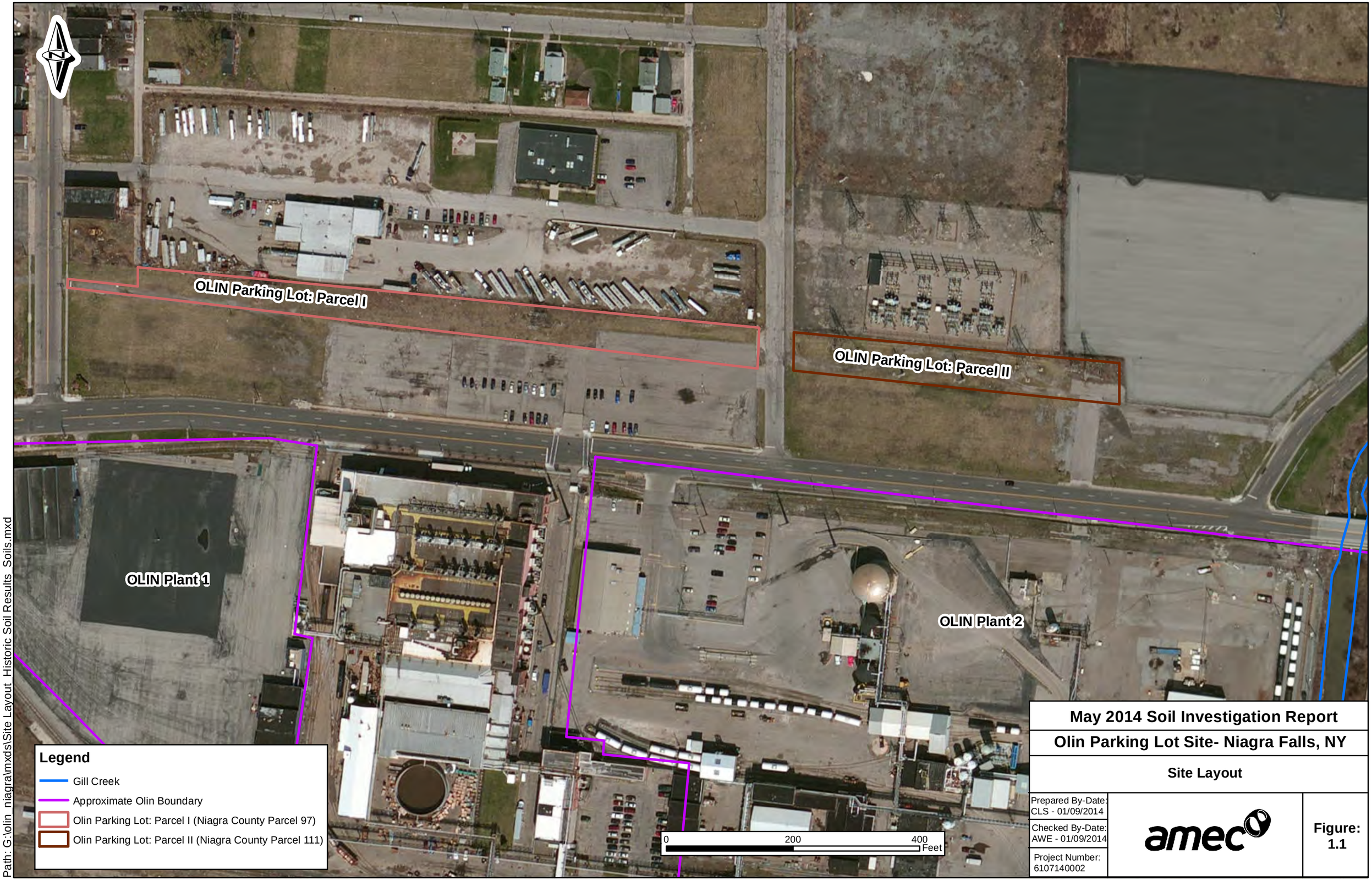
Location ID	Sample ID	Sample Date	Analytical Method	Chemical	Result	Result Unit
PLS-SS-1	PLS-SS-1-05062014	06-May-14	SW7471B	Mercury	0.65	mg/kg
PLS-SS-2	PLS-SS-2-05062014	06-May-14	SW7471B	Mercury	0.93	mg/kg
PLS-SS-3	PLS-SS-3-05062014	06-May-14	SW7471B	Mercury	5.55	mg/kg
PLS-SS-4	PLS-SS-4-05062014	06-May-14	SW7471B	Mercury	7.28	mg/kg
PLS-SS-5	PLS-SS-5-05062014	06-May-14	SW7471B	Mercury	1.95	mg/kg
PLS-SS-6	PLS-SS-6-05062014	06-May-14	SW7471B	Mercury	1.94	mg/kg
PLS-SS-7	PLS-SS-7-05062014	06-May-14	SW7471B	Mercury	6.11	mg/kg
PLS-SS-8	PLS-SS-8-05062014	06-May-14	SW7471B	Mercury	1.07	mg/kg
PLS-SS-9	PLS-SS-9-05062014	06-May-14	SW7471B	Mercury	0.54	mg/kg
PLS-SS-9	DUP01-SS-05062014	06-May-14	SW7471B	Mercury	0.51	mg/kg
PLS-SS-10	PLS-SS-10-05062014	06-May-14	SW7471B	Mercury	20.8	mg/kg
PLS-SS-11	PLS-SS-11-05062014	06-May-14	SW7471B	Mercury	0.43	mg/kg
PLS-SS-12	PLS-SS-12-05062014	06-May-14	SW7471B	Mercury	0.79	mg/kg
PLS-SS-13	PLS-SS-13-05062014	06-May-14	SW7471B	Mercury	2.5	mg/kg
PLS-SS-14	PLS-SS-14-05062014	06-May-14	SW7471B	Mercury	2.57	mg/kg
PLS-SS-15	PLS-SS-15-05062014	06-May-14	SW7471B	Mercury	15.2	mg/kg
PLS-SS-16	PLS-SS-16-05062014	06-May-14	SW7471B	Mercury	17.9	mg/kg
PLS-SS-17	PLS-SS-17-05062014	06-May-14	SW7471B	Mercury	3.67	mg/kg
PLS-SS-18	PLS-SS-18-05062014	06-May-14	SW7471B	Mercury	19.7	mg/kg
PLS-SS-19	PLS-SS-19-05062014	06-May-14	SW7471B	Mercury	53.5	mg/kg
PLS-SS-20	PLS-SS-20-05062014	06-May-14	SW7471B	Mercury	2.48	mg/kg
PLS-SS-20	DUP02-SS-05062014	06-May-14	SW7471B	Mercury	1.65	mg/kg
PLS-SS-21	PLS-SS-21-05062014	06-May-14	SW7471B	Mercury	5.5	mg/kg
PLS-SS-22	PLS-SS-22-05062014	06-May-14	SW7471B	Mercury	14.6	mg/kg
PLS-SS-23	PLS-SS-23-05062014	06-May-14	SW7471B	Mercury	3.32	mg/kg
PLS-SS-24	PLS-SS-24-05062014	06-May-14	SW7471B	Mercury	12.4	mg/kg
PLS-SS-25	PLS-SS-25-05062014	06-May-14	SW7471B	Mercury	3.88	mg/kg
PLS-SS-26	PLS-SS-26-05062014	06-May-14	SW7471B	Mercury	2.19	mg/kg
PLS-SS-27	PLS-SS-27-050614	06-May-14	SW7471B	Mercury	1.32	mg/kg
PLS-SS-28	PLS-SS-28-050614	06-May-14	SW7471B	Mercury	3.81	mg/kg
PLS-SS-29	PLS-SS-29-050614	06-May-14	SW7471B	Mercury	3.51	mg/kg
PLS-SS-29	DUP03-SS-050614	06-May-14	SW7471B	Mercury	3.94	mg/kg
PLS-SS-30	PLS-SS-30-050614	06-May-14	SW7471B	Mercury	1.6	mg/kg
PLS-SS-31	PLS-SS-31-050614	06-May-14	SW7471B	Mercury	2.22	mg/kg
PLS-SS-32	PLS-SS-32-050614	06-May-14	SW7471B	Mercury	2.58	mg/kg
PLS-SS-33	PLS-SS-33-050614	06-May-14	SW7471B	Mercury	1.21	mg/kg
PLS-SS-34	PLS-SS-34-050614	06-May-14	SW7471B	Mercury	1.95	mg/kg
PLS-SS-35	PLS-SS-35-050614	06-May-14	SW7471B	Mercury	0.46	mg/kg
PLS-SS-36	PLS-SS-36-050614	06-May-14	SW7471B	Mercury	2.54	mg/kg
PLS-SS-37	PLS-SS-37-050614	06-May-14	SW7471B	Mercury	1.3	mg/kg
PLS-SS-37	DUP04-SS-050614	06-May-14	SW7471B	Mercury	1.82	mg/kg

Table 4.1
May 2014 Soil Sampling Results

Location ID	Sample ID	Sample Date	Analytical Method	Chemical	Result	Result Unit
PLS-SS-38	PLS-SS-38-050614	06-May-14	SW7471B	Mercury	3.73	mg/kg
PLS-SS-39	PLS-SS-39-050614	06-May-14	SW7471B	Mercury	2.41	mg/kg
PLS-SS-40	PLS-SS-40-050614	06-May-14	SW7471B	Mercury	5.26	mg/kg
PLS-SS-41	PLS-SS-41-050614	06-May-14	SW7471B	Mercury	3.29	mg/kg
PLS-SS-42	PLS-SS-42-050614	06-May-14	SW7471B	Mercury	25.9	mg/kg
PLS-SS-43	PLS-SS-43-050614	06-May-14	SW7471B	Mercury	0.62	mg/kg
PLS-SS-44	PLS-SS-44-050614	06-May-14	SW7471B	Mercury	4.56	mg/kg
PLS-SS-45	PLS-SS-45-050614	06-May-14	SW7471B	Mercury	2.89	mg/kg
PLS-SS-46	PLS-SS-46-050614	06-May-14	SW7471B	Mercury	5.53 J	mg/kg
PLS-SS-46	DUP05-SS-050614	06-May-14	SW7471B	Mercury	2.36 J	mg/kg
PLS-SS-47	PLS-SS-47-050614	06-May-14	SW7471B	Mercury	1.78	mg/kg
PLS-SS-48	PLS-SS-48-050614	06-May-14	SW7471B	Mercury	8.44	mg/kg
PLS-SS-49	PLS-SS-49-050614	06-May-14	SW7471B	Mercury	10	mg/kg
PLS-SS-50	PLS-SS-50-050614	06-May-14	SW7471B	Mercury	7.72	mg/kg
Equipment Blank	PLS-EQB1-050614	06-May-14	SW7470	Mercury	< 0.2	ug/l

Notes:
1. J - estimated result - relative percent difference between parent and duplicate sample outside of QC limits.

FIGURES



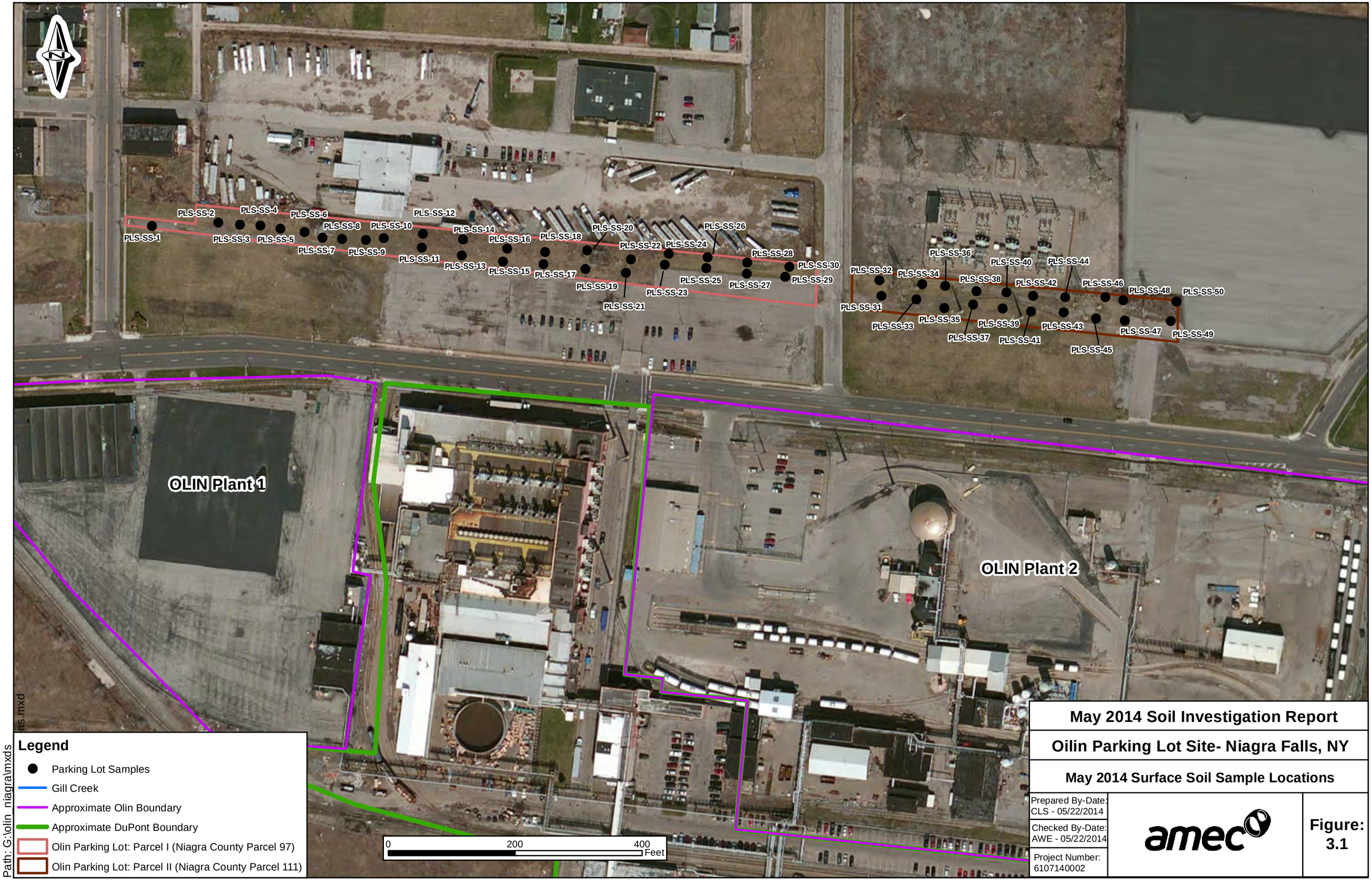
Path: G:\olin_niagra\mxds\Site Layout_Historic Soil Results_Soils.mxd

May 2014 Soil Investigation Report

Olin Parking Lot Site- Niagra Falls, NY

Site Layout

Prepared By-Date: CLS - 01/09/2014	amec	Figure: 1.1
Checked By-Date: AWE - 01/09/2014		
Project Number: 6107140002		

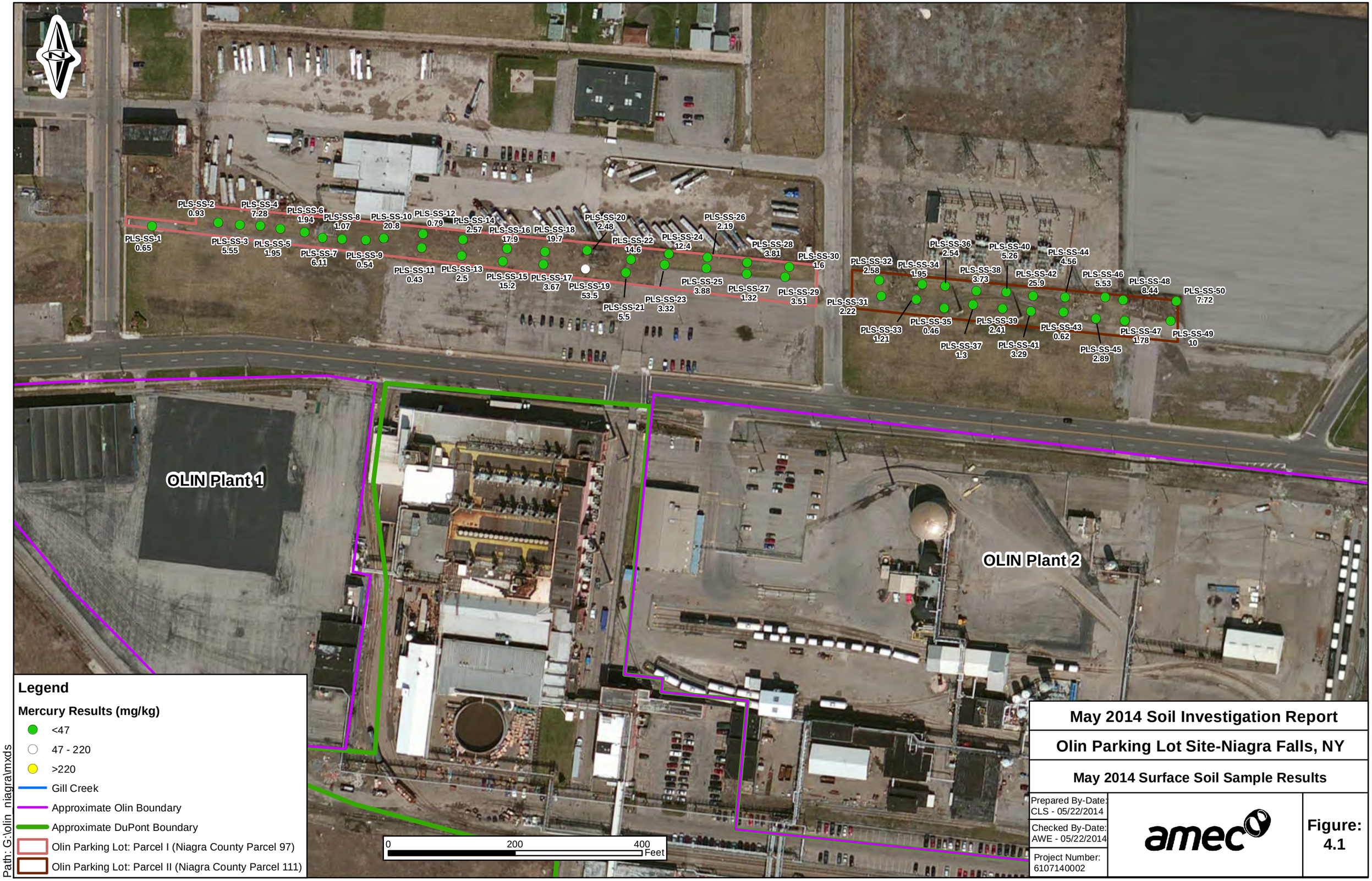


May 2014 Soil Investigation Report

Oilin Parking Lot Site- Niagra Falls, NY

May 2014 Surface Soil Sample Locations

Prepared By-Date: CLS - 05/22/2014	amec	Figure: 3.1
Checked By-Date: AWE - 05/22/2014		
Project Number: 6107140002		



Legend

Mercury Results (mg/kg)

- <47
- 47 - 220
- >220
- Gill Creek
- Approximate Olin Boundary
- Approximate DuPont Boundary
- Olin Parking Lot: Parcel I (Niagra County Parcel 97)
- Olin Parking Lot: Parcel II (Niagra County Parcel 111)

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May 2014 Soil Investigation Report

Olin Parking Lot Site-Niagra Falls, NY

May 2014 Surface Soil Sample Results

Prepared By-Date: CLS - 05/22/2014	amec	Figure: 4.1
Checked By-Date: AWE - 05/22/2014		
Project Number: 6107140002		

APPENDIX A

SOIL SAMPLING FIELD NOTES

Daily Log

11355-95-4A 5/6/14

Sunny 45-55°F winds NE 5-8 mph

0730 DST/SG on-site meet Tony England sign-in @ Gate 4 Talk to Rob Meyers from environmental had us get work permit signed by the contractor coordinator.

0800 Lay out sampling grid with a measuring wheel.

0855 begin Sampling

* Changed decon procedure: used a potable water rinse instead of the first DI water rinse. Change approved by Tony England.

Eg. Blank - poured Lab supplied DI over deconed SS scoop and collected water in labeled Sample Bottle 1x 250ml plastic w/ HNO_3

1320 SAMPLING COMPLETE, BEGIN SURVEYING SAMPLE LOCATIONS

1405 SURVEYING COMPLETE

1410 OFFSITE

David J Tyson

5/6/14 11335-95-4A

Location	ID	Time	GPS Y/N
1	PLS-SS-1-05062014	0855	Y
2	PLS-SS-2-05062014	0900	Y
3	PLS-SS-3-05062014	0905	Y
4	PLS-SS-4-05062014	0910	Y
5	PLS-SS-5-05062014	0915	Y
6	PLS-SS-6-05062014	0920	Y
7	PLS-SS-7-05062014	0925	Y
8	PLS-SS-8-05062014	0930	Y
9	PLS-SS-9-05062014	0935	Y
	DUP01-SS-05062014	0935	Y
10	PLS-SS-10-05062014	0940	Y
11	PLS-SS-11-05062014	0945	Y
12	PLS-SS-12-05062014	0950	Y
13	PLS-SS-13-05062014	0955	Y
14	PLS-SS-14-05062014	1000	Y
15	PLS-SS-15-05062014	1005	Y
16	PLS-SS-16-05062014	1010	Y
17	PLS-SS-17-05062014	1015	Y
18	PLS-SS-18-05062014	1018	Y
19	PLS-SS-19-05062014	1021	Y
20	PLS-SS-20-05062014	1025	Y
	DUP02-SS-05062014	1025	Y

David J Tyson

5/6/14 11335-95-44

LOCATION	ID	TIME	GPS Y/N
21 (MS/MSD)	PLS-SS-21-05062014	1030	Y
22	PLS-SS-22-05062014	1035	Y
23	PLS-SS-23-05062014	1038	Y
24	PLS-SS-24-05062014	1041	Y
25	PLS-SS-25-05062014	1050	Y
26	PLS-SS-26-05062014	1053	Y
27	PLS-SS-27-05062014	1055	Y
28	PLS-SS-28-05062014	1100	Y
29	PLS-SS-29-05062014	1110	Y
	DUP03-SS-05062014	1110	Y
30	PLS-SS-30-05062014	1115	Y
31	PLS-SS-31-05062014	1120	Y
32	PLS-SS-32-05062014	1125	Y
	PLS-EQB1-05062014	1130	Y
33	PLS-SS-33-05062014	1140	Y
34	PLS-SS-34-05062014	1145	Y
35	PLS-SS-35-05062014	1150	Y
36	PLS-SS-36-05062014	1155	Y
37	PLS-SS-37-05062014	1205	Y
	DUP04-SS-05062014	1205	Y
38	PLS-SS-38-05062014	1210	Y
39 (MS/MSD)	PLS-SS-39-05062014	1215	Y
40	PLS-SS-40-05062014	1220	Y
(21)	PLS-SS-21-MS-05062014	1030	Y
	PLS-SS-21-MSD-05062014	1030	Y
(39)	PLS-SS-39-MS-05062014	1215	Y
	PLS-SS-39-MSD-05062014	1215	Y

David J Tyson

5/6/14 11335-95-4A

LOCATION	ID	TIME	GPS Y/N
41	PLS-SS-41-05062014	1225	Y
42	PLS-SS-42-05062014	1228	Y
43	PLS-SS-43-05062014	1230	Y
44	PLS-SS-44-05062014	1233	Y
45	PLS-SS-45-05062014	1240	Y
46	PLS-SS-46-05062014	1245	Y
	DUP05-SS-05062014	1245	Y
47	PLS-SS-47-05062014	1250	Y
48	PLS-SS-48-05062014	1255	Y
49	PLS-SS-49-05062014	1300	Y
50	PLS-SS-50-05062014	1305	Y

Soil Description: Revised 5-22-14 DJT

Sandy loam, Black, some Silt, some fine gravel, moist to dry.

No free Hg observed in any of the Samples.

Dave Tynan

Sequence No.: 12
Sample ID: CCB
Analyst:

Autosampler Location: 1
Date Collected: 4/30/2014 5:15:38 PM
Data Type: Original

Replicate Data: CCB — Analyte: Hg 253.7

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.002	-0.002	-0.0000	-0.0005	0.0000	5:16:28 PM	Yes
2	0.004	0.004	0.0000	-0.0000	0.0001	5:16:56 PM	Yes
Mean:	0.001	0.001	0.0000				
SD:	0.0044	0.0044	0.0000				
%RSD:	485.97%	485.97%	485.97				

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 13
Sample ID: PBS-207148
Analyst:

Autosampler Location: 38
Date Collected: 4/30/2014 5:17:15 PM
Data Type: Original

Replicate Data: PBS-207148 — Analyte: Hg 253.7

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	-0.004	-0.004	-0.0000	-0.0013	-0.0000	5:18:04 PM	Yes
2	-0.002	-0.002	-0.0000	-0.0017	0.0000	5:18:33 PM	Yes
Mean:	-0.003	-0.003	-0.0000				
SD:	0.0012	0.0012	0.0000				
%RSD:	40.99%	40.99%	40.99				

Sequence No.: 14
Sample ID: LCSS
Analyst:

Autosampler Location: 39
Date Collected: 4/30/2014 5:18:52 PM
Data Type: Original

LCSS repeat
blk probe blanch
CSW 4/30/14

Replicate Data: LCSS — Analyte: Hg 253.7

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.678	0.678	0.0054	0.0201	0.0054	5:19:42 PM	Yes
2	0.690	0.690	0.0055	0.0217	0.0055	5:20:11 PM	Yes
Mean:	0.684	0.684	0.0054				
SD:	0.0088	0.0088	0.0001				
%RSD:	1.29%	1.29%	1.29				

User canceled analysis.

Analysis Begun

Logged In Analyst: ALRCE Metals01
Spectrometer: FIMS-100, S/N B050-9550

Technique: AA FIMS-MHS
Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer\AA\Data\Sample Information\Routine3.sif
Batch ID:
Results Data Set: APR-30S
Results Library: C:\Users\Public\PerkinElmer\AA\Data\Results\APR14.mdb

Sequence No.: 14
Sample ID: LCSS
Analyst:

Autosampler Location: 39
Date Collected: 4/30/2014 5:20:40 PM
Data Type: Original

Replicate Data: LCSS — Analyte: Hg 253.7

Repl #	SampleConc ug/L	StndConc ug/L	BlnkCorr Signal	Peak Area	Peak Height	Time	Peak Stored
1	0.914	0.914	0.0073	0.0295	0.0073	5:21:30 PM	Yes
2	0.917	0.917	0.0073	0.0299	0.0073	5:21:59 PM	Yes
Mean:	0.915	0.915	0.0073				

APPENDIX B

CHAINS OF CUSTODY

CHAIN OF CUSTODY RECORD

CONESTOGA-ROVERS & ASSOCIATES

Address: NIAGARA FALLS OFFICE

Phone: _____ Fax: _____

COC NO.: 40918

PAGE 1 OF 4

(See Reverse Side for Instructions)

Project No/ Phase/Task Code:	Laboratory Name:	Lab Location:	SSOW ID:
11235-95-AA	ALS	BUFFALO	
Project Name:	**Lab Contact:**	**Lab Quote No:**	**Cooler No:**
Parking Lot Site - Soil Sampling	OFF. PATTON		
Project Location:			**Carrier:**
OTN (Buffalo Ave)			LAS COURIER
Chemistry Contact:			**Airbill No:**
Sampler(s):			**Date Shipped:**
D.TRAN, S.GAGNON			5.7.14

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd//yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	MS/MSD Request	Comments/ Special Instructions:
1	PLS-SS-1-050614	5/6/14	0855	SO	G	X								1	X	
2	PLS-SS-2-050614	5/6/14	0900	SO	G	X								1	X	
3	PLS-SS-3-050614	5/6/14	0905	SO	G	X								1	X	
4	PLS-SS-4-050614	5/6/14	0910	SO	G	X								1	X	
5	PLS-SS-5-050614	5/6/14	0915	SO	G	X								1	X	
6	PLS-SS-6-050614	5/6/14	0920	SO	G	X								1	X	
7	PLS-SS-7-050614	5/6/14	0925	SO	G	X								1	X	
8	PLS-SS-8-050614	5/6/14	0930	SO	G	X								1	X	
9	PLS-SS-9-050614	5/6/14	0935	SO	G	X								1	X	
10	PLS-SS-050614	5/6/14	0935	SO	G	X								1	X	
11	PLS-SS-10-050614	5/6/14	0940	SO	G	X								1	X	
12	PLS-SS-11-050614	5/6/14	0945	SO	G	X								1	X	
13	PLS-SS-12-050614	5/6/14	0950	SO	G	X								1	X	
14	PLS-SS-13-050614	5/6/14	0955	SO	G	X								1	X	
15	PLS-SS-14-050614	5/6/14	1000	SO	G	X								1	X	

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☐ 2 Week ☐ Other:

Total Number of Containers:

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. D.TRAN	CRA	5/6/14	1540	1.			
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

CHAIN OF CUSTODY RECORD

COC NO.: 40919

PAGE 2 OF 4

CONESTOGA-ROVERS & ASSOCIATES

Address: NIAGARA FALLS OFFICE

Phone: _____ *Fax:* _____

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 11325 95 44	*Laboratory Name:* ALS	*Lab Location:* ROCHESTER	*SSOW ID:*
Project Name: Pasture Lot Site - Soil Sampling	*Lab Contact:* JEFF PATTON	*Lab Quote No:*	*Cooler No:*
Project Location: Olin (Buffalo Ave)			*Carrier:* LAB COURIER
Chemistry Contact:			*Airbill No:*
Sampler(s): BRIAN S GARDNER			*Date Shipped:* 5.7.14

Item	SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)	DATE (mm/dd/yy)	TIME (hh:mm)	SAMPLE TYPE: Matrix Code (see back of COC)	SAMPLE TYPE: Grab (G) or Comp (C)	CONTAINER QUANTITY & PRESERVATION: Unpreserved	HCl	HNO_3	H_2SO_4	NaOH	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	ANALYSIS REQUESTED (See Back of COC for Definitions): ET									MS/MSD Request	COMMENTS/ SPECIAL INSTRUCTIONS:
1	PLS-SS-15-050614	5/6/14	1005	SO	G	X								1	X										
2	PLS-SS-16-050614	5/6/14	1010	SO	G	X								1	X										
3	PLS-SS-17-050614	5/6/14	1015	SO	G	X								1	X										
4	PLS-SS-18-050614	5/6/14	1018	SO	G	X								1	X										
5	PLS-SS-19-050614	5/6/14	1021	SO	G	X								1	X										
6	PLS-SS-20-050614	5/6/14	1025	SO	G	X								1	X										
7	DUP01-SS-050614	5/6/14	1025	SO	G	X								1	X										
8	PLS-SS-21-050614	5/6/14	1030	SO	G	X								1	X										
9	PLS-SS-21-MS-050614	5/6/14	1030	SO	G	X								1	X										X
10	PLS-SS-21-MSD-050614	5/6/14	1030	SO	G	X								1	X										X
11	PLS-SS-22-050614	5/6/14	1035	SO	G	X								1	X										
12	PLS-SS-23-050614	5/6/14	1038	SO	G	X								1	X										
13	PLS-SS-24-050614	5/6/14	1041	SO	G	X								1	X										
14	PLS-SS-25-050614	5/6/14	1050	SO	G	X								1	X										
15	PLS-SS-26-050614	5/6/14	1053	SO	G	X								1	X										

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☑ 2 Week ☐ Other:

Total Number of Containers:

All Samples in Cooler must be on COC

Notes/ Special Requirements:

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
1. Brian S Gardner	CRA	5/6/14	1540	1.			
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

Address: NIAGARA FALLS OFFICE

Phone: _____ Fax: _____

COC NO.: 40909

PAGE 3 OF 4

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 11225-95 4A	**Laboratory Name:** ALS	**Lab Location:** ROCHESTER	**SSOW ID:**
Project Name: Parking Lot Site - Soil Sampling	**Lab Contact:** DEB PATON	**Lab Quote No:**	**Cooler No:**
Project Location: Olin (Buffalo Ave.)			**Carrier:** LAS COURIER
Chemistry Contact:			**Airbill No:**
Sampler(s): DTYRAN S GARDNER			**Date Shipped:** 5.7.14

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Sample Type: Matrix Code (see back of COC)	Sample Type: Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): 119	MS/MSD Request	Comments/ Special Instructions:
1	PLS-SS-27-05062014	5/6/14	0955	SO	G	X								1	X		
2	PLS-SS-28-05062014	5/6/14	1100	SO	G	X								1	X		
3	PLS-SS-29-05062014	5/6/14	1110	SO	G	X								1	X		
4	DUP03-SS-05062014	5/6/14	1110	SO	G	X								1	X		
5	PLS-SS-30-05062014	5/6/14	1115	SO	G	X								1	X		
6	PLS-SS-31-05062014	5/6/14	1120	SO	G	X								1	X		
7	PLS-SS-32-05062014	5/6/14	1125	SO	G	X								1	X		
8	PLS-EQBL-05062014	5/6/14	1130	SQ	G			X						1	X		
9	PLS-SS-33-05062014	5/6/14	1140	SO	G	X								1	X		
10	PLS-SS-34-05062014	5/6/14	1145	SO	G	X								1	X		
11	PLS-SS-35-05062014	5/6/14	1150	SO	G	X								1	X		
12	PLS-SS-36-05062014	5/6/14	1155	SO	G	X								1	X		
13	PLS-SS-37-05062014	5/6/14	1205	SO	G	X								1	X		
14	DUP04-SS-05062014	5/6/14	1205	SO	G	X								1	X		
15	PLS-SS-38-05062014	5/6/14	1210	SO	G	X								1	X		

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☑ 2 Week ☐ Other:

Total Number of Containers: 15

All Samples in Cooler must be on COC

Notes/ Special Requirements:

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1. Dave Tyron	CRA	5/6/14	1540	1.			
2.				2.			
3.				3.			

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Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

CHAIN OF CUSTODY RECORD

CONESTOGA-ROVERS & ASSOCIATES

Address: Niagara Falls Office
Phone: ____ Fax: ____

COC NO.: 40937
PAGE 4 OF 4
(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 11335 95 4A	Laboratory Name: ALS	Lab Location: Rochester	SSOW ID:
Project Name: Parking Lot Site Soil Sampling	Lab Contact: Deb Patton	Lab Quote No:	Cooler No:
Project Location: Olin (Buffalo Ave)			Carrier: Lab Courier
Chemistry Contact:			Airbill No:
Sampler(s): D Tyran S Gardner			Date Shipped: 5-7-14

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Hg	MS/MSD Request	Comments/ Special Instructions:
1	PLS-SS-39-05062014	5/6/14	1215	SO	G	X								1	X		
2	PLS-SS-39-MS-05062014	5/6/14	1215	SO	G	X								1	X	X	
3	PLS-SS-39-MSD-05062014	5/6/14	1215	SO	G	X								1	X	X	
4	PLS-SS-40-05062014	5/6/14	1220	SO	G	X								1	X		
5	PLS-SS-41-05062014	5/6/14	1225	SO	G	X								1	X		
6	PLS-SS-42-05062014	5/6/14	1228	SO	G	X								1	X		
7	PLS-SS-43-05062014	5/6/14	1230	SO	G	X								1	X		
8	PLS-SS-44-05062014	5/6/14	1233	SO	G	X								1	X		
9	PLS-SS-45-05062014	5/6/14	1240	SO	G	X								1	X		
10	PLS-SS-46-05062014	5/6/14	1245	SO	G	X								1	X		
11	DUP05-SS-05062014	5/6/14	1245	SO	G	X								1	X		
12	PLS-SS-47-05062014	5/6/14	1250	SO	G	X								1	X		
13	PLS-SS-48-05062014	5/6/14	1255	SO	G	X								1	X		
14	PLS-SS-49-05062014	5/6/14	1300	SO	G	X								1	X		
15	PLS-SS-50-05062014	5/6/14	1305	SO	G	X								1	X		

TAT Required in business days (use separate COCs for different TATs):
☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☒ 2 Week ☐ Other:

Total Number of Containers: 15

All Samples in Cooler must be on COC

Notes/ Special Requirements:

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	Dave Tyran	CRA	5/6/14	1540	1.			
2.					2.			
3.					3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

APPENDIX C

LABORATORY REPORTS

May 13, 2014

Service Request No: R1403333

Dawn Martel
Olin Corporation
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312

Laboratory Results for: Niagara Falls Parking Lot Samples

Dear Dawn:

Enclosed are the results of the sample(s) submitted to our laboratory on May 7, 2014. For your reference, these analyses have been assigned our service request number **R1403333.**

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 7473. You may also contact me via email at Deb.Patton@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Deb Patton
Project Manager

ADDRESS 1565 Jefferson Rd, Building 300, Suite 360, Rochester, NY 14623 PHONE 585-288-5380 | FAX 585-288-8475
ALS GROUP USA, CORP. Part of the ALS Group An ALS Limited Company

ALS-ENVIRONMENTAL

Client:	Olin Corporation	**Service Request No.:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Received:**	5/7/14
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS-Rochester. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Twenty-eight soil samples were received for analysis at ALS-Rochester on 5/7/14. The samples were received in good condition consistent with the accompanying chain of custody form enclosed except as noted on the Cooler Receipt and Preservation Check Form. The samples were received within the 0-6°C temperature guidelines.

Metals

Soil samples were analyzed for Mercury by Method 7471B. The samples were also analyzed for % Solids in order to report the data on a dry weight basis.

Site specific QC was requested on sample PLS-SS-21-05062014 (R1403333-023). The Matrix Spike (MS) was spiked too low to be accurately measured (<4X the concentration in the sample). The recovery has been flagged as "#". The Relative Percent Difference (RPD) calculation was within QC limits. The Laboratory Control Sample recoveries were acceptable.

No analytical or quality control problems were encountered during analysis.

Approved by Karen Burke Date 5/14/14

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1403333

Lab ID	Client ID
R1403333-001	PLS-SS-1-05062014
R1403333-002	PLS-SS-2-05062014
R1403333-003	PLS-SS-3-05062014
R1403333-004	PLS-SS-4-05062014
R1403333-005	PLS-SS-5-05062014
R1403333-006	PLS-SS-6-05062014
R1403333-007	PLS-SS-7-05062014
R1403333-008	PLS-SS-8-05062014
R1403333-009	PLS-SS-9-05062014
R1403333-010	DUP01-SS-05062014
R1403333-011	PLS-SS-10-05062014
R1403333-012	PLS-SS-11-05062014
R1403333-013	PLS-SS-12-05062014
R1403333-014	PLS-SS-13-05062014
R1403333-015	PLS-SS-14-05062014
R1403333-016	PLS-SS-15-05062014
R1403333-017	PLS-SS-16-05062014
R1403333-018	PLS-SS-17-05062014
R1403333-019	PLS-SS-18-05062014
R1403333-020	PLS-SS-19-05062014
R1403333-021	PLS-SS-20-05062014
R1403333-022	DUP02-SS-05062014
R1403333-023	PLS-SS-21-05062014
R1403333-024	PLS-SS-22-05062014
R1403333-025	PLS-SS-23-05062014
R1403333-026	PLS-SS-24-05062014
R1403333-027	PLS-SS-25-05062014
R1403333-028	PLS-SS-26-05062014

ALS Environmental

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 "Notes" 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 "immediate" 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% (25% for CLP) difference between the two GC columns.

C Confirmed by GC/MS

Q DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).

X See Case Narrative for discussion.

MRL Method Reporting Limit. Also known as:
LOQ 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.

ACCREDITED IN ACCORDANCE WITH nelac

Rochester Lab ID # for State Certifications[1]

NELAP Accredited	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Connecticut ID # PH0556	Nebraska Accredited	
Delaware Accredited	Nevada ID # NY-00032	North Carolina #676
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047		Virginia #460167

[1] Analyses were performed according to our laboratory's 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 laboratory case narrative provided. For a specific list of accredited analytes, refer to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0855
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-1-05062014		
Lab Code:	R1403333-001	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**90.6**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0855
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-1-05062014		
Lab Code:	R1403333-001	**Basis:**	Dry
		Percent Solids:	90.6

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**0.65**		mg/Kg	0.20	6	5/ 9/14	5/9/14 17:50	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0900
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-2-05062014		
Lab Code:	R1403333-002	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	77.1		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0900
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-2-05062014		
Lab Code:	R1403333-002	**Basis:**	Dry
		Percent Solids:	77.1

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**0.93**		mg/Kg	0.25	6	5/ 9/14	5/9/14 17:55	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0905
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-3-05062014		
Lab Code:	R1403333-003	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	76.7		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0905
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-3-05062014		
Lab Code:	R1403333-003	**Basis:**	Dry
		Percent Solids:	76.7

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**5.55**		mg/Kg	0.24	6	5/ 9/14	5/9/14 17:56	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0910
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-4-05062014		
Lab Code:	R1403333-004	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	76.4		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0910
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-4-05062014		
Lab Code:	R1403333-004	**Basis:**	Dry
		Percent Solids:	76.4

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**7.28**		mg/Kg	0.26	6	5/ 9/14	5/9/14 17:58	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0915
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-5-05062014		
Lab Code:	R1403333-005	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**78.8**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0915
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-5-05062014		
Lab Code:	R1403333-005	**Basis:**	Dry
		Percent Solids:	78.8

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**1.95**		mg/Kg	0.25	6	5/ 9/14	5/9/14 18:03	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0920
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-6-05062014		
Lab Code:	R1403333-006	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**77.2**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0920
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-6-05062014		
Lab Code:	R1403333-006	**Basis:**	Dry
		Percent Solids:	77.2

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**1.94**		mg/Kg	0.25	6	5/ 9/14	5/9/14 18:05	

Client: Olin Corporation
Project: Niagara Falls Parking Lot Samples
Sample Matrix: Soil

Service Request: R1403333
Date Collected: 5/ 6/14 0925
Date Received: 5/ 7/14

Sample Name: PLS-SS-7-05062014
Lab Code: R1403333-007

Basis: As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**86.3**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0925
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-7-05062014		
Lab Code:	R1403333-007	**Basis:**	Dry
		Percent Solids:	86.3

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	6.11		mg/Kg	0.21	6	5/ 9/14	5/9/14 18:06	

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0930
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-8-05062014		
Lab Code:	R1403333-008	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**76.0**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0930
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-8-05062014		
Lab Code:	R1403333-008	**Basis:**	Dry
		Percent Solids:	76.0

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**1.07**		mg/Kg	0.25	6	5/ 9/14	5/9/14 18:08	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0935
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-9-05062014		
Lab Code:	R1403333-009	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**91.7**		Percent	1.0	1	NA	5/10/14 09:46	

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0935
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-9-05062014		
Lab Code:	R1403333-009	**Basis:**	Dry
		Percent Solids:	91.7

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**0.54**		mg/Kg	0.20	6	5/ 9/14	5/9/14 18:10	

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0935
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	DUP01-SS-05062014		
Lab Code:	R1403333-010	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**90.2**		Percent	1.0	1	NA	5/10/14 09:46	

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0935
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	DUP01-SS-05062014		
Lab Code:	R1403333-010	**Basis:**	Dry
		Percent Solids:	90.2

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**0.51**		mg/Kg	0.22	6	5/ 9/14	5/9/14 18:11	

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0940
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-10-05062014		
Lab Code:	R1403333-011	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**71.5**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0940
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-10-05062014		
Lab Code:	R1403333-011	**Basis:**	Dry
		Percent Solids:	71.5

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**20.8**		mg/Kg	0.46	10	5/ 9/14	5/9/14 18:32	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0945
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-11-05062014		
Lab Code:	R1403333-012	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**89.2**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0945
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-11-05062014		
Lab Code:	R1403333-012	**Basis:**	Dry
		Percent Solids:	89.2

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**0.43**		mg/Kg	0.20	6	5/ 9/14	5/9/14 18:14	

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0950
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-12-05062014		
Lab Code:	R1403333-013	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**78.9**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0950
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-12-05062014		
Lab Code:	R1403333-013	**Basis:**	Dry
		Percent Solids:	78.9

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	0.79		mg/Kg	0.25	6	5/ 9/14	5/9/14 18:19	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0955
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-13-05062014		
Lab Code:	R1403333-014	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**83.7**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 0955
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-13-05062014		
Lab Code:	R1403333-014	**Basis:**	Dry
		Percent Solids:	83.7

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**2.50**		mg/Kg	0.23	6	5/ 9/14	5/9/14 18:21	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1000
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-14-05062014		
Lab Code:	R1403333-015	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**73.1**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1000
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-14-05062014		
Lab Code:	R1403333-015	**Basis:**	Dry
		Percent Solids:	73.1

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**2.57**		mg/Kg	0.27	6	5/ 9/14	5/9/14 18:23	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1005
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-15-05062014		
Lab Code:	R1403333-016	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**77.6**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1005
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-15-05062014		
Lab Code:	R1403333-016	**Basis:**	Dry
		Percent Solids:	77.6

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**15.2**		mg/Kg	0.40	10	5/ 9/14	5/9/14 18:41	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1010
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-16-05062014		
Lab Code:	R1403333-017	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**68.0**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1010
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-16-05062014		
Lab Code:	R1403333-017	**Basis:**	Dry
		Percent Solids:	68.0

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	17.9		mg/Kg	0.45	10	5/ 9/14	5/9/14 18:39	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1015
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-17-05062014		
Lab Code:	R1403333-018	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**88.5**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1015
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-17-05062014		
Lab Code:	R1403333-018	**Basis:**	Dry
		Percent Solids:	88.5

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	3.67		mg/Kg	0.21	6	5/ 9/14	5/9/14 18:28	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1018
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-18-05062014		
Lab Code:	R1403333-019	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**84.3**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1018
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-18-05062014		
Lab Code:	R1403333-019	**Basis:**	Dry
		Percent Solids:	84.3

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**19.7**		mg/Kg	0.57	15	5/ 9/14	5/9/14 19:04	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1021
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-19-05062014		
Lab Code:	R1403333-020	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**81.6**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1021
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-19-05062014		
Lab Code:	R1403333-020	**Basis:**	Dry
		Percent Solids:	81.6

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**53.5**		mg/Kg	2.0	50	5/ 9/14	5/9/14 19:02	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1025
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-20-05062014		
Lab Code:	R1403333-021	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**83.3**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1025
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-20-05062014		
Lab Code:	R1403333-021	**Basis:**	Dry
		Percent Solids:	83.3

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**2.48**		mg/Kg	0.22	6	5/ 9/14	5/9/14 18:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1025
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	DUP02-SS-05062014		
Lab Code:	R1403333-022	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**84.8**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1025
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	DUP02-SS-05062014		
Lab Code:	R1403333-022	**Basis:**	Dry
		Percent Solids:	84.8

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**1.65**		mg/Kg	0.22	6	5/ 9/14	5/9/14 18:47	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1030
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-21-05062014		
Lab Code:	R1403333-023	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**87.1**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1030
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-21-05062014		
Lab Code:	R1403333-023	**Basis:**	Dry
		Percent Solids:	87.1

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**5.50**		mg/Kg	0.23	6	5/ 9/14	5/9/14 18:49	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1035
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-22-05062014		
Lab Code:	R1403333-024	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**80.6**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1035
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-22-05062014		
Lab Code:	R1403333-024	**Basis:**	Dry
		Percent Solids:	80.6

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**14.6**		mg/Kg	0.40	10	5/ 9/14	5/9/14 19:00	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1038
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-23-05062014		
Lab Code:	R1403333-025	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**86.**7		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1038
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-23-05062014		
Lab Code:	R1403333-025	**Basis:**	Dry
		Percent Solids:	86.7

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**3.32**		mg/Kg	0.21	6	5/ 9/14	5/9/14 19:08	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1041
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-24-05062014		
Lab Code:	R1403333-026	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	77.9		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1041
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-24-05062014		
Lab Code:	R1403333-026	**Basis:**	Dry
		Percent Solids:	77.9

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**12.4**		mg/Kg	0.25	6	5/ 9/14	5/9/14 19:10	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1050
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-25-05062014		
Lab Code:	R1403333-027	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**70.5**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1050
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-25-05062014		
Lab Code:	R1403333-027	**Basis:**	Dry
		Percent Solids:	70.5

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**3.88**		mg/Kg	0.26	6	5/ 9/14	5/9/14 19:12	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1053
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-26-05062014		
Lab Code:	R1403333-028	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**85.1**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/ 6/14 1053
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-26-05062014		
Lab Code:	R1403333-028	**Basis:**	Dry
		Percent Solids:	85.1

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**2.19**		mg/Kg	0.23	6	5/ 9/14	5/9/14 19:13	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1403333-MB1	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	1.0	U	Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1403333-MB2	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	1.0	U	Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1403333-MB1	**Basis:**	Dry

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	0.033	U	mg/Kg	0.033	1	5/ 9/14	5/9/14 18:42	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1403333-MB2	**Basis:**	Dry

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	0.033	U	mg/Kg	0.033	1	5/9/14	5/9/14 17:47	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls Parking Lot Samples
Sample Matrix: Soil

Service Request: R1403333
Date Collected: 5/6/14
Date Received: 5/7/14
Date Analyzed: 5/10/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: PLS-SS-21-05062014
Lab Code: R1403333-023

Units: Percent
Basis: As Received

Analyte Name	Method	MRL	Sample Result	PLS-SS-21-05062014 DUP Duplicate Sample R1403333-023DUP Result	Average	RPD	RPD Limit
Solids, Total	160.3 Modified	1.0	87.1	86.6	86.8	<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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Olin Corporation	**Service Request:**	R1403333
Project:	Niagara Falls Parking Lot Samples	**Date Collected:**	5/6/14
Sample Matrix:	Soil	**Date Received:**	5/7/14
		Date Analyzed:	5/ 9/14

Replicate Sample Summary
Inorganic Parameters

Sample Name:	PLS-SS-21-05062014	**Units:**	mg/Kg
Lab Code:	R1403333-023	**Basis:**	Dry

Analyte Name	Method	MRL	Sample Result	PLS-SS-21-05062014 DUP Duplicate Sample R1403333-023DUP Result	Average	RPD	RPD Limit
Mercury, Total	7471B	0.23	5.50	4.67	5.09	16	35

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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls Parking Lot Samples
Sample Matrix: Soil

Service Request: R1403333
Date Collected: 5/6/14
Date Received: 5/7/14
Date Analyzed: 5/ 9/14

Matrix Spike Summary
Inorganic Parameters

Sample Name: PLS-SS-21-05062014
Lab Code: R1403333-023

Units: mg/Kg
Basis: Dry

Analytical Method: 7471B
Prep Method: Method

PLS-SS-21-05062014MS
Matrix Spike
R1403333-023MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec		% Rec Limits
Mercury, Total	5.50	6.29	0.19	422	#	75 - 125

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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls Parking Lot Samples
Sample Matrix: Soil

Service Request: R1403333
Date Analyzed: 5/ 9/14

Lab Control Sample Summary
Inorganic Parameters

Units: mg/Kg
Basis: Dry

Analyte Name	Method	Lab Control Sample R1403333-LCS1 Result	Spike Amount	% Rec	% Rec Limits
Mercury, Total	7471B	0.177	0.167	106	71.6 - 128

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

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls Parking Lot Samples
Sample Matrix: Soil

Service Request: R1403333
Date Analyzed: 5/ 9/14

Lab Control Sample Summary
Inorganic Parameters

Units: mg/Kg
Basis: Dry

Analyte Name	Method	Lab Control Sample R1403333-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Mercury, Total	7471B	0.166	0.167	100	71.6 - 128

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

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

CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

Address: NIAGARA FALLS OFFICE

Phone: _____ Fax: _____

COC NO.: 40918

PAGE 1 OF 4

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 11335-95-4A	Laboratory Name: ALS
Project Name: Parking Lot Site - Soil Sampling	Lab Contact: DEB PATTON
Project Location: Olin (Buffalo Ave)	
Chemistry Contact:	
Sampler(s): D TYRAN, S GARDNER	

Lab Location: ROCHESTER

Lab Quote No:

SSOW ID:

Cooler No:

Carrier: LAB COURIER

Airbill No:

Date Shipped: 5-7-14

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	HCl	HNO3	H2SO4	NaOH	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested: Hg	MS/MSD Request	Comments/ Special Instructions:
1	PLS-SS-1-05062014	5/6/14	0855	SO	G	X								1	X		
2	PLS-SS-2-05062014	5/6/14	0900	SO	G	X								1	X		
3	PLS-SS-3-05062014	5/6/14	0905	SO	G	X								1	X		
4	PLS-SS-4-05062014	5/6/14	0910	SO	G	X								1	X		
5	PLS-SS-5-05062014	5/6/14	0915	SO	G	X								1	X		
6	PLS-SS-6-05062014	5/6/14	0920	SO	G	X								1	X		
7	PLS-SS-7-05062014	5/6/14	0925	SO	G	X								1	X		
8	PLS-SS-8-05062014	5/6/14	0930	SO	G	X								1	X		
9	PLS-SS-9-05062014	5/6/14	0935	SO	G	X								1	X		
10	DUP01-SS-05062014	5/6/14	0935	SO	G	X								1	X		
11	PLS-SS-10-05062014	5/6/14	0940	SO	G	X								1	X		
12	PLS-SS-11-05062014	5/6/14	0945	SO	G	X								1	X		
13	PLS-SS-12-05062014	5/6/14	0950	SO	G	X								1	X		
14	PLS-SS-13-05062014	5/6/14	0955	SO	G	X								1	X		
15	PLS-SS-14-05062014	5/6/14	1000	SO	G	X								1	X		

R1403333 5

Olin Corporation
Niagara Falls Parking Lot Samples

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☒ 2 Week ☐ Other:

Total Number of Containers: 15

All Samples in Cooler must be on COC

Notes/ Special Requirements:

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	Dave Tyran	CRA	5-6-14	1540	Deb Bennett	ALS	5-7-14	1230
2.	Patricia Bennett	ALS	5-7-14	1500	2.	ALS	5/7/14	1500
3.					3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

Address: NIAGARA FALLS OFFICE

Phone: _____ Fax: _____

COC NO.: 40919

PAGE 2 OF 4

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 11335-95-4A	Laboratory Name: ALS	Lab Location: ROCHESTER	SSOW ID:
Project Name: Parking Lot Site - Soil Sampling	Lab Contact: DEB PATTON	Lab Quote No:	Cooler No:
Project Location: Olin (Buffalo Ave.)			Carrier: LAB COURIER
Chemistry Contact:			Airbill No:
Sampler(s): DTYRAN, S GARDNER			Date Shipped: 5-7-14

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Sample Type: Matrix Code (see back of COC)	Sample Type: Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	HCl	HNO_3	H_2SO_4	NaOH	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested: Hg	MS/MSD Request	Comments/ Special Instructions:
1	PLS-SS-15-05062014	5/6/14	1005	SO	G	X								1	X		
2	PLS-SS-16-05062014	5/6/14	1010	SO	G	X								1	X		
3	PLS-SS-17-05062014	5/6/14	1015	SO	G	X								1	X		
4	PLS-SS-18-05062014	5/6/14	1018	SO	G	X								1	X		
5	PLS-SS-19-05062014	5/6/14	1021	SO	G	X								1	X		
6	PLS-SS-20-05062014	5/6/14	1025	SO	G	X								1	X		
7	DUP02-SS-05062014	5/6/14	1025	SO	G	X								1	X		
8	PLS-SS-21-05062014	5/6/14	1030	SO	G	X								1	X		
9	PLS-SS-21-MS-05062014	5/6/14	1030	SO	G	X								1	X	X	
10	PLS-SS-21-MSD-05062014	5/6/14	1030	SO	G	X								1	X	X	
11	PLS-SS-22-05062014	5/6/14	1035	SO	G	X								1	X		
12	PLS-SS-23-05062014	5/6/14	1038	SO	G	X								1	X		
13	PLS-SS-24-05062014	5/6/14	1041	SO	G	X								1	X		
14	PLS-SS-25-05062014	5/6/14	1050	SO	G	X								1	X		
15	PLS-SS-26-05062014	5/6/14	1053	SO	G	X								1	X		

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☒ 2 Week ☐ Other:

Total Number of Containers: 15

All Samples in Cooler must be on COC

Notes/ Special Requirements:

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	Dave Tyran	CRA	5/6/14	1540	Patricia Bennett	ALS	5-7-14	1230
2.	Patricia Bennett	ALS	5-7-14	1500		ALS	5/7/14	1501
3.								

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

Cooler Receipt and Preservation Check Form

Project/Client ~~CRA~~ Qin Folder Number R1403333

Cooler received on 5/7/14 by: [illegible] COURIER: (ALS) UPS FEDEX VELOCITY CLIENT

1	Were Custody seals on outside of cooler?	Y (N)	5a	Perchlorate samples have required headspace?	Y N (NA)
2	Custody papers properly completed (ink, signed)?	(Y) N	5b	Did VOA vials, Alk or Sulfide have sig* bubbles?	Y (N) NA
3	Did all bottles arrive in good condition (unbroken)?	(Y) N	6	Where did the bottles originate?	ALS/ROC CLIENT
4	Circle: (Wet Ice) Dry Ice Gel packs present?	Y (N)	7	Soil VOA received as:	Bulk Encore 5035set (NA)

8. Temperature Readings Date: 5/7/14 Time: 1625 ID: IR#3 IR#4 From: Temp Blank Sample Bottle

Observed Temp (°C)	1.8°	0.9°	1.3°				
Correction Factor (°C)	+0.1°	+0.1°	+0.1°				
Corrected Temp (°C)	1.9°	1.0°	1.4°				
Within 0-6°C?	(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 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-007 by [illegible] on 5/7/14 at 1538

5035 samples placed in storage location: _____ by _____ on _____ at _____

PC Secondary Review: [illegible]

Cooler Breakdown: Date: 5-8-14 Time: 07:25 by: [illegible]

1. Were all bottle labels complete (i.e. analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3								
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol)					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Bottle lot numbers: 031014-1BNS

Other Comments:

PC Secondary Review: KB 5/14/14

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

May 15, 2014

Service Request No: R1403334

Dawn Martel
Olin Corporation
3855 North Ocoee Street
Suite 200
Cleveland, TN 37312

Laboratory Results for: Niagara Falls North Parking Lot Soil/11335-95-4A

Dear Dawn:

Enclosed are the results of the sample(s) submitted to our laboratory on May 7, 2014. For your reference, these analyses have been assigned our service request number **R1403334**.

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 7473. You may also contact me via email at Deb.Patton@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Deb Patton
Project Manager

ADDRESS 1565 Jefferson Rd, Building 300, Suite 360, Rochester, NY 14623 PHONE 585-288-5380 | FAX 585-288-8475
ALS GROUP USA, CORP. Part of the ALS Group An ALS Limited Company

ALS-ENVIRONMENTAL

Client:	Olin Corporation	**Service Request No.:**	R1403334
Project:	Niagara Falls Parking Lot Soil Samples	**Date Received:**	5/7/14
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS-Rochester. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Twenty-eight soil samples were received for analysis at ALS-Rochester on 5/7/14. The samples were received in good condition consistent with the accompanying chain of custody form enclosed except as noted on the Cooler Receipt and Preservation Check Form. The samples were received within the 0-6°C temperature guidelines.

Metals

Soil samples were analyzed for Mercury by Method 7471B. The samples were also analyzed for % Solids in order to report the data on a dry weight basis.

Site specific QC was requested on sample PLS-SS-39-05062014 (R1403334-016). The Laboratory also ran site QC on location PLS-SS-44-05062014 (R1403334-021). The Matrix Spikes (MS) were spiked too low to be accurately measured (<4X the concentration in the sample) for both locations. The recoveries have been flagged as "#". The Relative Percent Difference (RPD) calculations were within QC limits. The Laboratory Control Sample recoveries were acceptable.

No analytical or quality control problems were encountered during analysis.

Approved by Karen Burden **Date** 5/15/14

CASE NARRATIVE

This report contains analytical results for the following samples:
Service Request Number: R1403334

Lab ID	Client ID
R1403334-001	PLS-SS-27-050614
R1403334-002	PLS-SS-28-050614
R1403334-003	PLS-SS-29-050614
R1403334-004	DUP03-SS-050614
R1403334-005	PLS-SS-30-050614
R1403334-006	PLS-SS-31-050614
R1403334-007	PLS-SS-32-050614
R1403334-008	PLS-EQB1-050614
R1403334-009	PLS-SS-33-050614
R1403334-010	PLS-SS-34-050614
R1403334-011	PLS-SS-35-050614
R1403334-012	PLS-SS-36-050614
R1403334-013	PLS-SS-37-050614
R1403334-014	DUP04-SS-050614
R1403334-015	PLS-SS-38-050614
R1403334-016	PLS-SS-39-050614
R1403334-017	PLS-SS-40-050614
R1403334-018	PLS-SS-41-050614
R1403334-019	PLS-SS-42-050614
R1403334-020	PLS-SS-43-050614
R1403334-021	PLS-SS-44-050614
R1403334-022	PLS-SS-45-050614
R1403334-023	PLS-SS-46-050614
R1403334-024	DUP05-SS-050614
R1403334-025	PLS-SS-47-050614
R1403334-026	PLS-SS-48-050614
R1403334-027	PLS-SS-49-050614
R1403334-028	PLS-SS-50-050614

ALS Environmental

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 "Notes" 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 "immediate" 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% (25% for CLP) difference between the two GC columns.

C Confirmed by GC/MS

Q DoD reports: indicates a pesticide/Aroclor is not confirmed (≥100% Difference between two GC columns).

X See Case Narrative for discussion.

MRL Method Reporting Limit. Also known as:
LOQ 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]

NELAP Accredited	Maine ID #NY0032	New Hampshire ID # 294100 A/B
Connecticut ID # PH0556	Nebraska Accredited	
Delaware Accredited	Nevada ID # NY-00032	North Carolina #676
DoD ELAP #65817	New Jersey ID # NY004	Pennsylvania ID# 68-786
Florida ID # E87674	New York ID # 10145	Rhode Island ID # 158
Illinois ID #200047		Virginia #460167

[1] Analyses were performed according to our laboratory's 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 laboratory case narrative provided. For a specific list of accredited analytes, refer to http://www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads/North-America-Downloads

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1055
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-27-050614		
Lab Code:	R1403334-001	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	76.7		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1055
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-27-050614		
Lab Code:	R1403334-001	**Basis:**	Dry
		Percent Solids:	76.7

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**1.32**		mg/Kg	0.20	5	5/ 8/14	5/8/14 19:19	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1100
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-28-050614		
Lab Code:	R1403334-002	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**80.9**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1100
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-28-050614		
Lab Code:	R1403334-002	**Basis:**	Dry
		Percent Solids:	80.9

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**3.81**		mg/Kg	0.20	5	5/ 8/14	5/8/14 19:20	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1110
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-29-050614		
Lab Code:	R1403334-003	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**69.1**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1110
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-29-050614		
Lab Code:	R1403334-003	**Basis:**	Dry
		Percent Solids:	69.1

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**3.51**		mg/Kg	0.29	6	5/ 9/14	5/9/14 19:15	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1110
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	DUP03-SS-050614		
Lab Code:	R1403334-004	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**68.0**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1110
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	DUP03-SS-050614		
Lab Code:	R1403334-004	**Basis:**	Dry
		Percent Solids:	68.0

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**3.94**		mg/Kg	0.23	5	5/ 8/14	5/8/14 19:24	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1115
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-30-050614		
Lab Code:	R1403334-005	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**73.5**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1115
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-30-050614		
Lab Code:	R1403334-005	**Basis:**	Dry
		Percent Solids:	73.5

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**1.60**		mg/Kg	0.21	5	5/ 8/14	5/8/14 19:25	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1120
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-31-050614		
Lab Code:	R1403334-006	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**89.3**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: Olin Corporation
Project: Niagara Falls North Parking Lot Soil/11335-95-4A
Sample Matrix: Soil

Sample Name: PLS-SS-31-050614
Lab Code: R1403334-006

Service Request: R1403334
Date Collected: 5/ 6/14 1120
Date Received: 5/ 7/14

Basis: Dry
Percent Solids: 89.3

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	2.22		mg/Kg	0.20	6	5/ 9/14	5/9/14 19:17	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1125
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-32-050614		
Lab Code:	R1403334-007	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	76.9		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1125
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-32-050614		
Lab Code:	R1403334-007	**Basis:**	Dry
		Percent Solids:	76.9

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**2.58**		mg/Kg	0.25	6	5/ 9/14	5/9/14 19:18	

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1130
Sample Matrix:	Water	**Date Received:**	5/ 7/14
Sample Name:	PLS-EQB1-050614		
Lab Code:	R1403334-008	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7470A	0.20	U	µg/L	0.20	1	5/12/14	5/12/14 17:14	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1140
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-33-050614		
Lab Code:	R1403334-009	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	91.7		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1140
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-33-050614		
Lab Code:	R1403334-009	**Basis:**	Dry
		Percent Solids:	91.7

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**1.21**		mg/Kg	0.22	6	5/ 9/14	5/9/14 19:20	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1145
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-34-050614		
Lab Code:	R1403334-010	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**87.1**		Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1145
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-34-050614		
Lab Code:	R1403334-010	**Basis:**	Dry
		Percent Solids:	87.1

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**1.95**		mg/Kg	0.22	6	5/ 9/14	5/9/14 19:25	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1150
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-35-050614		
Lab Code:	R1403334-011	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**88.8**		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1150
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-35-050614		
Lab Code:	R1403334-011	**Basis:**	Dry
		Percent Solids:	88.8

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**0.46**		mg/Kg	0.22	6	5/ 9/14	5/9/14 19:27	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1155
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-36-050614		
Lab Code:	R1403334-012	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**69.9**		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1155
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-36-050614		
Lab Code:	R1403334-012	**Basis:**	Dry
		Percent Solids:	69.9

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**2.54**		mg/Kg	0.28	6	5/ 9/14	5/9/14 19:28	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1205
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-37-050614		
Lab Code:	R1403334-013	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**86.5**		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1205
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-37-050614		
Lab Code:	R1403334-013	**Basis:**	Dry
		Percent Solids:	86.5

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**1.30**		mg/Kg	0.23	6	5/ 9/14	5/9/14 19:30	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1205
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	DUP04-SS-050614		
Lab Code:	R1403334-014	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**89.0**		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1205
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	DUP04-SS-050614		
Lab Code:	R1403334-014	**Basis:**	Dry
		Percent Solids:	89.0

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**1.82**		mg/Kg	0.21	6	5/ 9/14	5/9/14 19:31	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1210
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-38-050614		
Lab Code:	R1403334-015	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**93.1**		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1210
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-38-050614		
Lab Code:	R1403334-015	**Basis:**	Dry
		Percent Solids:	93.1

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	3.73		mg/Kg	0.20	6	5/ 9/14	5/9/14 19:33	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1215
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-39-050614		
Lab Code:	R1403334-016	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**85.6**		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1215
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-39-050614		
Lab Code:	R1403334-016	**Basis:**	Dry
		Percent Solids:	85.6

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**2.41**		mg/Kg	0.19	5	5/ 8/14	5/8/14 19:56	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1220
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-40-050614		
Lab Code:	R1403334-017	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**94.7**		Percent	1.0	1	NA	5/13/14 09:53	

Client: Olin Corporation
Project: Niagara Falls North Parking Lot Soil/11335-95-4A
Sample Matrix: Soil

Service Request: R1403334
Date Collected: 5/ 6/14 1220
Date Received: 5/ 7/14

Sample Name: PLS-SS-40-050614
Lab Code: R1403334-017

Basis: Dry
Percent Solids: 94.7

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**5.26**		mg/Kg	0.17	5	5/ 8/14	5/8/14 20:01	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1225
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-41-050614		
Lab Code:	R1403334-018	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	70.8		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1225
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-41-050614		
Lab Code:	R1403334-018	**Basis:**	Dry
		Percent Solids:	70.8

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**3.29**		mg/Kg	0.22	5	5/ 8/14	5/8/14 20:03	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1228
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-42-050614		
Lab Code:	R1403334-019	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	86.9		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1228
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-42-050614		
Lab Code:	R1403334-019	**Basis:**	Dry
		Percent Solids:	86.9

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**25.9**		mg/Kg	1.1	30	5/ 8/14	5/8/14 20:14	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1230
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-43-050614		
Lab Code:	R1403334-020	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**89.9**		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1230
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-43-050614		
Lab Code:	R1403334-020	**Basis:**	Dry
		Percent Solids:	89.9

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**0.62**		mg/Kg	0.18	5	5/ 8/14	5/8/14 20:06	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1233
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-44-050614		
Lab Code:	R1403334-021	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**83.0**		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1233
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-44-050614		
Lab Code:	R1403334-021	**Basis:**	Dry
		Percent Solids:	83.0

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**4.56**		mg/Kg	0.40	10	5/ 8/14	5/8/14 18:49	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1240
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-45-050614		
Lab Code:	R1403334-022	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**90.5**		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1240
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-45-050614		
Lab Code:	R1403334-022	**Basis:**	Dry
		Percent Solids:	90.5

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**2.89**		mg/Kg	0.34	10	5/ 8/14	5/8/14 18:54	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1245
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-46-050614		
Lab Code:	R1403334-023	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	92.6		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1245
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-46-050614		
Lab Code:	R1403334-023	**Basis:**	Dry
		Percent Solids:	92.6

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**5.53**		mg/Kg	0.35	10	5/ 8/14	5/8/14 18:59	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1245
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	DUP05-SS-050614		
Lab Code:	R1403334-024	**Basis:**	As Received

.General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	86.9		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1245
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	DUP05-SS-050614		
Lab Code:	R1403334-024	**Basis:**	Dry
		Percent Solids:	86.9

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**2.36**		mg/Kg	0.19	5	5/ 8/14	5/8/14 19:01	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1250
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-47-050614		
Lab Code:	R1403334-025	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**82.0**		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1250
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-47-050614		
Lab Code:	R1403334-025	**Basis:**	Dry
		Percent Solids:	82.0

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**1.78**		mg/Kg	0.19	5	5/ 8/14	5/8/14 19:02	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1255
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-48-050614		
Lab Code:	R1403334-026	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**89.6**		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1255
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-48-050614		
Lab Code:	R1403334-026	**Basis:**	Dry
		Percent Solids:	89.6

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**8.44**		mg/Kg	0.18	5	5/ 8/14	5/8/14 19:04	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1300
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-49-050614		
Lab Code:	R1403334-027	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**74.6**		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1300
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-49-050614		
Lab Code:	R1403334-027	**Basis:**	Dry
		Percent Solids:	74.6

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	**10.0**		mg/Kg	0.22	5	5/ 8/14	5/8/14 19:06	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1305
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-50-050614		
Lab Code:	R1403334-028	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	**85.4**		Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	5/ 6/14 1305
Sample Matrix:	Soil	**Date Received:**	5/ 7/14
Sample Name:	PLS-SS-50-050614		
Lab Code:	R1403334-028	**Basis:**	Dry
		Percent Solids:	85.4

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	7.72		mg/Kg	0.18	5	5/ 8/14	5/8/14 19:07	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1403334-MB1	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	1.0	U	Percent	1.0	1	NA	5/10/14 09:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1403334-MB2	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	1.0	U	Percent	1.0	1	NA	5/13/14 09:53	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1403334-MB3	**Basis:**	As Received

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Solids, Total	160.3 Modified	1.0	U	Percent	1.0	1	NA	5/13/14 09:53	

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1403334-MB1	**Basis:**	NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7470A	0.20	U	µg/L	0.20	1	5/12/14	5/12/14 16:56	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1403334-MB2	**Basis:**	Dry

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	0.033	U	mg/Kg	0.033	1	5/ 8/14	5/8/14 18:46	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1403334-MB3	**Basis:**	Dry

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	0.033	U	mg/Kg	0.033	1	5/ 8/14	5/8/14 19:14	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Olin Corporation	**Service Request:**	R1403334
Project:	Niagara Falls North Parking Lot Soil/11335-95-4A	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank		
Lab Code:	R1403334-MB4	**Basis:**	Dry

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	Dilution Factor	Date Extracted	Date Analyzed	Note
Mercury, Total	7471B	0.033	U	mg/Kg	0.033	1	5/9/14	5/9/14 18:42	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls North Parking Lot Soil/11335-95-4A
Sample Matrix: Soil

Service Request: R1403334
Date Collected: 5/6/14
Date Received: 5/7/14
Date Analyzed: 5/10/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: PLS-SS-34-050614
Lab Code: R1403334-010

Units: Percent
Basis: As Received

Analyte Name	Method	MRL	Sample Result	PLS-SS-34-050614DUP Duplicate Sample R1403334-010DUP Result	Average	RPD	RPD Limit
Solids, Total	160.3 Modified	1.0	87.1	85.5	86.3	2	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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls North Parking Lot Soil/11335-95-4A
Sample Matrix: Soil

Service Request: R1403334
Date Collected: 5/6/14
Date Received: 5/7/14
Date Analyzed: 5/13/14

Replicate Sample Summary
General Chemistry Parameters

Sample Name: PLS-SS-39-050614
Lab Code: R1403334-016

Units: Percent
Basis: As Received

Analyte Name	Method	MRL	Sample Result	PLS-SS-39-050614DUP Duplicate Sample R1403334-016DUP Result	Average	RPD	RPD Limit
Solids, Total	160.3 Modified	1.0	85.6	87.5	86.6	2	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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls North Parking Lot Soil/11335-95-4A
Sample Matrix: Soil

Service Request: R1403334
Date Collected: 5/6/14
Date Received: 5/7/14
Date Analyzed: 5/ 8/14

Replicate Sample Summary
Inorganic Parameters

Sample Name: PLS-SS-39-050614
Lab Code: R1403334-016

Units: mg/Kg
Basis: Dry

Analyte Name	Method	MRL	Sample Result	PLS-SS-39-050614DUP Duplicate Sample R1403334-016DUP Result	Average	RPD	RPD Limit
Mercury, Total	7471B	0.18	2.41	3.06	2.74	24	35

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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls North Parking Lot Soil/11335-95-4A
Sample Matrix: Soil

Service Request: R1403334
Date Collected: 5/6/14
Date Received: 5/7/14
Date Analyzed: 5/8/14

Matrix Spike Summary
Inorganic Parameters

Sample Name: PLS-SS-39-050614
Lab Code: R1403334-016

Units: mg/Kg
Basis: Dry

Analytical Method: 7471B
Prep Method: Method

PLS-SS-39-050614MS
Matrix Spike
R1403334-016MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec		% Rec Limits
Mercury, Total	2.41	3.83	0.19	754	#	75 - 125

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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls North Parking Lot Soil/11335-95-4A
Sample Matrix: Soil

Service Request: R1403334
Date Collected: 5/6/14
Date Received: 5/7/14
Date Analyzed: 5/ 8/14

Replicate Sample Summary
Inorganic Parameters

Sample Name: PLS-SS-44-050614
Lab Code: R1403334-021

Units: mg/Kg
Basis: Dry

Analyte Name	Method	MRL	Sample Result	PLS-SS-44-050614D UP Duplicate Sample R1403334-021DUP Result	Average	RPD	RPD Limit
Mercury, Total	7471B	0.37	4.56	5.63	5.09	21	35

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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls North Parking Lot Soil/11335-95-4A
Sample Matrix: Soil

Service Request: R1403334
Date Collected: 5/6/14
Date Received: 5/7/14
Date Analyzed: 5/ 8/14

Matrix Spike Summary
Inorganic Parameters

Sample Name: PLS-SS-44-050614
Lab Code: R1403334-021

Units: mg/Kg
Basis: Dry

Analytical Method: 7471B
Prep Method: Method

PLS-SS-44-050614MS
Matrix Spike
R1403334-021MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec		% Rec Limits
Mercury, Total	4.56	4.86	0.19	156	#	75 - 125

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.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls North Parking Lot Soil/11335-95-4A
Sample Matrix: Soil

Service Request: R1403334
Date Analyzed: 5/ 8/14

Lab Control Sample Summary
Inorganic Parameters

Units: mg/Kg
Basis: Dry

Analyte Name	Method	Lab Control Sample R1403334-LCS1 Result	Spike Amount	% Rec	% Rec Limits
Mercury, Total	7471B	0.158	0.167	95	71.6 - 128

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

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls North Parking Lot Soil/11335-95-4A
Sample Matrix: Soil

Service Request: R1403334
Date Analyzed: 5/ 8/14

Lab Control Sample Summary
Inorganic Parameters

Units: mg/Kg
Basis: Dry

Analyte Name	Method	Lab Control Sample R1403334-LCS2 Result	Spike Amount	% Rec	% Rec Limits
Mercury, Total	7471B	0.155	0.167	93	71.6 - 128

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

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls North Parking Lot Soil/11335-95-4A
Sample Matrix: Soil

Service Request: R1403334
Date Analyzed: 5/ 9/14

Lab Control Sample Summary
Inorganic Parameters

Units: mg/Kg
Basis: Dry

Analyte Name	Method	Lab Control Sample R1403334-LCS3 Result	Spike Amount	% Rec	% Rec Limits
Mercury, Total	7471B	0.177	0.167	106	71.6 - 128

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

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: Olin Corporation
Project: Niagara Falls North Parking Lot Soil/11335-95-4A
Sample Matrix: Water

Service Request: R1403334
Date Analyzed: 5/12/14

Lab Control Sample Summary
Inorganic Parameters

Units: µg/L
Basis: NA

Analyte Name	Method	Lab Control Sample R1403334-LCS4 Result	Spike Amount	% Rec	% Rec Limits
Mercury, Total	7470A	0.978	1.00	98	80 - 120

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

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

CHAIN OF CUSTODY RECORD

COC NO.: 40909

PAGE 3 OF 4

CONESTOGA-ROVERS & ASSOCIATES

Address: NIAGARA FALLS OFFICE

Phone: _____ Fax: _____

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 11335-95-4A	Laboratory Name: ALS	Lab Location: ROCHESTER	SSOW ID:
Project Name: Parking Lot Site - Soil Sampling	Lab Contact: DEB PATTON	Lab Quote No:	Cooler No:
Project Location: Olin (Buffalo Ave.)			Carrier: LAB COURIER
Chemistry Contact:			Airbill No:
Sampler(s): DTYRAN, S GARDNER			Date Shipped: 5-7-14

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Sample Type: Matrix Code (see back of COC)	Sample Type: Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	Hydrochloric Acid (HCl)	Nitric Acid (HNO_3)	Sulfuric Acid (H_2SO_4)	Sodium Hydroxide (NaOH)	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested (See Back of COC for Definitions): Hg	MS/MSD Request	Comments/ Special Instructions:
1	PLS-SS-27-05062014	5/6/14	1055	SO	G	X								1	X		
2	PLS-SS-28-05062014	5/6/14	1100	SO	G	X								1	X		
3	PLS-SS-29-05062014	5/6/14	1110	SO	G	X								1	X		
4	DUP03-SS-05062014	5/6/14	1110	SO	G	X								1	X		
5	PLS-SS-30-05062014	5/6/14	1115	SO	G	X								1	X		
6	PLS-SS-31-05062014	5/6/14	1120	SO	G	X								1	X		
7	PLS-SS-32-05062014	5/6/14	1125	SO	G	X								1	X		
8	PLS-EQB1-05062014	5/6/14	1130	SOQ	G			X						1	X		
9	PLS-SS-33-05062014	5/6/14	1140	SO	G	X								1	X		
10	PLS-SS-34-05062014	5/6/14	1145	SO	G	X								1	X		
11	PLS-SS-35-05062014	5/6/14	1150	SO	G	X								1	X		
12	PLS-SS-36-05062014	5/6/14	1155	SO	G	X								1	X		
13	PLS-SS-37-05062014	5/6/14	1205	SO	G	X								1	X		
14	DUP04-SS-05062014	5/6/14	1205	SO	G	X								1	X		
15	PLS-SS-38-05062014	5/6/14	1210	SO	G	X								1	X		

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☒ 2 Week ☐ Other:

Total Number of Containers: 60

All Samples in Cooler must be on COC

Notes/ Special Requirements:

R1403334 5

Olin Corporation

Niagara Falls North Parking Lot Soil

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	Dave Tyran	CRA	5/6/14	1540	Deb Bennett	ALS	5-7-14	1230
2.	Deb Bennett	ALS	5-7-14	1500		ALS	5/7/14	1500
3.								

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-10B (20110804)

CONESTOGA-ROVERS & ASSOCIATES

CHAIN OF CUSTODY RECORD

Address: NIAGARA FALLS OFFICE

Phone: _____ Fax: _____

COC NO.: 40937

PAGE 4 OF 4

(See Reverse Side for Instructions)

Project No/ Phase/Task Code: 11335-95-AA	Laboratory Name: ALS	Lab Location: ROCHESTER	SSOW ID:
Project Name: Parking Lot Site Soil Sampling	Lab Contact: DEB PATTON	Lab Quote No:	Cooler No:
Project Location: Olin (Buffalo Ave)			Carrier: LAB COURIER
Chemistry Contact:			Airbill No:
Sampler(s): D TYRAN, S GARDNER			Date Shipped: 5-7-14

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Sample Type: Matrix Code (see back of COC)	Sample Type: Grab (G) or Comp (C)	Container Quantity & Preservation: Unpreserved	HCl	HNO_3	H_2SO_4	NaOH	Methanol/Water (Soil VOC)	EnCores 3x5-g, 1x25-g	Other:	Total Containers/Sample	Analysis Requested: Hg	MS/MSD Request	Comments/ Special Instructions:
1	PLS-SS-39-05062014	5/6/14	1215	SO	G	X								1	X		
2	PLS-SS-39-MS-05062014	5/6/14	1215	SO	G	X								1	X	X	
3	PLS-SS-39-MSD-05062014	5/6/14	1215	SO	G	X								1	X	X	
4	PLS-SS-40-05062014	5/6/14	1220	SO	G	X								1	X		
5	PLS-SS-41-05062014	5/6/14	1225	SO	G	X								1	X		
6	PLS-SS-42-05062014	5/6/14	1228	SO	G	X								1	X		
7	PLS-SS-43-05062014	5/6/14	1230	SO	G	X								1	X		
8	PLS-SS-44-05062014	5/6/14	1233	SO	G	X								1	X		
9	PLS-SS-45-05062014	5/6/14	1240	SO	G	X								1	X		
10	PLS-SS-46-05062014	5/6/14	1245	SO	G	X								1	X		
11	DUP05-SS-05062014	5/6/14	1245	SO	G	X								1	X		
12	PLS-SS-47-05062014	5/6/14	1250	SO	G	X								1	X		
13	PLS-SS-48-05062014	5/6/14	1255	SO	G	X								1	X		
14	PLS-SS-49-05062014	5/6/14	1300	SO	G	X								1	X		
15	PLS-SS-50-05062014	5/6/14	1305	SO	G	X								1	X		

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☒ 2 Week ☐ Other:

Total Number of Containers: 60

All Samples in Cooler must be on COC

Notes/ Special Requirements:

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	Dave Tyran	CRA	5/6/14	1540	1. [signature]	ALS	5-7-14	1230
2.	Sal Bennett	ALS	5-7-14	1500	2. [signature]	ALS	5/7/14	1500
3.					3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

CRA Form: COC-108 (20110804)

Cooler Receipt and Preservation Check Form

Project/Client CRA Folder Number R1403334

Cooler received on 5/7/14 by: [illegible]

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: 5/7/14 Time: 1525 ID: IR#3 IR#4 From: Temp Blank Sample Bottle

Observed Temp (°C)	1.8°	0.9°	1.3°				
Correction Factor (°C)	+0.1°	+0.1°	+0.1°				
Corrected Temp (°C)	1.9°	1.0°	1.4°				
Within 0-6°C?	(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 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-007 by [illegible] on 5/7/14 at 1538

5035 samples placed in storage location: _____ by _____ on _____ at _____

PC Secondary Review: [illegible]

Cooler Breakdown: Date: 5-8-14 Time: 07:25 by: [illegible]

1. Were all bottle labels complete (*i.e.* analysis, preservation, etc.)? (YES) NO
2. Did all bottle labels and tags agree with custody papers? (YES) NO
3. Were correct containers used for the tests indicated? (YES) NO
4. Air Samples: Cassettes / Tubes Intact Canisters Pressurized Tedlar® Bags Inflated (N/A)

Explain any discrepancies:

pH	Reagent	Yes	No	Lot Received	Exp	Sample ID	Vol. Added	Lot Added	Final pH
≥12	NaOH								
≤2	HNO_3	✓		BDB26135B	04/15				
≤2	H_2SO_4								
<4	$NaHSO_4$								
Residual Chlorine (-)	For CN Phenol and 522			If +, contact PM to add $Na_2S_2O_3$ (CN), ascorbic (phenol).					
	$Na_2S_2O_3$	-	-						
	ZnAcetate	-	-						
	HCl	**	**						

**Not to be tested before analysis – pH tested and recorded by VOAs on a separate worksheet

Yes=All samples OK

No=Samples were preserved at The lab as listed

PM OK to Adjust: _____

Bottle lot numbers: 031014-1BNS, 112612-2VV

Other Comments:

PC Secondary Review: VB 5/15/14

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

APPENDIX D

PRO UCL CALCULATION OUTPUT

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	6/10/2014 15:03
From File	WorkSheet.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Hg, mg/kg

General Statistics

Total Number of Observations	50	Number of Distinct Observations	49
		Number of Missing Observations	0
Minimum	0.43	Mean	6.242
Maximum	53.5	Median	3.09
SD	8.988	Std. Error of Mean	1.271
Coefficient of Variation	1.44	Skewness	3.486

Normal GOF Test

Shapiro Wilk Test Statistic	0.615	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.947	Data Not Normal at 5% Significance Level	
Lilliefors Test Statistic	0.271	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.125	Data Not Normal at 5% Significance Level	
Data Not Normal at 5% Significance Level			

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	8.373	95% Adjusted-CLT UCL (Chen-1995)	9.002
		95% Modified-t UCL (Johnson-1978)	8.477

Gamma GOF Test

A-D Test Statistic	1.4	Anderson-Darling Gamma GOF Test	
5% A-D Critical Value	0.784	Data Not Gamma Distributed at 5% Significance Level	
K-S Test Statistic	0.165	Kolmogrov-Smirnoff Gamma GOF Test	
5% K-S Critical Value	0.129	Data Not Gamma Distributed at 5% Significance Level	
Data Not Gamma Distributed at 5% Significance Level			

Gamma Statistics

k hat (MLE)	0.927	k star (bias corrected MLE)	0.885
Theta hat (MLE)	6.732	Theta star (bias corrected MLE)	7.053
nu hat (MLE)	92.72	nu star (bias corrected)	88.49
MLE Mean (bias corrected)	6.242	MLE Sd (bias corrected)	6.635
		Approximate Chi Square Value (0.05)	67.8
Adjusted Level of Significance	0.0452	Adjusted Chi Square Value	67.26

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	8.146	95% Adjusted Gamma UCL (use when n<50)	8.211

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.977	Shapiro Wilk Lognormal GOF Test	
5% Shapiro Wilk Critical Value	0.947	Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.0849	Lilliefors Lognormal GOF Test	
5% Lilliefors Critical Value	0.125	Data appear Lognormal at 5% Significance Level	
Data appear Lognormal at 5% Significance Level			

Lognormal Statistics

Minimum of Logged Data	-0.844	Mean of logged Data	1.203
Maximum of Logged Data	3.98	SD of logged Data	1.104

Assuming Lognormal Distribution

95% H-UCL	9.022	90% Chebyshev (MVUE) UCL	9.404
95% Chebyshev (MVUE) UCL	10.94	97.5% Chebyshev (MVUE) UCL	13.08
99% Chebyshev (MVUE) UCL	17.27		

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	8.332	95% Jackknife UCL	8.373
95% Standard Bootstrap UCL	8.313	95% Bootstrap-t UCL	9.821
95% Hall's Bootstrap UCL	11.78	95% Percentile Bootstrap UCL	8.395
95% BCA Bootstrap UCL	9.084		
90% Chebyshev(Mean, Sd) UCL	10.06	95% Chebyshev(Mean, Sd) UCL	11.78
97.5% Chebyshev(Mean, Sd) UCL	14.18	99% Chebyshev(Mean, Sd) UCL	18.89

Suggested UCL to Use
95% H-UCL **9.022**

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002) and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Prepared by: LVenne 5/30/14
Checked by: LSmith 6/10/14

APPENDIX E

NOTICE AND DECLARATION OF RESTRICTIVE COVENANTS

NOTICE AND DECLARATION OF RESTRICTIVE COVENANTS

THIS DECLARATION is made as of the 30TH day of NOVEMBER, 2012 by OLIN CORPORATION, a Virginia corporation ("Declarant"), with a place of business at 3855 North Ocoee Street, Suite 200, Cleveland, Tennessee 37312.

RECITALS

A. The Declarant owns fee simple title to the real estate and improvements known as the 2400 Buffalo Avenue, located in the City of Niagara Falls in Niagara County, New York (the "Plant"). Such real property includes two parcels of land referred to as the "Parking Lot Parcels" being legally described on Exhibit A attached hereto and incorporated herein by this reference (the "Property").

B. **From 1897 through the present, Declarant has operated various chemical manufacturing facilities at the Plant.**

C. **As of the date hereof, Declarant is investigating and evaluating the environmental conditions of the Plant and the Property.**

D. In order to limit possible exposure pathways, Declarant desires to impose upon and subject the Property to this Declaration, which shall become effective upon the recording of this Declaration in the land records of Niagara County, New York.

NOTICE AND DECLARATION

NOW, THEREFORE, the Declarant hereby declares that the Property and any portion thereof is and shall be held, transferred, sold, conveyed, used and occupied subject to the perpetual restrictive covenants hereinafter set forth, which restrictive covenants shall run with the Property and be binding upon all parties having any right, title or interest in the Property or any part thereof, their successors and assigns, and shall inure to the benefit of each owner thereof, and which are for the purpose of protecting the value and desirability of the Property.

1. Notice. Declarant has entered into an Order on Consent ("Order") with the New York State Department of Environmental Conservation ("DEC") to implement a Resource Conservation and Recovery Act ("RCRA") corrective action program to remediate soil and groundwater contamination in the vicinity of the Property. A copy of this Order may be obtained from Declarant or DEC. The terms and conditions of this Order are incorporated herein by reference.

2. Presence of Hazardous Wastes. The potential Declarant-derived hazardous waste constituents are listed in Exhibit B, attached hereto and incorporated herein by this reference, and are found in various concentrations throughout the soil and groundwater of the Property.

3. Restricted Uses. Notwithstanding any laws, rules, regulations, ordinances or orders of any governmental or quasi-governmental entity, including, without limitation, local municipal and zoning

ordinances, the Property, or any portion thereof, shall be used solely for commercial and/or industrial purposes.

4. General Restriction. Notwithstanding the commercial and/or industrial use limitation set forth above, no groundwater shall be extracted from beneath the Property for any purpose other than those commercial/industrial purposes involving non-contact uses, water treatment, or environmental sampling and testing. In addition, soils shall be extracted from beneath the Property only when consistent with industrial/commercial uses and with protocols that maintain adequate protection to human health and safety.

5. Runs with the Land. The perpetual restrictive covenants created in this Declaration are appurtenant to the Property and are (i) made for the direct benefit of the Property; (ii) shall run with the land; (iii) may be enforced as either equitable servitudes or real covenants; and (iv) shall bind and inure to the benefit of every person or entity having any property interest in the Property or any portion thereof.

6. Severability. If any portion of this Declaration shall to any extent be invalid or unenforceable, the remaining provisions of this Declaration shall not be affected thereby, and each provision of this Declaration shall be valid and enforceable to the fullest extent permitted by law.

7. Successors and Assigns Bound. This Declaration shall be perpetual and shall be binding upon and shall inure to the benefit of Declarant, any subsidiary of Declarant, division, parent or wholly owned corporation or affiliate now or hereafter existing, and their respective successors and assigns with respect to the Property and the tenants, subtenants, licensees, vendees, concessionaires and successors and assigns of any of them with any fee, leasehold, license or other interest in the Property.

8. Removal of Restriction. In the event that the DEC or its successor provides Declarant with a written determination that this deed restriction is no longer necessary to protect the public health or the environment, and Declarant is the then owner of record of the Property, Declarant shall file such documents with the Niagara County, New York Recorder of Deeds as are necessary to remove the restrictions contained in this Declaration from the Property.

9. Governing Law. This Declaration shall be governed by and construed in accordance with the laws of the State of New York.

IN WITNESS WHEREOF, the Declarant has executed this Declaration as of the day and year first above written.

OLIN CORPORATION,
a Virginia corporation

By: Curtis M Richards
Name: Curtis M. Richards
Title: Corporate Vice President
Environment, Health & Safety

STATE OF Tennessee)
) SS.
COUNTY OF Bradley)

On the 30th day of November in the year 2012 before me, the undersigned, personally appeared Curtis M. Richards, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

BETH A. BALTIMORE
STATE OF TENNESSEE NOTARY PUBLIC
BRADLEY COUNTY

Beth A. Baltimore
Notary Public

Beth A. Baltimore
Printed Name

My Commission expires: 1/16/2013

EXHIBIT A

Parcel I: All that tract or parcel of land, situate in the City of Niagara Falls, County of Niagara and State of New York and being part of Lot 4 Stedman Farm, bounded and described as follows: Beginning at the point of intersection of the west line of Packard Road with the north line of lands of the Erie Railroad Company; thence westerly along said north line of the railroad company's land to the east line of an alleged public highway, known and designated as Twenty-seventh Street, a distance of 771.08 feet, more or less; thence northerly along the east line of said highway or street a distance of 60.27 feet; thence east and parallel with said north line of the railroad company's land and distant 60 feet therefrom, measured at right angles thereto, a distance of 826.70 feet, more or less, to the west line of Packard Road; thence south along the west line of Packard Road to said point of beginning a distance of 81.11 feet, more or less
Excepting therefrom that portion conveyed by Olin Mathieson Chemical Corporation to Industrial Welding Corporation by Deed dated May 7 1964 and recorded in liber 1425 of Deeds page 117

Parcel II: All that tract or parcel of land, situate in said City of Niagara Falls and being a part of Lot 3 of Lot 4 Stedman Farm, bounded and described as follows: Beginning at the point of intersection of the east line of Twenty-fourth Street with the north line of lands of the Erie Railroad Company; thence easterly a distance of 1087.67 feet, more or less, to the west line of said alleged public highway referred to and designated as Twenty-seventh Street; thence northerly along said west line of said alleged highway or street, a distance of 60.27 feet; thence westerly and parallel with the north line of said railroad company's lands and distant therefrom 60 feet measured at right angles thereto, a distance of 971.14 feet; thence southerly and parallel to the east line of Twenty-fourth Street and distant therefrom 116.52 feet, a distance of 40.18 feet; thence westerly and parallel with said north line of Erie Railroad Company's land and distant therefrom 20.09 feet, measured parallel to the east line of Twenty-fourth Street, a distance of 116.52 feet to the east line of Twenty-fourth Street; thence southerly along the east line of Twenty-fourth Street, a distance of 20.09 feet to the place of beginning

EXHIBIT B

POTENTIAL OLIN-DERIVED CONSTITUENTS MEASURED IN SOIL AND GROUNDWATER
PARKING LOT PARCELS

Parameter	*CAS No.*
Volatile Organic Compounds	
Benzene	71-43-2
Acid/Base/Neutral/Pesticides Compounds	
Phenol	108-95-2
2,4,5-Trichlorophenol	95-95-4
2,3,4,6-Tetrachlorophenol	58-90-2
2-Chlorophenol	95-57-8
Chlorobenzene	108-90-7
1,2,4-Trichlorobenzene	120-82-1
m-Dichlorobenzene	541-73-1
o-Dichlorobenzene	95-50-1
p-Dichlorobenzene	106-46-7
α-BHC	319-84-6
β-BHC	319-85-7
δ-BHC	319-86-8
Alcohols	
Methanol	67-56-1
Inorganics	
Mercury (total)	