July 12, 2019

Isabel R. Fredricks
US. Environmental Protection Agency
Remedial Project Manager
Western New York Branch
Phone: 212-637-4248
Email: Rodrigues.isabel@epa.gov

Subject: Monthly Progress Report, Koppers Pond, OU-4

Dear Ms. Fredricks:

As per the Remedial Design/Remedial Action Consent Decree (CD), Statement of Work (SOW), Section 5.1, the Koppers Pond PRP Group (Settling Defendants) submits this Monthly Progress Report. The US Environmental Protection Agency (EPA) notified the Settling Defendants that the effective date of the CD is April 16, 2018.

1. Actions taken toward achieving compliance with the CD:
    - EPA and the Project Coordinator/Settling Contractor met via teleconference to discuss EPA comments of the Pre-Final Design on June 10 and June 26, 2019.
    - EPA provided subsequent comments/clarifications to the Pre-Final Design on June 27.

2. Summary of Sampling Tests and data generated by Group:
    - The Supervising Contractor collected samples from two potential compost sources. If necessary, the compost would be mixed with soil to increase the overall organic content of the cover. The samples were analyzed for Volatile Organic Content, Semi-volatile Organic Content, Pesticides, Herbicides, PCBs, TAL Metals, Total Mercury, Total Cyanide, Organic Matter, pH, and Nutrients. Both samples were within the site-specific soil cleanup objectives. The results are attached to this email.

3. Deliverable Submitted by Group:
    - The Monthly Progress Report was submitted on June 13, 2019.

4. Description of Remedial Action Construction scheduled for the next six weeks:
    - The Remedial Action Kick Off Meeting is tentatively scheduled for July 22, 2019. The Supervising Contractor will begin construction shortly thereafter. Work will include mobilization, basin dewatering (if necessary), site preparation, installation of the diversion trench, pre-grading basin, placement of the demarcation barrier, and import and placement of cover soil.

5. Remedial Action Construction Schedule:
    - Remedial Action Schedule is tentative due to Remedial Design submission and approval schedule. Currently, we anticipate:
        - Mobilization to begin on July 22, 2019
        - Construction to begin No Later Than August 5, 2019
        - Demobilization completion by September 20, 2019

6. Modifications to the work plans or other schedules:
    - No modifications have been requested.

7. Community Involvement Plan activities performed in past month and scheduled for next six weeks:
    - As per SOW Section 2 Community Involvement, the EPA has lead responsibility for developing and implementing community involvement activities. The EPA has not requested assistance from the Settling Defendants at this time.

If you have any questions regarding this report or need additional information, please do not hesitate to contact us.

Regards,

Reynolds B. Renshaw
Project Coordinator

Cc: Mathew Dunham, NYSDEC
Lauren Charney, EPA
Koppers Pond PRP Group
Eric Dievendorf, Arcadis

Cornell Nutrient Analysis Laboratory
804 Bradfield Hall
Ithaca, NY - 14853
Phone: 607-255-4540
Fax: 607-255-7656
Email: soiltest@cornell.edu
Web:http://cnal.cals.cornell.edu/soiltest

Marcus Hagan
Marcus.Hagan@arcadis.com

FN 28134

6/18/2019

Wet weight basis (As is basis)																
Sample ID	**Moisture**	**Solids**	**pH**	**Soluble salts**	**Organic matter**	**Total Ash Cnt**	**Total nitrogen**	**Organic nitrogen**	**NH_4-N**	**NO_3-N**	**P_2O_5***	**K_2O****	**Ca**	**Mg**	**TC**	**C: N**
	%	**%**		**mmhos/cm**	**%**	**%**	**%**	**%**	**mg/kg**	**mg/kg**	**%**	**%**	**%**	**%**	**%**	
1-Municipal	39.53	60.47	7.11	0.77	32.57	53.14	0.69	0.69	8.90	0.84	0.35	1.41	2.90	0.58	19.23	27.92
2-Parker	68.54	31.46	8.02	1.76	46.75	32.89	2.13	2.13	1.97	86.79	0.74	1.10	5.15	0.48	34.23	16.04
Dry weight basis																
	%	**%**		**mmhos/cm**	**%**	**%**	**%**	**%**	**mg/kg**	**mg/kg**	**%**	**%**	**%**	**%**	**%**	
1-Municipal	-	-	-	-	53.86	87.88	1.14	1.14	14.73	1.39	0.57	2.33	4.80	0.96	31.80	27.92
2-Parker	-	-	-	-	148.62	104.55	6.79	6.76	6.25	275.91	2.36	3.50	16.36	1.53	108.82	16.04

Sample ID	**Sodium**	**Iron**	**Copper**	**Zinc**	**Manganese**	**Aluminum**	**Sulfur**									
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**									
1-Municipal	2159	16432	33	119	502	27969	1245									
2-Parker	1798	8922	65	263	767	15212	2310									

June 20, 2019 Service Request No:R1904924

Todd Farmen
ARCADIS of New York, Inc.
295 Woodcliff Drive
Third Floor, Suite 301
Fairport, NY 14450

Laboratory Results for: Koppers Pond

Dear Todd,

Enclosed are the results of the sample(s) submitted to our laboratory May 30, 2019
For your reference, these analyses have been assigned our service request number **R1904924.**

All testing was performed according to our laboratory's quality assurance program and met the requirements of the TNI standards except as noted in the case narrative report. Any testing not included in the lab's accreditation is identified on a Non-Certified Analytes report. All results are intended to be considered in their entirety. ALS Environmental is not responsible for use of less than the complete report. Results apply only to the individual samples submitted to the lab for analysis, 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), and represented by Laboratory Control Sample control limits. Any events, such as QC failures or Holding Time exceedances, which may add to the uncertainty are explained in the report narrative or are flagged with qualifiers. The flags are explained in the Report Qualifiers and Definitions page of this report.

Please contact me if you have any questions. My extension is 7472. You may also contact me via email at Janice.Jaeger@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Janice Jaeger
Project Manager

CC: Marcus Hagan

ADDRESS 1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Rochester Laboratory
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ALS Environmental

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond **Date Received:** 05/30/2019
Sample Matrix: Soil

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Two soil samples were received for analysis at ALS Environmental on 05/30/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.
Sampling was performed by ALS personnel in accordance with ALS Field Sampling SOPs or by client specifications.

Semivolatiles by GC/MS:

Method 8270D, 06/13/2019: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 06/13/2019: The lower control limit for the spike recovery of the Laboratory Control Sample Duplicate (LCSD) was exceeded for one or more analyte. Precision is also outside limits. The discrepancy associated with reduced recovery equates to a potential low bias. Additional analysis of the associated field samples will be performed outside of holding time. The analytes affected are flagged in the LCS Summary.

Method 8270D, 06/19/2019: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 06/19/2019: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 06/19/2019: The control limit was exceeded for one or more surrogates in the Continuing Calibration Verification (CCV). The surrogates were within acceptance limits for the associated field samples. The data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 06/19/2019: The Relative Percent Difference criterion was exceeded for one or more analytes in the Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD). All spike recoveries were within limits. The sample data is not significantly affected. No further corrective action was appropriate.

Method 8270D, 06/19/2019: The Method Blank contained a low level of one or more analytes at concentrations above the Method Detection Limit (MDL). Since there were no detections of the analyte(s) in the associated field samples, the data quality was not significantly affected and no further corrective action was taken.

Method 8270D, 06/19/2019: The Method Blank contained a low level of the following analytes above the Detection Limit: Phenol. All associated sample results less than ten times the level found in the Method Blank are flagged. The samples were already re-extracted due to a failed LCS and no extra volume remained to re-extract. Phenol and bis-2-ethylhexlphthalate detections are believed to be from contamination in the lab from samples that had extremely high hits.

Semivoa GC:

Approved by _____ Date 06/20/2019

Method 8081B, 06/12/2019: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8081B, 639231: The control limits for one or more surrogates in the sample are not applicable. The analysis of the sample required a dilution, which resulted in a surrogate concentration below the Method Reporting Limit (MRL). No further corrective action was appropriate.

Method 8081B, 639231: The reporting limit is elevated for one or more analytes. The sample extract was diluted prior to instrumental analysis due to relatively high levels of non-target background components. The extract was highly colored and viscous, which indicated the need to perform a dilution prior to injection into the instrument. Clean-up of the extract was performed within the scope of the method, but did not eliminate enough of the background components to prevent dilution. The result(s) are flagged to indicate the matrix interference.
Method 8151A, 06/17/2019: The lower control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV) on one column. Since there were no detections of the analyte(s) in the associated field samples, the quantitation is not affected. The data quality was not significantly affected and no further corrective action was taken.

Metals:

Method 6010C, 06/05/2019: The control limits for matrix spike recovery of one or more of the spiked analytes are not applicable and have been flagged with a "#". The concentration of the analyte(s) in the parent sample is more than 4x the spike concentration. No further corrective action was required.

General Chemistry:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

Method 8260C, 06/03/2019: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.
Method 8260C, 06/03/2019, R1904924-001: The recovery of one or more internal standards was outside control limits because of suspected matrix interference. The sample was re-extracted and reanalyzed, but produced similar results. No further corrective action was appropriate.
Method 8260C, 06/03/2019: The upper control criterion was exceeded for one or more analytes in the Laboratory Control Sample (LCS). There were no detections of the analyte(s) in the associated field samples. The error associated with elevated recovery equates to a high bias. The sample data is not significantly affected. No further corrective action was appropriate.

Method 8260C, 06/04/2019: The upper control limit was exceeded for one or more analytes in the Continuing Calibration Verification (CCV). The field samples analyzed in this sequence did not contain the analyte(s) in question above the Method Reporting Limit (MRL). Since the exceedance equates to a potential high bias, the data quality was not significantly affected and no further corrective action was taken.

Method 8260C, 06/04/2019, R1904924-001: The recovery of one or more internal standards was outside control limits because of suspected matrix interference. The sample was re-extracted and reanalyzed, but produced similar results. No further corrective action was appropriate.

Approved by _____ Date 06/20/2019

SAMPLE DETECTION SUMMARY

CLIENT ID: Municipal - 053019			Lab ID: R1904924-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Cyanide, Total	0.12	J	0.07	0.42	mg/Kg	9012B
Total Solids	56.6				Percent	ALS SOP
Arsenic, Total	2.1		1.3	1.7	mg/Kg	6010C
Barium, Total	90.7		1.7	3.5	mg/Kg	6010C
Beryllium, Total	0.16	J	0.06	0.52	mg/Kg	6010C
Cadmium, Total	0.28	J	0.13	0.87	mg/Kg	6010C
Calcium, Total	24200		60	170	mg/Kg	6010C
Chromium, Total	7.0		0.7	1.7	mg/Kg	6010C
Cobalt, Total	3.6	J	0.4	8.7	mg/Kg	6010C
Copper, Total	15.2		1.1	3.5	mg/Kg	6010C
Iron, Total	8150		230	350	mg/Kg	6010C
Lead, Total	22.8		0.7	8.7	mg/Kg	6010C
Magnesium, Total	2850		30	170	mg/Kg	6010C
Manganese, Total	303		2.6	3.5	mg/Kg	6010C
Mercury, Total	0.026	J	0.010	0.056	mg/Kg	7471B
Nickel, Total	7.3		1.2	6.9	mg/Kg	6010C
Potassium, Total	2920		20	350	mg/Kg	6010C
Sodium, Total	410		100	170	mg/Kg	6010C
Vanadium, Total	9.5		1.3	8.7	mg/Kg	6010C
Zinc, Total	67.7		2.5	3.5	mg/Kg	6010C
2-Butanone (MEK)	92		7.1	18	ug/Kg	8260C
2-Hexanone	2.8	J	1.3	18	ug/Kg	8260C
4-Methyl-2-pentanone	2.7	J	0.82	18	ug/Kg	8260C
Acetone	520		17	18	ug/Kg	8260C
Methyl Acetate	5.4	J	3.0	18	ug/Kg	8260C
Styrene	1.0	J	0.71	18	ug/Kg	8260C
Toluene	2.7	J	0.71	18	ug/Kg	8260C
2-Butanone (MEK)	15	J	7.1	18	ug/Kg	8260C
4-Methyl-2-pentanone	2.4	J	0.82	18	ug/Kg	8260C
Acetone	430		17	18	ug/Kg	8260C
Methyl Acetate	4.3	J	3.0	18	ug/Kg	8260C
Styrene	0.88	J	0.71	18	ug/Kg	8260C
Tetrachloroethene (PCE)	1.6	J	0.82	18	ug/Kg	8260C
Toluene	2.5	J	0.71	18	ug/Kg	8260C
Benz(a)anthracene	120	J	110	580	ug/Kg	8270D
Benzo(a)pyrene	120	J	120	580	ug/Kg	8270D
Benzo(b)fluoranthene	180	J	110	580	ug/Kg	8270D
Chrysene	130	J	120	580	ug/Kg	8270D
Fluoranthene	280	J	140	580	ug/Kg	8270D
Phenanthrene	130	J	130	580	ug/Kg	8270D
Pyrene	240	J	120	580	ug/Kg	8270D

SAMPLE DETECTION SUMMARY

CLIENT ID: Municipal - 053019			Lab ID: R1904924-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Benz(a)anthracene	280	J	210	1200	ug/Kg	8270D
Benzo(a)pyrene	310	J	240	1200	ug/Kg	8270D
Benzo(b)fluoranthene	390	J	210	1200	ug/Kg	8270D
Bis(2-ethylhexyl) Phthalate	8600		1600	1700	ug/Kg	8270D
Chrysene	350	J	230	1200	ug/Kg	8270D
Fluoranthene	750	J	280	1200	ug/Kg	8270D
Phenanthrene	420	J	240	1200	ug/Kg	8270D
Phenol	1800		260	1200	ug/Kg	8270D
Pyrene	540	J	230	1200	ug/Kg	8270D

CLIENT ID: Parker LS - 053019			Lab ID: R1904924-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Cyanide, Total	0.81	J	0.15	0.98	mg/Kg	9012B
Total Solids	25.5				Percent	ALS SOP
Barium, Total	168		3.9	7.8	mg/Kg	6010C
Cadmium, Total	0.9	J	0.3	2.0	mg/Kg	6010C
Calcium, Total	38800		130	390	mg/Kg	6010C
Chromium, Total	3.3	J	1.4	3.9	mg/Kg	6010C
Cobalt, Total	2	BJ	0.8	20	mg/Kg	6010C
Copper, Total	21.3		2.5	7.8	mg/Kg	6010C
Iron, Total	4120		51	78	mg/Kg	6010C
Lead, Total	26		2	20	mg/Kg	6010C
Magnesium, Total	3490		60	390	mg/Kg	6010C
Manganese, Total	486		5.9	7.8	mg/Kg	6010C
Mercury, Total	0.04	J	0.03	0.13	mg/Kg	7471B
Nickel, Total	4	J	3	16	mg/Kg	6010C
Potassium, Total	7840		40	780	mg/Kg	6010C
Sodium, Total	420		210	390	mg/Kg	6010C
Zinc, Total	152		5.5	7.8	mg/Kg	6010C
Tetrachloroethene (PCE)	5.8	J	1.9	39	ug/Kg	8260C
Phenol	820	BJ	290	1300	ug/Kg	8270D
4,4'-DDE	72		17	33	ug/Kg	8081B

Sample Receipt Information

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

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:**R1904924
Project: Koppers Pond/B0039337.0000

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
R1904924-001	Municipal - 053019	5/30/2019	1130
R1904924-002	Parker LS - 053019	5/30/2019	1200

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM 57221

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

Project Name: Kopper's Pond	Project Number: B0039337.0000
Project Manager: Todd Farmer	Report CC:
Company/Address: Arcadis 295 Woodcliff Drive Fairport NY 14450	
Phone #: 585-203-7196	Email: marcus.hagan@arcadis.com
Sampler's Signature:	Sampler's Printed Name: Marcus Hagan

ANALYSIS REQUESTED *(Include Method Number and Container Preservative)*

PRESERVATIVE

CLIENT SAMPLE ID	FOR OFFICE USE ONLY LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	GC/MS VOAs ◦ 8260 ◦ 624 ◦ CLP TCL	GC/MS SVOAs ◦ 8270 ◦ 625 TCL	GC VOAs ◦ 8021 ◦ 601/602	PESTICIDES ◦ 8081 ◦ 608	PCBs ◦ 8082 ◦ 608	METALS, TOTAL (List in comments below)	METALS, DISSOLVED (List in comments below)	TAL Metals 6010C, 7471B 6020A	Total Mercury 7471B	Total Cyanide 9014	Herbicides 8151A			REMARKS/ ALTERNATE DESCRIPTION
Municipal-053019		5/30/19	1130	S	3	X	X		X	X			X	X	X	X			Please email results to marcus.hagan@arcadis.com + Todd.Farmer@arcadis.com
Parker LS-053019		↓	1200	S	3	X	X		X	X			X	X	X	X			

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

SPECIAL INSTRUCTIONS/COMMENTS
Metals

See QAPP ☐

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

REQUESTED REPORT DATE
_____

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

Edata _____Yes _____No

INVOICE INFORMATION
PO #
BILL TO:

STATE WHERE SAMPLES WERE COLLECTED

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature	Signature	Signature	Signature	Signature	
Printed Name: Marcus Hagan	Printed Name: Daniel Wahl	Printed Name	Printed Name	Printed Name	
Firm: Arcadis	Firm: ALS	Firm	Firm	Firm	
Date/Time: 5/30/19 1435	Date/Time: 5/30/19 1435	Date/Time	Date/Time	Date/Time	

R1904924 5
ARCADIS of New York, Inc.
Koppers Pond

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

Cooler Receipt and Preservation Check Form

R1904924 5
ARCADIS of New York, Inc.
Koppers Pond

Project/Client Arcadis Folder Number

Cooler received on 5/30/19 by: DH

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: 5/30/19 Time: 1440 ID: IR#7 (IR#10) From: Temp Blank Sample Bottle

Observed Temp (°C)	14.7						
Correction Factor (°C)	+0.0						
Corrected Temp (°C)	14.7						
Temp from:Type of bottle							
Within 0-6°C?	Y (N)	Y N	Y N	Y N	Y N	Y N	Y N
If <0°C, were samples frozen?	Y N	Y N	Y N	Y N	Y N	Y N	Y N

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

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

All samples held in storage location: R-002 by DW on 5/30/19 at 1440
5035 samples placed in storage location: _____ by _____ on _____ at _____

Cooler Breakdown/Preservation Check**: Date: 5/31/19 Time: 1058 by: (JD)

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

pH	Lot of test paper	Reagent	Preserved? Yes	Preserved? No	Lot Received	Exp	Sample ID Adjusted	Vol. Added	Lot Added	Final pH
≥12		NaOH								
≤2		HNO_3								
≤2		H_2SO_4								
<4		$NaHSO_4$								
5-9		For 608pest			No=Notify for 3day					
Residual Chlorine (-)		For CN, Phenol, 625, 608pest, 522			If +, contact PM to add $Na_2S_2O_3$ (625, 608, CN), ascorbic (phenol).					
		$Na_2S_2O_3$								
		ZnAcetate	-	-			**VOAs and 1664 Not to be tested before analysis. Otherwise, all bottles of all samples with chemical preservatives are checked (not just representatives).			
		HCl	**	**						

Bottle lot numbers: 121018 ITW, 072318-1SK
Explain all Discrepancies/ Other Comments:

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

Labels secondary reviewed by: (JD)
PC Secondary Review: JMA 6/7/19

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

Miscellaneous Forms

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

REPORT QUALIFIERS AND DEFINITIONS

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

Rochester Lab ID # for State Certifications[1]

Connecticut ID # PH0556	Maine ID #NY0032	Pennsylvania ID# 68-786
Delaware Approved	New Hampshire ID # 2941	Rhode Island ID # 158
DoD ELAP #65817	New York ID # 10145	Virginia #460167
Florida ID # E87674	North Carolina #676	

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

ALS Laboratory Group

Acronyms

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

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000

Non-Certified Analytes

Certifying Agency: New York Department of Health

Method	Matrix	Analyte
ALS SOP	Soil	Total Solids

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000

Sample Name: Municipal - 053019 **Date Collected:** 05/30/19
Lab Code: R1904924-001 **Date Received:** 05/30/19
Sample Matrix: Soil

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7471B	KMCLAEN	KMCLAEN
8081B	BALLGEIER	AMOSES
8082A	BALLGEIER	AMOSES
8151A	KSERCU	AMOSES
8260C		FNAEGLER
8270D	KSERCU	JMISIUREWICZ
9012B	MROGERSON	MROGERSON
ALS SOP		KAWONG

Sample Name: Municipal - 053019 **Date Collected:** 05/30/19
Lab Code: R1904924-001.R01 **Date Received:** 05/30/19
Sample Matrix: Soil

Analysis Method	Extracted/Digested By	Analyzed By
8260C		FNAEGLER
8270D	BALLGEIER	JMISIUREWICZ

Sample Name: Parker LS - 053019 **Date Collected:** 05/30/19
Lab Code: R1904924-002 **Date Received:** 05/30/19
Sample Matrix: Soil

Analysis Method	Extracted/Digested By	Analyzed By
6010C	KMCLAEN	NMANSEN
7471B	KMCLAEN	KMCLAEN
8081B	BALLGEIER	AMOSES
8082A	BALLGEIER	AMOSES
8151A	KSERCU	AMOSES
8260C		FNAEGLER
8270D	KSERCU	JMISIUREWICZ
9012B	MROGERSON	MROGERSON
ALS SOP		KAWONG

Analyst Summary report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000		

Sample Name:	Parker LS - 053019	**Date Collected:**	05/30/19
Lab Code:	R1904924-002.R01	**Date Received:**	05/30/19
Sample Matrix:	Soil		

Analysis Method	Extracted/Digested By	Analyzed By
8270D	BALLGEIER	JMISIUREWICZ

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

Water/Liquid Matrix

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

Solid/Soil/Non-Aqueous Matrix

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

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

Sample Results

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

Volatile Organic Compounds by GC/MS

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

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-001	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	18	0.71	2	06/03/19 15:25	
1,1,2,2-Tetrachloroethane	ND U	18	0.71	2	06/03/19 15:25	
1,1,2-Trichloroethane	ND U	18	0.71	2	06/03/19 15:25	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	18	0.71	2	06/03/19 15:25	
1,1-Dichloroethane (1,1-DCA)	ND U	18	0.71	2	06/03/19 15:25	
1,1-Dichloroethene (1,1-DCE)	ND U	18	1.1	2	06/03/19 15:25	
1,2,3-Trichlorobenzene	ND U	18	1.9	2	06/03/19 15:25	
1,2,4-Trichlorobenzene	ND U	18	1.5	2	06/03/19 15:25	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	18	1.1	2	06/03/19 15:25	
1,2-Dibromoethane	ND U	18	0.71	2	06/03/19 15:25	
1,2-Dichlorobenzene	ND U	18	0.71	2	06/03/19 15:25	
1,2-Dichloroethane	ND U	18	0.71	2	06/03/19 15:25	
1,2-Dichloropropane	ND U	18	0.71	2	06/03/19 15:25	
1,3-Dichlorobenzene	ND U	18	0.71	2	06/03/19 15:25	
1,4-Dichlorobenzene	ND U	18	0.78	2	06/03/19 15:25	
1,4-Dioxane	ND U	350	71	2	06/03/19 15:25	
2-Butanone (MEK)	**92**	18	7.1	2	06/03/19 15:25	
2-Hexanone	**2.8 J**	18	1.3	2	06/03/19 15:25	
4-Methyl-2-pentanone	**2.7 J**	18	0.82	2	06/03/19 15:25	
Acetone	**520**	18	17	2	06/03/19 15:25	
Benzene	ND U	18	0.71	2	06/03/19 15:25	
Bromochloromethane	ND U	18	0.71	2	06/03/19 15:25	
Bromodichloromethane	ND U	18	0.71	2	06/03/19 15:25	
Bromoform	ND U	18	1.8	2	06/03/19 15:25	
Bromomethane	ND U	18	7.5	2	06/03/19 15:25	
Carbon Disulfide	ND U	18	1.1	2	06/03/19 15:25	
Carbon Tetrachloride	ND U	18	0.92	2	06/03/19 15:25	
Chlorobenzene	ND U	18	0.71	2	06/03/19 15:25	
Chloroethane	ND U	18	0.71	2	06/03/19 15:25	
Chloroform	ND U	18	0.71	2	06/03/19 15:25	
Chloromethane	ND U	18	5.0	2	06/03/19 15:25	
Cyclohexane	ND U	18	0.92	2	06/03/19 15:25	
Dibromochloromethane	ND U	18	0.71	2	06/03/19 15:25	
Dichlorodifluoromethane (CFC 12)	ND U	18	1.2	2	06/03/19 15:25	
Dichloromethane	ND U	18	9.9	2	06/03/19 15:25	
Ethylbenzene	ND U	18	0.71	2	06/03/19 15:25	
Isopropylbenzene (Cumene)	ND U	18	0.71	2	06/03/19 15:25	
Methyl Acetate	**5.4 J**	18	3.0	2	06/03/19 15:25	
Methyl tert-Butyl Ether	ND U	18	0.71	2	06/03/19 15:25	
Methylcyclohexane	ND U	18	1.1	2	06/03/19 15:25	
Styrene	**1.0 J**	18	0.71	2	06/03/19 15:25	
Tetrachloroethene (PCE)	ND U	18	0.82	2	06/03/19 15:25	
Toluene	**2.7 J**	18	0.71	2	06/03/19 15:25	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-001	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	ND U	18	0.78	2	06/03/19 15:25	
Trichlorofluoromethane (CFC 11)	ND U	18	0.92	2	06/03/19 15:25	
Vinyl Chloride	ND U	18	1.7	2	06/03/19 15:25	
cis-1,2-Dichloroethene	ND U	18	0.71	2	06/03/19 15:25	
cis-1,3-Dichloropropene	ND U	18	0.71	2	06/03/19 15:25	
m,p-Xylenes	ND U	35	1.4	2	06/03/19 15:25	
o-Xylene	ND U	18	0.71	2	06/03/19 15:25	
trans-1,2-Dichloroethene	ND U	18	0.71	2	06/03/19 15:25	
trans-1,3-Dichloropropene	ND U	18	0.71	2	06/03/19 15:25	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	56	31 - 154	06/03/19 15:25	
Dibromofluoromethane	101	63 - 138	06/03/19 15:25	
Toluene-d8	90	66 - 138	06/03/19 15:25	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-001	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	18	0.71	2	06/04/19 14:05	
1,1,2,2-Tetrachloroethane	ND U	18	0.71	2	06/04/19 14:05	
1,1,2-Trichloroethane	ND U	18	0.71	2	06/04/19 14:05	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	18	0.71	2	06/04/19 14:05	
1,1-Dichloroethane (1,1-DCA)	ND U	18	0.71	2	06/04/19 14:05	
1,1-Dichloroethene (1,1-DCE)	ND U	18	1.1	2	06/04/19 14:05	
1,2,3-Trichlorobenzene	ND U	18	1.9	2	06/04/19 14:05	
1,2,4-Trichlorobenzene	ND U	18	1.5	2	06/04/19 14:05	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	18	1.1	2	06/04/19 14:05	
1,2-Dibromoethane	ND U	18	0.71	2	06/04/19 14:05	
1,2-Dichlorobenzene	ND U	18	0.71	2	06/04/19 14:05	
1,2-Dichloroethane	ND U	18	0.71	2	06/04/19 14:05	
1,2-Dichloropropane	ND U	18	0.71	2	06/04/19 14:05	
1,3-Dichlorobenzene	ND U	18	0.71	2	06/04/19 14:05	
1,4-Dichlorobenzene	ND U	18	0.78	2	06/04/19 14:05	
1,4-Dioxane	ND U	350	71	2	06/04/19 14:05	
2-Butanone (MEK)	**15 J**	18	7.1	2	06/04/19 14:05	
2-Hexanone	ND U	18	1.3	2	06/04/19 14:05	
4-Methyl-2-pentanone	**2.4 J**	18	0.82	2	06/04/19 14:05	
Acetone	**430**	18	17	2	06/04/19 14:05	
Benzene	ND U	18	0.71	2	06/04/19 14:05	
Bromochloromethane	ND U	18	0.71	2	06/04/19 14:05	
Bromodichloromethane	ND U	18	0.71	2	06/04/19 14:05	
Bromoform	ND U	18	1.8	2	06/04/19 14:05	
Bromomethane	ND U	18	7.5	2	06/04/19 14:05	
Carbon Disulfide	ND U	18	1.1	2	06/04/19 14:05	
Carbon Tetrachloride	ND U	18	0.92	2	06/04/19 14:05	
Chlorobenzene	ND U	18	0.71	2	06/04/19 14:05	
Chloroethane	ND U	18	0.71	2	06/04/19 14:05	
Chloroform	ND U	18	0.71	2	06/04/19 14:05	
Chloromethane	ND U	18	5.0	2	06/04/19 14:05	
Cyclohexane	ND U	18	0.92	2	06/04/19 14:05	
Dibromochloromethane	ND U	18	0.71	2	06/04/19 14:05	
Dichlorodifluoromethane (CFC 12)	ND U	18	1.2	2	06/04/19 14:05	
Dichloromethane	ND U	18	9.9	2	06/04/19 14:05	
Ethylbenzene	ND U	18	0.71	2	06/04/19 14:05	
Isopropylbenzene (Cumene)	ND U	18	0.71	2	06/04/19 14:05	
Methyl Acetate	**4.3 J**	18	3.0	2	06/04/19 14:05	
Methyl tert-Butyl Ether	ND U	18	0.71	2	06/04/19 14:05	
Methylcyclohexane	ND U	18	1.1	2	06/04/19 14:05	
Styrene	**0.88 J**	18	0.71	2	06/04/19 14:05	
Tetrachloroethene (PCE)	**1.6 J**	18	0.82	2	06/04/19 14:05	
Toluene	**2.5 J**	18	0.71	2	06/04/19 14:05	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-001	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	ND U	18	0.78	2	06/04/19 14:05	
Trichlorofluoromethane (CFC 11)	ND U	18	0.92	2	06/04/19 14:05	
Vinyl Chloride	ND U	18	1.7	2	06/04/19 14:05	
cis-1,2-Dichloroethene	ND U	18	0.71	2	06/04/19 14:05	
cis-1,3-Dichloropropene	ND U	18	0.71	2	06/04/19 14:05	
m,p-Xylenes	ND U	35	1.4	2	06/04/19 14:05	
o-Xylene	ND U	18	0.71	2	06/04/19 14:05	
trans-1,2-Dichloroethene	ND U	18	0.71	2	06/04/19 14:05	
trans-1,3-Dichloropropene	ND U	18	0.71	2	06/04/19 14:05	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	63	31 - 154	06/04/19 14:05	
Dibromofluoromethane	108	63 - 138	06/04/19 14:05	
Toluene-d8	99	66 - 138	06/04/19 14:05	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 12:00
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Parker LS - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-002	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	39	1.6	2	06/04/19 14:29	
1,1,2,2-Tetrachloroethane	ND U	39	1.6	2	06/04/19 14:29	
1,1,2-Trichloroethane	ND U	39	1.6	2	06/04/19 14:29	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	39	1.6	2	06/04/19 14:29	
1,1-Dichloroethane (1,1-DCA)	ND U	39	1.6	2	06/04/19 14:29	
1,1-Dichloroethene (1,1-DCE)	ND U	39	2.3	2	06/04/19 14:29	
1,2,3-Trichlorobenzene	ND U	39	4.1	2	06/04/19 14:29	
1,2,4-Trichlorobenzene	ND U	39	3.3	2	06/04/19 14:29	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	39	2.3	2	06/04/19 14:29	
1,2-Dibromoethane	ND U	39	1.6	2	06/04/19 14:29	
1,2-Dichlorobenzene	ND U	39	1.6	2	06/04/19 14:29	
1,2-Dichloroethane	ND U	39	1.6	2	06/04/19 14:29	
1,2-Dichloropropane	ND U	39	1.6	2	06/04/19 14:29	
1,3-Dichlorobenzene	ND U	39	1.6	2	06/04/19 14:29	
1,4-Dichlorobenzene	ND U	39	1.8	2	06/04/19 14:29	
1,4-Dioxane	ND U	780	160	2	06/04/19 14:29	
2-Butanone (MEK)	ND U	39	16	2	06/04/19 14:29	
2-Hexanone	ND U	39	2.9	2	06/04/19 14:29	
4-Methyl-2-pentanone	ND U	39	1.9	2	06/04/19 14:29	
Acetone	ND U	39	37	2	06/04/19 14:29	
Benzene	ND U	39	1.6	2	06/04/19 14:29	
Bromochloromethane	ND U	39	1.6	2	06/04/19 14:29	
Bromodichloromethane	ND U	39	1.6	2	06/04/19 14:29	
Bromoform	ND U	39	4.0	2	06/04/19 14:29	
Bromomethane	ND U	39	17	2	06/04/19 14:29	
Carbon Disulfide	ND U	39	2.3	2	06/04/19 14:29	
Carbon Tetrachloride	ND U	39	2.1	2	06/04/19 14:29	
Chlorobenzene	ND U	39	1.6	2	06/04/19 14:29	
Chloroethane	ND U	39	1.6	2	06/04/19 14:29	
Chloroform	ND U	39	1.6	2	06/04/19 14:29	
Chloromethane	ND U	39	11	2	06/04/19 14:29	
Cyclohexane	ND U	39	2.1	2	06/04/19 14:29	
Dibromochloromethane	ND U	39	1.6	2	06/04/19 14:29	
Dichlorodifluoromethane (CFC 12)	ND U	39	2.6	2	06/04/19 14:29	
Dichloromethane	ND U	39	22	2	06/04/19 14:29	
Ethylbenzene	ND U	39	1.6	2	06/04/19 14:29	
Isopropylbenzene (Cumene)	ND U	39	1.6	2	06/04/19 14:29	
Methyl Acetate	ND U	39	6.6	2	06/04/19 14:29	
Methyl tert-Butyl Ether	ND U	39	1.6	2	06/04/19 14:29	
Methylcyclohexane	ND U	39	2.5	2	06/04/19 14:29	
Styrene	ND U	39	1.6	2	06/04/19 14:29	
Tetrachloroethene (PCE)	**5.8 J**	39	1.9	2	06/04/19 14:29	
Toluene	ND U	39	1.6	2	06/04/19 14:29	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 12:00
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Parker LS - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-002	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	ND U	39	1.8	2	06/04/19 14:29	
Trichlorofluoromethane (CFC 11)	ND U	39	2.1	2	06/04/19 14:29	
Vinyl Chloride	ND U	39	3.7	2	06/04/19 14:29	
cis-1,2-Dichloroethene	ND U	39	1.6	2	06/04/19 14:29	
cis-1,3-Dichloropropene	ND U	39	1.6	2	06/04/19 14:29	
m,p-Xylenes	ND U	78	3.0	2	06/04/19 14:29	
o-Xylene	ND U	39	1.6	2	06/04/19 14:29	
trans-1,2-Dichloroethene	ND U	39	1.6	2	06/04/19 14:29	
trans-1,3-Dichloropropene	ND U	39	1.6	2	06/04/19 14:29	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	69	31 - 154	06/04/19 14:29	
Dibromofluoromethane	100	63 - 138	06/04/19 14:29	
Toluene-d8	96	66 - 138	06/04/19 14:29	

Semivolatile Organic Compounds by GC/MS

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

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-001	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	ND U	580	170	1	06/13/19 02:03	6/11/19	
2,3,4,6-Tetrachlorophenol	ND U	580	150	1	06/13/19 02:03	6/11/19	
2,4,5-Trichlorophenol	ND U	580	150	1	06/13/19 02:03	6/11/19	
2,4,6-Trichlorophenol	ND U	580	160	1	06/13/19 02:03	6/11/19	
2,4-Dichlorophenol	ND U	580	120	1	06/13/19 02:03	6/11/19	
2,4-Dimethylphenol	ND U	580	120	1	06/13/19 02:03	6/11/19	
2,4-Dinitrophenol	ND U	3000	110	1	06/13/19 02:03	6/11/19	
2,4-Dinitrotoluene	ND U	580	160	1	06/13/19 02:03	6/11/19	
2,6-Dinitrotoluene	ND U	580	210	1	06/13/19 02:03	6/11/19	
2-Chloronaphthalene	ND U	580	130	1	06/13/19 02:03	6/11/19	
2-Chlorophenol	ND U	580	150	1	06/13/19 02:03	6/11/19	
2-Methylnaphthalene	ND U	580	140	1	06/13/19 02:03	6/11/19	
2-Methylphenol	ND U	580	150	1	06/13/19 02:03	6/11/19	
2-Nitroaniline	ND U	3000	170	1	06/13/19 02:03	6/11/19	
2-Nitrophenol	ND U	580	140	1	06/13/19 02:03	6/11/19	
3,3'-Dichlorobenzidine	ND U	580	180	1	06/13/19 02:03	6/11/19	
3- and 4-Methylphenol Coelution	ND U	580	150	1	06/13/19 02:03	6/11/19	
3-Nitroaniline	ND U	3000	130	1	06/13/19 02:03	6/11/19	
4,6-Dinitro-2-methylphenol	ND U	3000	130	1	06/13/19 02:03	6/11/19	
4-Bromophenyl Phenyl Ether	ND U	580	170	1	06/13/19 02:03	6/11/19	
4-Chloro-3-methylphenol	ND U	580	140	1	06/13/19 02:03	6/11/19	
4-Chloroaniline	ND U	580	70	1	06/13/19 02:03	6/11/19	
4-Chlorophenyl Phenyl Ether	ND U	580	140	1	06/13/19 02:03	6/11/19	
4-Nitroaniline	ND U	3000	130	1	06/13/19 02:03	6/11/19	
4-Nitrophenol	ND U	3000	340	1	06/13/19 02:03	6/11/19	
Acenaphthene	ND U	580	130	1	06/13/19 02:03	6/11/19	
Acenaphthylene	ND U	580	120	1	06/13/19 02:03	6/11/19	
Acetophenone	ND U	580	140	1	06/13/19 02:03	6/11/19	
Anthracene	ND U	580	120	1	06/13/19 02:03	6/11/19	
Atrazine	ND U	580	160	1	06/13/19 02:03	6/11/19	
Benz(a)anthracene	**120 J**	580	110	1	06/13/19 02:03	6/11/19	
Benzaldehyde	ND U	3000	140	1	06/13/19 02:03	6/11/19	
Benzo(a)pyrene	**120 J**	580	120	1	06/13/19 02:03	6/11/19	
Benzo(b)fluoranthene	**180 J**	580	110	1	06/13/19 02:03	6/11/19	
Benzo(g,h,i)perylene	ND U	580	140	1	06/13/19 02:03	6/11/19	
Benzo(k)fluoranthene	ND U	580	140	1	06/13/19 02:03	6/11/19	
Biphenyl	ND U	580	140	1	06/13/19 02:03	6/11/19	
2,2'-Oxybis(1-chloropropane)	ND U	580	150	1	06/13/19 02:03	6/11/19	
Bis(2-chloroethoxy)methane	ND U	580	140	1	06/13/19 02:03	6/11/19	
Bis(2-chloroethyl) Ether	ND U	580	110	1	06/13/19 02:03	6/11/19	
Bis(2-ethylhexyl) Phthalate	ND U	890	810	1	06/13/19 02:03	6/11/19	
Butyl Benzyl Phthalate	ND U	580	120	1	06/13/19 02:03	6/11/19	
Caprolactam	ND U	580	130	1	06/13/19 02:03	6/11/19	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-001	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	ND U	580	150	1	06/13/19 02:03	6/11/19	
Chrysene	**130 J**	580	120	1	06/13/19 02:03	6/11/19	
Di-n-butyl Phthalate	ND U	580	200	1	06/13/19 02:03	6/11/19	
Di-n-octyl Phthalate	ND U	580	180	1	06/13/19 02:03	6/11/19	
Dibenz(a,h)anthracene	ND U	580	110	1	06/13/19 02:03	6/11/19	
Dibenzofuran	ND U	580	120	1	06/13/19 02:03	6/11/19	
Diethyl Phthalate	ND U	580	320	1	06/13/19 02:03	6/11/19	
Dimethyl Phthalate	ND U	580	170	1	06/13/19 02:03	6/11/19	
Fluoranthene	**280 J**	580	140	1	06/13/19 02:03	6/11/19	
Fluorene	ND U	580	150	1	06/13/19 02:03	6/11/19	
Hexachlorobenzene	ND U	580	140	1	06/13/19 02:03	6/11/19	
Hexachlorobutadiene	ND U	580	99	1	06/13/19 02:03	6/11/19	
Hexachlorocyclopentadiene	ND U	580	97	1	06/13/19 02:03	6/11/19	
Hexachloroethane	ND U	580	110	1	06/13/19 02:03	6/11/19	
Indeno(1,2,3-cd)pyrene	ND U	580	130	1	06/13/19 02:03	6/11/19	
Isophorone	ND U	580	130	1	06/13/19 02:03	6/11/19	
N-Nitrosodi-n-propylamine	ND U	580	110	1	06/13/19 02:03	6/11/19	
N-Nitrosodiphenylamine	ND U	580	270	1	06/13/19 02:03	6/11/19	
Naphthalene	ND U	580	120	1	06/13/19 02:03	6/11/19	
Nitrobenzene	ND U	580	120	1	06/13/19 02:03	6/11/19	
Pentachlorophenol (PCP)	ND U	3000	200	1	06/13/19 02:03	6/11/19	
Phenanthrene	**130 J**	580	130	1	06/13/19 02:03	6/11/19	
Phenol	ND U	580	130	1	06/13/19 02:03	6/11/19	
Pyrene	**240 J**	580	120	1	06/13/19 02:03	6/11/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	16	10 - 109	06/13/19 02:03	
2-Fluorobiphenyl	13	10 - 102	06/13/19 02:03	
2-Fluorophenol	11	10 - 88	06/13/19 02:03	
Nitrobenzene-d5	12	10 - 95	06/13/19 02:03	
Phenol-d6	11	10 - 145	06/13/19 02:03	
Terphenyl-d14	12	10 - 106	06/13/19 02:03	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-001	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	ND U	1200	340	1	06/19/19 05:45	6/17/19	*
2,3,4,6-Tetrachlorophenol	ND U	1200	290	1	06/19/19 05:45	6/17/19	*
2,4,5-Trichlorophenol	ND U	1200	290	1	06/19/19 05:45	6/17/19	*
2,4,6-Trichlorophenol	ND U	1200	300	1	06/19/19 05:45	6/17/19	*
2,4-Dichlorophenol	ND U	1200	240	1	06/19/19 05:45	6/17/19	*
2,4-Dimethylphenol	ND U	1200	220	1	06/19/19 05:45	6/17/19	*
2,4-Dinitrophenol	ND U	5900	220	1	06/19/19 05:45	6/17/19	*
2,4-Dinitrotoluene	ND U	1200	300	1	06/19/19 05:45	6/17/19	*
2,6-Dinitrotoluene	ND U	1200	410	1	06/19/19 05:45	6/17/19	*
2-Chloronaphthalene	ND U	1200	260	1	06/19/19 05:45	6/17/19	*
2-Chlorophenol	ND U	1200	280	1	06/19/19 05:45	6/17/19	*
2-Methylnaphthalene	ND U	1200	260	1	06/19/19 05:45	6/17/19	*
2-Methylphenol	ND U	1200	280	1	06/19/19 05:45	6/17/19	*
2-Nitroaniline	ND U	5900	330	1	06/19/19 05:45	6/17/19	*
2-Nitrophenol	ND U	1200	270	1	06/19/19 05:45	6/17/19	*
3,3'-Dichlorobenzidine	ND U	1200	360	1	06/19/19 05:45	6/17/19	*
3- and 4-Methylphenol Coelution	ND U	1200	290	1	06/19/19 05:45	6/17/19	*
3-Nitroaniline	ND U	5900	250	1	06/19/19 05:45	6/17/19	*
4,6-Dinitro-2-methylphenol	ND U	5900	250	1	06/19/19 05:45	6/17/19	*
4-Bromophenyl Phenyl Ether	ND U	1200	330	1	06/19/19 05:45	6/17/19	*
4-Chloro-3-methylphenol	ND U	1200	270	1	06/19/19 05:45	6/17/19	*
4-Chloroaniline	ND U	1200	140	1	06/19/19 05:45	6/17/19	*
4-Chlorophenyl Phenyl Ether	ND U	1200	280	1	06/19/19 05:45	6/17/19	*
4-Nitroaniline	ND U	5900	260	1	06/19/19 05:45	6/17/19	*
4-Nitrophenol	ND U	5900	670	1	06/19/19 05:45	6/17/19	*
Acenaphthene	ND U	1200	260	1	06/19/19 05:45	6/17/19	*
Acenaphthylene	ND U	1200	240	1	06/19/19 05:45	6/17/19	*
Acetophenone	ND U	1200	270	1	06/19/19 05:45	6/17/19	*
Anthracene	ND U	1200	230	1	06/19/19 05:45	6/17/19	*
Atrazine	ND U	1200	320	1	06/19/19 05:45	6/17/19	*
Benz(a)anthracene	**280 J**	1200	210	1	06/19/19 05:45	6/17/19	*
Benzaldehyde	ND U	5900	280	1	06/19/19 05:45	6/17/19	*
Benzo(a)pyrene	**310 J**	1200	240	1	06/19/19 05:45	6/17/19	*
Benzo(b)fluoranthene	**390 J**	1200	210	1	06/19/19 05:45	6/17/19	*
Benzo(g,h,i)perylene	ND U	1200	270	1	06/19/19 05:45	6/17/19	*
Benzo(k)fluoranthene	ND U	1200	260	1	06/19/19 05:45	6/17/19	*
Biphenyl	ND U	1200	270	1	06/19/19 05:45	6/17/19	*
2,2'-Oxybis(1-chloropropane)	ND U	1200	290	1	06/19/19 05:45	6/17/19	*
Bis(2-chloroethoxy)methane	ND U	1200	270	1	06/19/19 05:45	6/17/19	*
Bis(2-chloroethyl) Ether	ND U	1200	210	1	06/19/19 05:45	6/17/19	*
Bis(2-ethylhexyl) Phthalate	**8600**	1700	1600	1	06/19/19 05:45	6/17/19	*
Butyl Benzyl Phthalate	ND U	1200	220	1	06/19/19 05:45	6/17/19	*
Caprolactam	ND U	1200	260	1	06/19/19 05:45	6/17/19	*

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-001	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	ND U	1200	290	1	06/19/19 05:45	6/17/19	*
Chrysene	**350 J**	1200	230	1	06/19/19 05:45	6/17/19	*
Di-n-butyl Phthalate	ND U	1200	390	1	06/19/19 05:45	6/17/19	*
Di-n-octyl Phthalate	ND U	1200	350	1	06/19/19 05:45	6/17/19	*
Dibenz(a,h)anthracene	ND U	1200	210	1	06/19/19 05:45	6/17/19	*
Dibenzofuran	ND U	1200	240	1	06/19/19 05:45	6/17/19	*
Diethyl Phthalate	ND U	1200	630	1	06/19/19 05:45	6/17/19	*
Dimethyl Phthalate	ND U	1200	320	1	06/19/19 05:45	6/17/19	*
Fluoranthene	**750 J**	1200	280	1	06/19/19 05:45	6/17/19	*
Fluorene	ND U	1200	290	1	06/19/19 05:45	6/17/19	*
Hexachlorobenzene	ND U	1200	270	1	06/19/19 05:45	6/17/19	*
Hexachlorobutadiene	ND U	1200	200	1	06/19/19 05:45	6/17/19	*
Hexachlorocyclopentadiene	ND U	1200	200	1	06/19/19 05:45	6/17/19	*
Hexachloroethane	ND U	1200	210	1	06/19/19 05:45	6/17/19	*
Indeno(1,2,3-cd)pyrene	ND U	1200	260	1	06/19/19 05:45	6/17/19	*
Isophorone	ND U	1200	250	1	06/19/19 05:45	6/17/19	*
N-Nitrosodi-n-propylamine	ND U	1200	210	1	06/19/19 05:45	6/17/19	*
N-Nitrosodiphenylamine	ND U	1200	520	1	06/19/19 05:45	6/17/19	*
Naphthalene	ND U	1200	240	1	06/19/19 05:45	6/17/19	*
Nitrobenzene	ND U	1200	240	1	06/19/19 05:45	6/17/19	*
Pentachlorophenol (PCP)	ND U	5900	390	1	06/19/19 05:45	6/17/19	*
Phenanthrene	**420 J**	1200	240	1	06/19/19 05:45	6/17/19	*
Phenol	**1800**	1200	260	1	06/19/19 05:45	6/17/19	*
Pyrene	**540 J**	1200	230	1	06/19/19 05:45	6/17/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	57	10 - 109	06/19/19 05:45	
2-Fluorobiphenyl	36	10 - 102	06/19/19 05:45	
2-Fluorophenol	33	10 - 88	06/19/19 05:45	
Nitrobenzene-d5	33	10 - 95	06/19/19 05:45	
Phenol-d6	32	10 - 145	06/19/19 05:45	
Terphenyl-d14	49	10 - 106	06/19/19 05:45	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 12:00
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Parker LS - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-002	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	ND U	1300	380	1	06/13/19 02:31	6/11/19	
2,3,4,6-Tetrachlorophenol	ND U	1300	320	1	06/13/19 02:31	6/11/19	
2,4,5-Trichlorophenol	ND U	1300	330	1	06/13/19 02:31	6/11/19	
2,4,6-Trichlorophenol	ND U	1300	340	1	06/13/19 02:31	6/11/19	
2,4-Dichlorophenol	ND U	1300	270	1	06/13/19 02:31	6/11/19	
2,4-Dimethylphenol	ND U	1300	250	1	06/13/19 02:31	6/11/19	
2,4-Dinitrophenol	ND U	6700	250	1	06/13/19 02:31	6/11/19	
2,4-Dinitrotoluene	ND U	1300	340	1	06/13/19 02:31	6/11/19	
2,6-Dinitrotoluene	ND U	1300	460	1	06/13/19 02:31	6/11/19	
2-Chloronaphthalene	ND U	1300	290	1	06/13/19 02:31	6/11/19	
2-Chlorophenol	ND U	1300	320	1	06/13/19 02:31	6/11/19	
2-Methylnaphthalene	ND U	1300	300	1	06/13/19 02:31	6/11/19	
2-Methylphenol	ND U	1300	320	1	06/13/19 02:31	6/11/19	
2-Nitroaniline	ND U	6700	380	1	06/13/19 02:31	6/11/19	
2-Nitrophenol	ND U	1300	300	1	06/13/19 02:31	6/11/19	
3,3'-Dichlorobenzidine	ND U	1300	400	1	06/13/19 02:31	6/11/19	
3- and 4-Methylphenol Coelution	ND U	1300	330	1	06/13/19 02:31	6/11/19	
3-Nitroaniline	ND U	6700	280	1	06/13/19 02:31	6/11/19	
4,6-Dinitro-2-methylphenol	ND U	6700	280	1	06/13/19 02:31	6/11/19	
4-Bromophenyl Phenyl Ether	ND U	1300	370	1	06/13/19 02:31	6/11/19	
4-Chloro-3-methylphenol	ND U	1300	300	1	06/13/19 02:31	6/11/19	
4-Chloroaniline	ND U	1300	160	1	06/13/19 02:31	6/11/19	
4-Chlorophenyl Phenyl Ether	ND U	1300	310	1	06/13/19 02:31	6/11/19	
4-Nitroaniline	ND U	6700	290	1	06/13/19 02:31	6/11/19	
4-Nitrophenol	ND U	6700	760	1	06/13/19 02:31	6/11/19	
Acenaphthene	ND U	1300	290	1	06/13/19 02:31	6/11/19	
Acenaphthylene	ND U	1300	270	1	06/13/19 02:31	6/11/19	
Acetophenone	ND U	1300	310	1	06/13/19 02:31	6/11/19	
Anthracene	ND U	1300	250	1	06/13/19 02:31	6/11/19	
Atrazine	ND U	1300	350	1	06/13/19 02:31	6/11/19	
Benz(a)anthracene	ND U	1300	230	1	06/13/19 02:31	6/11/19	
Benzaldehyde	ND U	6700	310	1	06/13/19 02:31	6/11/19	
Benzo(a)pyrene	ND U	1300	270	1	06/13/19 02:31	6/11/19	
Benzo(b)fluoranthene	ND U	1300	240	1	06/13/19 02:31	6/11/19	
Benzo(g,h,i)perylene	ND U	1300	300	1	06/13/19 02:31	6/11/19	
Benzo(k)fluoranthene	ND U	1300	300	1	06/13/19 02:31	6/11/19	
Biphenyl	ND U	1300	310	1	06/13/19 02:31	6/11/19	
2,2'-Oxybis(1-chloropropane)	ND U	1300	320	1	06/13/19 02:31	6/11/19	
Bis(2-chloroethoxy)methane	ND U	1300	300	1	06/13/19 02:31	6/11/19	
Bis(2-chloroethyl) Ether	ND U	1300	240	1	06/13/19 02:31	6/11/19	
Bis(2-ethylhexyl) Phthalate	ND U	2000	1800	1	06/13/19 02:31	6/11/19	
Butyl Benzyl Phthalate	ND U	1300	250	1	06/13/19 02:31	6/11/19	
Caprolactam	ND U	1300	290	1	06/13/19 02:31	6/11/19	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 12:00
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Parker LS - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-002	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	ND U	1300	330	1	06/13/19 02:31	6/11/19	
Chrysene	ND U	1300	260	1	06/13/19 02:31	6/11/19	
Di-n-butyl Phthalate	ND U	1300	440	1	06/13/19 02:31	6/11/19	
Di-n-octyl Phthalate	ND U	1300	390	1	06/13/19 02:31	6/11/19	
Dibenz(a,h)anthracene	ND U	1300	240	1	06/13/19 02:31	6/11/19	
Dibenzofuran	ND U	1300	270	1	06/13/19 02:31	6/11/19	
Diethyl Phthalate	ND U	1300	710	1	06/13/19 02:31	6/11/19	
Dimethyl Phthalate	ND U	1300	360	1	06/13/19 02:31	6/11/19	
Fluoranthene	ND U	1300	310	1	06/13/19 02:31	6/11/19	
Fluorene	ND U	1300	330	1	06/13/19 02:31	6/11/19	
Hexachlorobenzene	ND U	1300	310	1	06/13/19 02:31	6/11/19	
Hexachlorobutadiene	ND U	1300	220	1	06/13/19 02:31	6/11/19	
Hexachlorocyclopentadiene	ND U	1300	220	1	06/13/19 02:31	6/11/19	
Hexachloroethane	ND U	1300	230	1	06/13/19 02:31	6/11/19	
Indeno(1,2,3-cd)pyrene	ND U	1300	290	1	06/13/19 02:31	6/11/19	
Isophorone	ND U	1300	280	1	06/13/19 02:31	6/11/19	
N-Nitrosodi-n-propylamine	ND U	1300	240	1	06/13/19 02:31	6/11/19	
N-Nitrosodiphenylamine	ND U	1300	580	1	06/13/19 02:31	6/11/19	
Naphthalene	ND U	1300	270	1	06/13/19 02:31	6/11/19	
Nitrobenzene	ND U	1300	270	1	06/13/19 02:31	6/11/19	
Pentachlorophenol (PCP)	ND U	6700	430	1	06/13/19 02:31	6/11/19	
Phenanthrene	ND U	1300	270	1	06/13/19 02:31	6/11/19	
Phenol	ND U	1300	290	1	06/13/19 02:31	6/11/19	
Pyrene	ND U	1300	260	1	06/13/19 02:31	6/11/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	50	10 - 109	06/13/19 02:31	
2-Fluorobiphenyl	27	10 - 102	06/13/19 02:31	
2-Fluorophenol	32	10 - 88	06/13/19 02:31	
Nitrobenzene-d5	25	10 - 95	06/13/19 02:31	
Phenol-d6	34	10 - 145	06/13/19 02:31	
Terphenyl-d14	41	10 - 106	06/13/19 02:31	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 12:00
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Parker LS - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-002	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	ND U	1300	390	1	06/19/19 06:14	6/17/19	*
2,3,4,6-Tetrachlorophenol	ND U	1300	330	1	06/19/19 06:14	6/17/19	*
2,4,5-Trichlorophenol	ND U	1300	330	1	06/19/19 06:14	6/17/19	*
2,4,6-Trichlorophenol	ND U	1300	340	1	06/19/19 06:14	6/17/19	*
2,4-Dichlorophenol	ND U	1300	270	1	06/19/19 06:14	6/17/19	*
2,4-Dimethylphenol	ND U	1300	250	1	06/19/19 06:14	6/17/19	*
2,4-Dinitrophenol	ND U	6800	250	1	06/19/19 06:14	6/17/19	*
2,4-Dinitrotoluene	ND U	1300	350	1	06/19/19 06:14	6/17/19	*
2,6-Dinitrotoluene	ND U	1300	460	1	06/19/19 06:14	6/17/19	*
2-Chloronaphthalene	ND U	1300	290	1	06/19/19 06:14	6/17/19	*
2-Chlorophenol	ND U	1300	320	1	06/19/19 06:14	6/17/19	*
2-Methylnaphthalene	ND U	1300	300	1	06/19/19 06:14	6/17/19	*
2-Methylphenol	ND U	1300	320	1	06/19/19 06:14	6/17/19	*
2-Nitroaniline	ND U	6800	380	1	06/19/19 06:14	6/17/19	*
2-Nitrophenol	ND U	1300	300	1	06/19/19 06:14	6/17/19	*
3,3'-Dichlorobenzidine	ND U	1300	410	1	06/19/19 06:14	6/17/19	*
3- and 4-Methylphenol Coelution	ND U	1300	330	1	06/19/19 06:14	6/17/19	*
3-Nitroaniline	ND U	6800	290	1	06/19/19 06:14	6/17/19	*
4,6-Dinitro-2-methylphenol	ND U	6800	290	1	06/19/19 06:14	6/17/19	*
4-Bromophenyl Phenyl Ether	ND U	1300	380	1	06/19/19 06:14	6/17/19	*
4-Chloro-3-methylphenol	ND U	1300	300	1	06/19/19 06:14	6/17/19	*
4-Chloroaniline	ND U	1300	160	1	06/19/19 06:14	6/17/19	*
4-Chlorophenyl Phenyl Ether	ND U	1300	320	1	06/19/19 06:14	6/17/19	*
4-Nitroaniline	ND U	6800	290	1	06/19/19 06:14	6/17/19	*
4-Nitrophenol	ND U	6800	770	1	06/19/19 06:14	6/17/19	*
Acenaphthene	ND U	1300	290	1	06/19/19 06:14	6/17/19	*
Acenaphthylene	ND U	1300	270	1	06/19/19 06:14	6/17/19	*
Acetophenone	ND U	1300	310	1	06/19/19 06:14	6/17/19	*
Anthracene	ND U	1300	260	1	06/19/19 06:14	6/17/19	*
Atrazine	ND U	1300	360	1	06/19/19 06:14	6/17/19	*
Benz(a)anthracene	ND U	1300	230	1	06/19/19 06:14	6/17/19	*
Benzaldehyde	ND U	6800	320	1	06/19/19 06:14	6/17/19	*
Benzo(a)pyrene	ND U	1300	270	1	06/19/19 06:14	6/17/19	*
Benzo(b)fluoranthene	ND U	1300	240	1	06/19/19 06:14	6/17/19	*
Benzo(g,h,i)perylene	ND U	1300	300	1	06/19/19 06:14	6/17/19	*
Benzo(k)fluoranthene	ND U	1300	300	1	06/19/19 06:14	6/17/19	*
Biphenyl	ND U	1300	310	1	06/19/19 06:14	6/17/19	*
2,2'-Oxybis(1-chloropropane)	ND U	1300	330	1	06/19/19 06:14	6/17/19	*
Bis(2-chloroethoxy)methane	ND U	1300	300	1	06/19/19 06:14	6/17/19	*
Bis(2-chloroethyl) Ether	ND U	1300	240	1	06/19/19 06:14	6/17/19	*
Bis(2-ethylhexyl) Phthalate	ND U	2000	1900	1	06/19/19 06:14	6/17/19	*
Butyl Benzyl Phthalate	ND U	1300	250	1	06/19/19 06:14	6/17/19	*
Caprolactam	ND U	1300	300	1	06/19/19 06:14	6/17/19	*

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 12:00
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Parker LS - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-002	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	ND U	1300	330	1	06/19/19 06:14	6/17/19	*
Chrysene	ND U	1300	260	1	06/19/19 06:14	6/17/19	*
Di-n-butyl Phthalate	ND U	1300	440	1	06/19/19 06:14	6/17/19	*
Di-n-octyl Phthalate	ND U	1300	400	1	06/19/19 06:14	6/17/19	*
Dibenz(a,h)anthracene	ND U	1300	240	1	06/19/19 06:14	6/17/19	*
Dibenzofuran	ND U	1300	270	1	06/19/19 06:14	6/17/19	*
Diethyl Phthalate	ND U	1300	720	1	06/19/19 06:14	6/17/19	*
Dimethyl Phthalate	ND U	1300	360	1	06/19/19 06:14	6/17/19	*
Fluoranthene	ND U	1300	310	1	06/19/19 06:14	6/17/19	*
Fluorene	ND U	1300	330	1	06/19/19 06:14	6/17/19	*
Hexachlorobenzene	ND U	1300	310	1	06/19/19 06:14	6/17/19	*
Hexachlorobutadiene	ND U	1300	230	1	06/19/19 06:14	6/17/19	*
Hexachlorocyclopentadiene	ND U	1300	220	1	06/19/19 06:14	6/17/19	*
Hexachloroethane	ND U	1300	230	1	06/19/19 06:14	6/17/19	*
Indeno(1,2,3-cd)pyrene	ND U	1300	290	1	06/19/19 06:14	6/17/19	*
Isophorone	ND U	1300	290	1	06/19/19 06:14	6/17/19	*
N-Nitrosodi-n-propylamine	ND U	1300	240	1	06/19/19 06:14	6/17/19	*
N-Nitrosodiphenylamine	ND U	1300	590	1	06/19/19 06:14	6/17/19	*
Naphthalene	ND U	1300	270	1	06/19/19 06:14	6/17/19	*
Nitrobenzene	ND U	1300	270	1	06/19/19 06:14	6/17/19	*
Pentachlorophenol (PCP)	ND U	6800	440	1	06/19/19 06:14	6/17/19	*
Phenanthrene	ND U	1300	280	1	06/19/19 06:14	6/17/19	*
Phenol	**820 BJ**	1300	290	1	06/19/19 06:14	6/17/19	*
Pyrene	ND U	1300	260	1	06/19/19 06:14	6/17/19	*

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	48	10 - 109	06/19/19 06:14	
2-Fluorobiphenyl	22	10 - 102	06/19/19 06:14	
2-Fluorophenol	27	10 - 88	06/19/19 06:14	
Nitrobenzene-d5	24	10 - 95	06/19/19 06:14	
Phenol-d6	28	10 - 145	06/19/19 06:14	
Terphenyl-d14	40	10 - 106	06/19/19 06:14	

Semivolatile Organic Compounds by GC

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
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Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-001	**Basis:**	Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	ND U	150	74	50	06/12/19 13:57	6/10/19	
4,4'-DDE	ND U	150	74	50	06/12/19 13:57	6/10/19	
4,4'-DDT	ND U	150	74	50	06/12/19 13:57	6/10/19	
Aldrin	ND U	150	74	50	06/12/19 13:57	6/10/19	
Dieldrin	ND U	150	74	50	06/12/19 13:57	6/10/19	
Endosulfan I	ND U	150	74	50	06/12/19 13:57	6/10/19	
Endosulfan II	ND U	150	74	50	06/12/19 13:57	6/10/19	
Endosulfan Sulfate	ND U	150	74	50	06/12/19 13:57	6/10/19	
Endrin	ND U	150	74	50	06/12/19 13:57	6/10/19	
Endrin Aldehyde	ND U	150	74	50	06/12/19 13:57	6/10/19	
Endrin Ketone	ND U	150	74	50	06/12/19 13:57	6/10/19	
Heptachlor	ND U	150	74	50	06/12/19 13:57	6/10/19	
Heptachlor Epoxide	ND U	150	74	50	06/12/19 13:57	6/10/19	
Methoxychlor	ND U	150	74	50	06/12/19 13:57	6/10/19	
Toxaphene	ND U	2900	1700	50	06/12/19 13:57	6/10/19	
alpha-BHC	ND U	150	74	50	06/12/19 13:57	6/10/19	
alpha-Chlordane	ND U	150	74	50	06/12/19 13:57	6/10/19	
beta-BHC	ND U	150	74	50	06/12/19 13:57	6/10/19	
delta-BHC	ND U	150	74	50	06/12/19 13:57	6/10/19	
gamma-BHC (Lindane)	ND U	150	74	50	06/12/19 13:57	6/10/19	
gamma-Chlordane	ND U	150	74	50	06/12/19 13:57	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	0 *	10 - 145	06/12/19 13:57	D
Tetrachloro-m-xylene	0 *	10 - 123	06/12/19 13:57	D

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 12:00
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Parker LS - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-002	**Basis:**	Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	ND U	33	17	5	06/12/19 14:15	6/10/19	
4,4'-DDE	**72**	33	17	5	06/12/19 14:15	6/10/19	
4,4'-DDT	ND U	33	17	5	06/12/19 14:15	6/10/19	
Aldrin	ND U	33	17	5	06/12/19 14:15	6/10/19	
Dieldrin	ND U	33	17	5	06/12/19 14:15	6/10/19	
Endosulfan I	ND U	33	17	5	06/12/19 14:15	6/10/19	
Endosulfan II	ND U	33	17	5	06/12/19 14:15	6/10/19	
Endosulfan Sulfate	ND U	33	17	5	06/12/19 14:15	6/10/19	
Endrin	ND U	33	17	5	06/12/19 14:15	6/10/19	
Endrin Aldehyde	ND U	33	17	5	06/12/19 14:15	6/10/19	
Endrin Ketone	ND U	33	17	5	06/12/19 14:15	6/10/19	
Heptachlor	ND U	33	17	5	06/12/19 14:15	6/10/19	
Heptachlor Epoxide	ND U	33	17	5	06/12/19 14:15	6/10/19	
Methoxychlor	ND U	33	17	5	06/12/19 14:15	6/10/19	
Toxaphene	ND U	650	380	5	06/12/19 14:15	6/10/19	
alpha-BHC	ND U	33	17	5	06/12/19 14:15	6/10/19	
alpha-Chlordane	ND U	33	17	5	06/12/19 14:15	6/10/19	
beta-BHC	ND U	33	17	5	06/12/19 14:15	6/10/19	
delta-BHC	ND U	33	17	5	06/12/19 14:15	6/10/19	
gamma-BHC (Lindane)	ND U	33	17	5	06/12/19 14:15	6/10/19	
gamma-Chlordane	ND U	33	17	5	06/12/19 14:15	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	70	10 - 145	06/12/19 14:15	
Tetrachloro-m-xylene	78	10 - 123	06/12/19 14:15	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-001	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	ND U	58	30	1	06/10/19 16:23	6/10/19	
Aroclor 1221	ND U	120	59	1	06/10/19 16:23	6/10/19	
Aroclor 1232	ND U	58	34	1	06/10/19 16:23	6/10/19	
Aroclor 1242	ND U	58	30	1	06/10/19 16:23	6/10/19	
Aroclor 1248	ND U	58	46	1	06/10/19 16:23	6/10/19	
Aroclor 1254	ND U	58	32	1	06/10/19 16:23	6/10/19	
Aroclor 1260	ND U	58	30	1	06/10/19 16:23	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	94	22 - 128	06/10/19 16:23	
Tetrachloro-m-xylene	96	14 - 119	06/10/19 16:23	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 12:00
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Parker LS - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-002	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	ND U	130	67	1	06/10/19 16:43	6/10/19	
Aroclor 1221	ND U	260	130	1	06/10/19 16:43	6/10/19	
Aroclor 1232	ND U	130	76	1	06/10/19 16:43	6/10/19	
Aroclor 1242	ND U	130	67	1	06/10/19 16:43	6/10/19	
Aroclor 1248	ND U	130	110	1	06/10/19 16:43	6/10/19	
Aroclor 1254	ND U	130	71	1	06/10/19 16:43	6/10/19	
Aroclor 1260	ND U	130	67	1	06/10/19 16:43	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	94	22 - 128	06/10/19 16:43	
Tetrachloro-m-xylene	90	14 - 119	06/10/19 16:43	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-001	**Basis:**	Dry

Chlorinated Herbicides by GC

Analysis Method: 8151A
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4,5-T	ND U	22	8.1	1	06/17/19 14:51	6/13/19	
2,4,5-TP	ND U	22	7.6	1	06/17/19 14:51	6/13/19	
2,4-D	ND U	22	13	1	06/17/19 14:51	6/13/19	
Dicamba	ND U	22	8.2	1	06/17/19 14:51	6/13/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	41	10 - 151	06/17/19 14:51	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 12:00
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Parker LS - 053019	**Units:**	ug/Kg
Lab Code:	R1904924-002	**Basis:**	Dry

Chlorinated Herbicides by GC

Analysis Method: 8151A
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4,5-T	ND U	39	15	1	06/17/19 15:08	6/13/19	
2,4,5-TP	ND U	39	14	1	06/17/19 15:08	6/13/19	
2,4-D	ND U	39	23	1	06/17/19 15:08	6/13/19	
Dicamba	ND U	39	15	1	06/17/19 15:08	6/13/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	57	10 - 151	06/17/19 15:08	

Metals

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

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Basis:**	Dry
Lab Code:	R1904924-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Antimony, Total	6010C	ND U	mg/Kg	10	1.0	1	06/05/19 15:53	06/04/19	
Arsenic, Total	6010C	**2.1**	mg/Kg	1.7	1.3	1	06/05/19 15:53	06/04/19	
Barium, Total	6010C	**90.7**	mg/Kg	3.5	1.7	1	06/05/19 15:53	06/04/19	
Beryllium, Total	6010C	**0.16 J**	mg/Kg	0.52	0.06	1	06/05/19 15:53	06/04/19	
Cadmium, Total	6010C	**0.28 J**	mg/Kg	0.87	0.13	1	06/05/19 15:53	06/04/19	
Calcium, Total	6010C	**24200**	mg/Kg	170	60	1	06/05/19 15:53	06/04/19	
Chromium, Total	6010C	**7.0**	mg/Kg	1.7	0.7	1	06/05/19 15:53	06/04/19	
Cobalt, Total	6010C	**3.6 J**	mg/Kg	8.7	0.4	1	06/05/19 15:53	06/04/19	
Copper, Total	6010C	**15.2**	mg/Kg	3.5	1.1	1	06/05/19 15:53	06/04/19	
Iron, Total	6010C	**8150**	mg/Kg	350	230	10	06/05/19 16:29	06/04/19	
Lead, Total	6010C	**22.8**	mg/Kg	8.7	0.7	1	06/05/19 15:53	06/04/19	
Magnesium, Total	6010C	**2850**	mg/Kg	170	30	1	06/05/19 15:53	06/04/19	
Manganese, Total	6010C	**303**	mg/Kg	3.5	2.6	1	06/05/19 15:53	06/04/19	
Mercury, Total	7471B	**0.026 J**	mg/Kg	0.056	0.010	1	06/07/19 12:48	06/06/19	
Nickel, Total	6010C	**7.3**	mg/Kg	6.9	1.2	1	06/05/19 15:53	06/04/19	
Potassium, Total	6010C	**2920**	mg/Kg	350	20	1	06/05/19 15:53	06/04/19	
Selenium, Total	6010C	ND U	mg/Kg	1.7	1.0	1	06/05/19 15:53	06/04/19	
Silver, Total	6010C	ND U	mg/Kg	1.7	0.2	1	06/05/19 15:53	06/04/19	
Sodium, Total	6010C	**410**	mg/Kg	170	100	1	06/05/19 15:53	06/04/19	
Thallium, Total	6010C	ND U	mg/Kg	1.7	1.2	1	06/05/19 15:53	06/04/19	
Vanadium, Total	6010C	**9.5**	mg/Kg	8.7	1.3	1	06/05/19 15:53	06/04/19	
Zinc, Total	6010C	**67.7**	mg/Kg	3.5	2.5	1	06/05/19 15:53	06/04/19	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 12:00
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Parker LS - 053019	**Basis:**	Dry
Lab Code:	R1904924-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Antimony, Total	6010C	ND U	mg/Kg	24	3	1	06/05/19 16:09	06/04/19	
Arsenic, Total	6010C	ND U	mg/Kg	3.9	2.8	1	06/05/19 16:09	06/04/19	
Barium, Total	6010C	**168**	mg/Kg	7.8	3.9	1	06/05/19 16:09	06/04/19	
Beryllium, Total	6010C	ND U	mg/Kg	1.2	0.2	1	06/05/19 16:09	06/04/19	
Cadmium, Total	6010C	**0.9 J**	mg/Kg	2.0	0.3	1	06/05/19 16:09	06/04/19	
Calcium, Total	6010C	**38800**	mg/Kg	390	130	1	06/05/19 16:09	06/04/19	
Chromium, Total	6010C	**3.3 J**	mg/Kg	3.9	1.4	1	06/05/19 16:09	06/04/19	
Cobalt, Total	6010C	**2 BJ**	mg/Kg	20	0.8	1	06/05/19 16:09	06/04/19	
Copper, Total	6010C	**21.3**	mg/Kg	7.8	2.5	1	06/05/19 16:09	06/04/19	
Iron, Total	6010C	**4120**	mg/Kg	78	51	1	06/05/19 16:09	06/04/19	
Lead, Total	6010C	**26**	mg/Kg	20	2	1	06/05/19 16:09	06/04/19	
Magnesium, Total	6010C	**3490**	mg/Kg	390	60	1	06/05/19 16:09	06/04/19	
Manganese, Total	6010C	**486**	mg/Kg	7.8	5.9	1	06/05/19 16:09	06/04/19	
Mercury, Total	7471B	**0.04 J**	mg/Kg	0.13	0.03	1	06/07/19 12:56	06/06/19	
Nickel, Total	6010C	**4 J**	mg/Kg	16	3	1	06/05/19 16:09	06/04/19	
Potassium, Total	6010C	**7840**	mg/Kg	780	40	1	06/05/19 16:09	06/04/19	
Selenium, Total	6010C	ND U	mg/Kg	3.9	2.2	1	06/05/19 16:09	06/04/19	
Silver, Total	6010C	ND U	mg/Kg	3.9	0.3	1	06/05/19 16:09	06/04/19	
Sodium, Total	6010C	**420**	mg/Kg	390	210	1	06/05/19 16:09	06/04/19	
Thallium, Total	6010C	ND U	mg/Kg	3.9	2.6	1	06/05/19 16:09	06/04/19	
Vanadium, Total	6010C	ND U	mg/Kg	20	3	1	06/05/19 16:09	06/04/19	
Zinc, Total	6010C	**152**	mg/Kg	7.8	5.5	1	06/05/19 16:09	06/04/19	

General Chemistry

ALS Environmental—Rochester Laboratory
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Phone (585) 288-5380 Fax (585) 288-8475
www.alsglobal.com

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Basis:**	Dry
Lab Code:	R1904924-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	9012B	**0.12 J**	mg/Kg	0.42	0.07	1	06/04/19 19:56	06/04/19	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 11:30
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Municipal - 053019	**Basis:**	As Received
Lab Code:	R1904924-001		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Total Solids	ALS SOP	**56.6**	Percent	-	-	1	06/03/19 10:55	NA	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 12:00
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Parker LS - 053019	**Basis:**	Dry
Lab Code:	R1904924-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	9012B	**0.81 J**	mg/Kg	0.98	0.15	1	06/04/19 19:57	06/04/19	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19 12:00
Sample Matrix:	Soil	**Date Received:**	05/30/19 14:35
Sample Name:	Parker LS - 053019	**Basis:**	As Received
Lab Code:	R1904924-002		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Total Solids	ALS SOP	**25.5**	Percent	-	-	1	06/03/19 10:55	NA	

QC Summary Forms

ALS Environmental—Rochester Laboratory
1565 Jefferson Road, Building 300, Suite 360, Rochester, NY 14623
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Volatile Organic Compounds by GC/MS

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

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Extraction Method: EPA 5030C

Sample Name	Lab Code	4-Bromofluorobenzene 31-154	Dibromofluoromethane 63-138	Toluene-d8 66-138
Municipal - 053019	R1904924-001	56	101	90
Municipal - 053019 RE	R1904924-001	63	108	99
Parker LS - 053019	R1904924-002	69	100	96
Method Blank	RQ1905395-04	95	97	97
Method Blank	RQ1905473-04	100	102	101
Lab Control Sample	RQ1905395-03	95	103	99
Lab Control Sample	RQ1905473-03	103	105	103

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1905395-04	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	0.20	1	06/03/19 11:48	
1,1,2,2-Tetrachloroethane	ND U	5.0	0.20	1	06/03/19 11:48	
1,1,2-Trichloroethane	ND U	5.0	0.20	1	06/03/19 11:48	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	5.0	0.20	1	06/03/19 11:48	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	0.20	1	06/03/19 11:48	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	0.29	1	06/03/19 11:48	
1,2,3-Trichlorobenzene	ND U	5.0	0.52	1	06/03/19 11:48	
1,2,4-Trichlorobenzene	ND U	5.0	0.42	1	06/03/19 11:48	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	0.29	1	06/03/19 11:48	
1,2-Dibromoethane	ND U	5.0	0.20	1	06/03/19 11:48	
1,2-Dichlorobenzene	ND U	5.0	0.20	1	06/03/19 11:48	
1,2-Dichloroethane	ND U	5.0	0.20	1	06/03/19 11:48	
1,2-Dichloropropane	ND U	5.0	0.20	1	06/03/19 11:48	
1,3-Dichlorobenzene	ND U	5.0	0.20	1	06/03/19 11:48	
1,4-Dichlorobenzene	ND U	5.0	0.22	1	06/03/19 11:48	
1,4-Dioxane	ND U	100	20	1	06/03/19 11:48	
2-Butanone (MEK)	ND U	5.0	2.0	1	06/03/19 11:48	
2-Hexanone	ND U	5.0	0.36	1	06/03/19 11:48	
4-Methyl-2-pentanone	ND U	5.0	0.23	1	06/03/19 11:48	
Acetone	ND U	5.0	4.7	1	06/03/19 11:48	
Benzene	ND U	5.0	0.20	1	06/03/19 11:48	
Bromochloromethane	ND U	5.0	0.20	1	06/03/19 11:48	
Bromodichloromethane	ND U	5.0	0.20	1	06/03/19 11:48	
Bromoform	ND U	5.0	0.50	1	06/03/19 11:48	
Bromomethane	ND U	5.0	2.1	1	06/03/19 11:48	
Carbon Disulfide	ND U	5.0	0.29	1	06/03/19 11:48	
Carbon Tetrachloride	ND U	5.0	0.26	1	06/03/19 11:48	
Chlorobenzene	ND U	5.0	0.20	1	06/03/19 11:48	
Chloroethane	ND U	5.0	0.20	1	06/03/19 11:48	
Chloroform	ND U	5.0	0.20	1	06/03/19 11:48	
Chloromethane	ND U	5.0	1.4	1	06/03/19 11:48	
Cyclohexane	ND U	5.0	0.26	1	06/03/19 11:48	
Dibromochloromethane	ND U	5.0	0.20	1	06/03/19 11:48	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	0.33	1	06/03/19 11:48	
Dichloromethane	ND U	5.0	2.8	1	06/03/19 11:48	
Ethylbenzene	ND U	5.0	0.20	1	06/03/19 11:48	
Isopropylbenzene (Cumene)	ND U	5.0	0.20	1	06/03/19 11:48	
Methyl Acetate	ND U	5.0	0.84	1	06/03/19 11:48	
Methyl tert-Butyl Ether	ND U	5.0	0.20	1	06/03/19 11:48	
Methylcyclohexane	ND U	5.0	0.31	1	06/03/19 11:48	
Styrene	ND U	5.0	0.20	1	06/03/19 11:48	
Tetrachloroethene (PCE)	ND U	5.0	0.23	1	06/03/19 11:48	
Toluene	ND U	5.0	0.20	1	06/03/19 11:48	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1905395-04	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	ND U	5.0	0.22	1	06/03/19 11:48	
Trichlorofluoromethane (CFC 11)	ND U	5.0	0.26	1	06/03/19 11:48	
Vinyl Chloride	ND U	5.0	0.46	1	06/03/19 11:48	
cis-1,2-Dichloroethene	ND U	5.0	0.20	1	06/03/19 11:48	
cis-1,3-Dichloropropene	ND U	5.0	0.20	1	06/03/19 11:48	
m,p-Xylenes	ND U	10	0.37	1	06/03/19 11:48	
o-Xylene	ND U	5.0	0.20	1	06/03/19 11:48	
trans-1,2-Dichloroethene	ND U	5.0	0.20	1	06/03/19 11:48	
trans-1,3-Dichloropropene	ND U	5.0	0.20	1	06/03/19 11:48	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	95	31 - 154	06/03/19 11:48	
Dibromofluoromethane	97	63 - 138	06/03/19 11:48	
Toluene-d8	97	66 - 138	06/03/19 11:48	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1905473-04	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
1,1,1-Trichloroethane (TCA)	ND U	5.0	0.20	1	06/04/19 12:29	
1,1,2,2-Tetrachloroethane	ND U	5.0	0.20	1	06/04/19 12:29	
1,1,2-Trichloroethane	ND U	5.0	0.20	1	06/04/19 12:29	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND U	5.0	0.20	1	06/04/19 12:29	
1,1-Dichloroethane (1,1-DCA)	ND U	5.0	0.20	1	06/04/19 12:29	
1,1-Dichloroethene (1,1-DCE)	ND U	5.0	0.29	1	06/04/19 12:29	
1,2,3-Trichlorobenzene	ND U	5.0	0.52	1	06/04/19 12:29	
1,2,4-Trichlorobenzene	ND U	5.0	0.42	1	06/04/19 12:29	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	5.0	0.29	1	06/04/19 12:29	
1,2-Dibromoethane	ND U	5.0	0.20	1	06/04/19 12:29	
1,2-Dichlorobenzene	ND U	5.0	0.20	1	06/04/19 12:29	
1,2-Dichloroethane	ND U	5.0	0.20	1	06/04/19 12:29	
1,2-Dichloropropane	ND U	5.0	0.20	1	06/04/19 12:29	
1,3-Dichlorobenzene	ND U	5.0	0.20	1	06/04/19 12:29	
1,4-Dichlorobenzene	ND U	5.0	0.22	1	06/04/19 12:29	
1,4-Dioxane	ND U	100	20	1	06/04/19 12:29	
2-Butanone (MEK)	ND U	5.0	2.0	1	06/04/19 12:29	
2-Hexanone	ND U	5.0	0.36	1	06/04/19 12:29	
4-Methyl-2-pentanone	ND U	5.0	0.23	1	06/04/19 12:29	
Acetone	ND U	5.0	4.7	1	06/04/19 12:29	
Benzene	ND U	5.0	0.20	1	06/04/19 12:29	
Bromochloromethane	ND U	5.0	0.20	1	06/04/19 12:29	
Bromodichloromethane	ND U	5.0	0.20	1	06/04/19 12:29	
Bromoform	ND U	5.0	0.50	1	06/04/19 12:29	
Bromomethane	ND U	5.0	2.1	1	06/04/19 12:29	
Carbon Disulfide	ND U	5.0	0.29	1	06/04/19 12:29	
Carbon Tetrachloride	ND U	5.0	0.26	1	06/04/19 12:29	
Chlorobenzene	ND U	5.0	0.20	1	06/04/19 12:29	
Chloroethane	ND U	5.0	0.20	1	06/04/19 12:29	
Chloroform	ND U	5.0	0.20	1	06/04/19 12:29	
Chloromethane	ND U	5.0	1.4	1	06/04/19 12:29	
Cyclohexane	ND U	5.0	0.26	1	06/04/19 12:29	
Dibromochloromethane	ND U	5.0	0.20	1	06/04/19 12:29	
Dichlorodifluoromethane (CFC 12)	ND U	5.0	0.33	1	06/04/19 12:29	
Dichloromethane	ND U	5.0	2.8	1	06/04/19 12:29	
Ethylbenzene	ND U	5.0	0.20	1	06/04/19 12:29	
Isopropylbenzene (Cumene)	ND U	5.0	0.20	1	06/04/19 12:29	
Methyl Acetate	ND U	5.0	0.84	1	06/04/19 12:29	
Methyl tert-Butyl Ether	ND U	5.0	0.20	1	06/04/19 12:29	
Methylcyclohexane	ND U	5.0	0.31	1	06/04/19 12:29	
Styrene	ND U	5.0	0.20	1	06/04/19 12:29	
Tetrachloroethene (PCE)	ND U	5.0	0.23	1	06/04/19 12:29	
Toluene	ND U	5.0	0.20	1	06/04/19 12:29	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1905473-04	**Basis:**	Dry

Volatile Organic Compounds by GC/MS, Unp

Analysis Method: 8260C
Prep Method: EPA 5030C

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Q
Trichloroethene (TCE)	ND U	5.0	0.22	1	06/04/19 12:29	
Trichlorofluoromethane (CFC 11)	ND U	5.0	0.26	1	06/04/19 12:29	
Vinyl Chloride	ND U	5.0	0.46	1	06/04/19 12:29	
cis-1,2-Dichloroethene	ND U	5.0	0.20	1	06/04/19 12:29	
cis-1,3-Dichloropropene	ND U	5.0	0.20	1	06/04/19 12:29	
m,p-Xylenes	ND U	10	0.37	1	06/04/19 12:29	
o-Xylene	ND U	5.0	0.20	1	06/04/19 12:29	
trans-1,2-Dichloroethene	ND U	5.0	0.20	1	06/04/19 12:29	
trans-1,3-Dichloropropene	ND U	5.0	0.20	1	06/04/19 12:29	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	100	31 - 154	06/04/19 12:29	
Dibromofluoromethane	102	63 - 138	06/04/19 12:29	
Toluene-d8	101	66 - 138	06/04/19 12:29	

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York)
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

Service Request: R1904924
Date Analyzed: 06/03/19

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS, Unp

Units:ug/Kg
Basis: Dry

Lab Control Sample
RQ1905395-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	8260C	23.0	20.0	115	68-123
1,1,2,2-Tetrachloroethane	8260C	19.3	20.0	96	78-121
1,1,2-Trichloroethane	8260C	18.9	20.0	94	84-117
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	23.1	20.0	115	54-121
1,1-Dichloroethane (1,1-DCA)	8260C	21.0	20.0	105	76-123
1,1-Dichloroethene (1,1-DCE)	8260C	21.8	20.0	109	65-115
1,2,3-Trichlorobenzene	8260C	17.6	20.0	88	60-128
1,2,4-Trichlorobenzene	8260C	18.0	20.0	90	62-130
1,2-Dibromo-3-chloropropane (DBCP)	8260C	18.5	20.0	92	54-135
1,2-Dibromoethane	8260C	19.3	20.0	97	77-117
1,2-Dichlorobenzene	8260C	17.7	20.0	89	75-116
1,2-Dichloroethane	8260C	21.0	20.0	105	74-116
1,2-Dichloropropane	8260C	19.3	20.0	97	79-112
1,3-Dichlorobenzene	8260C	18.3	20.0	92	72-118
1,4-Dichlorobenzene	8260C	18.2	20.0	91	72-117
1,4-Dioxane	8260C	385	400	96	59-147
2-Butanone (MEK)	8260C	22.6	20.0	113	67-129
2-Hexanone	8260C	21.8	20.0	109	68-118
4-Methyl-2-pentanone	8260C	21.6	20.0	108	64-123
Acetone	8260C	24.0	20.0	120	32-154
Benzene	8260C	20.1	20.0	101	77-114
Bromochloromethane	8260C	19.4	20.0	97	78-117
Bromodichloromethane	8260C	20.7	20.0	103	72-118
Bromoform	8260C	19.0	20.0	95	55-134
Bromomethane	8260C	19.9	20.0	100	10-150
Carbon Disulfide	8260C	22.7	20.0	114	44-139
Carbon Tetrachloride	8260C	23.2	20.0	116	51-123
Chlorobenzene	8260C	19.1	20.0	95	79-115
Chloroethane	8260C	20.3	20.0	101	10-140
Chloroform	8260C	21.3	20.0	107	76-115
Chloromethane	8260C	17.4	20.0	87	10-131
Cyclohexane	8260C	23.0	20.0	115	67-122
Dibromochloromethane	8260C	19.9	20.0	99	68-121

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York)
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

Service Request: R1904924
Date Analyzed: 06/03/19

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS, Unp

Units:ug/Kg
Basis: Dry

Lab Control Sample
RQ1905395-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	23.5	20.0	117	51-144
Dichloromethane	8260C	19.9	20.0	99	72-118
Ethylbenzene	8260C	19.8	20.0	99	64-118
Isopropylbenzene (Cumene)	8260C	19.3	20.0	96	60-123
Methyl Acetate	8260C	18.6	20.0	93	31-122
Methyl tert-Butyl Ether	8260C	20.3	20.0	102	76-118
Methylcyclohexane	8260C	22.4	20.0	112	70-124
Styrene	8260C	19.5	20.0	97	74-117
Tetrachloroethene (PCE)	8260C	20.4	20.0	102	58-124
Toluene	8260C	20.3	20.0	102	72-116
Trichloroethene (TCE)	8260C	20.6	20.0	103	69-118
Trichlorofluoromethane (CFC 11)	8260C	25.6	20.0	128 *	52-127
Vinyl Chloride	8260C	21.4	20.0	107	59-153
cis-1,2-Dichloroethene	8260C	20.8	20.0	104	79-113
cis-1,3-Dichloropropene	8260C	20.1	20.0	100	66-117
m,p-Xylenes	8260C	38.9	40.0	97	68-118
o-Xylene	8260C	19.2	20.0	96	71-116
trans-1,2-Dichloroethene	8260C	21.5	20.0	108	73-114
trans-1,3-Dichloropropene	8260C	19.9	20.0	99	57-135

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000 **Date Analyzed:** 06/04/19
Sample Matrix: Soil

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS, Unp

Units:ug/Kg
Basis: Dry

Lab Control Sample
RQ1905473-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
1,1,1-Trichloroethane (TCA)	8260C	19.1	20.0	95	68-123
1,1,2,2-Tetrachloroethane	8260C	18.1	20.0	91	78-121
1,1,2-Trichloroethane	8260C	17.8	20.0	89	84-117
1,1,2-Trichloro-1,2,2-trifluoroethane	8260C	17.4	20.0	87	54-121
1,1-Dichloroethane (1,1-DCA)	8260C	18.3	20.0	91	76-123
1,1-Dichloroethene (1,1-DCE)	8260C	17.8	20.0	89	65-115
1,2,3-Trichlorobenzene	8260C	18.6	20.0	93	60-128
1,2,4-Trichlorobenzene	8260C	18.5	20.0	93	62-130
1,2-Dibromo-3-chloropropane (DBCP)	8260C	17.1	20.0	86	54-135
1,2-Dibromoethane	8260C	18.1	20.0	91	77-117
1,2-Dichlorobenzene	8260C	18.8	20.0	94	75-116
1,2-Dichloroethane	8260C	19.6	20.0	98	74-116
1,2-Dichloropropane	8260C	18.1	20.0	91	79-112
1,3-Dichlorobenzene	8260C	19.1	20.0	95	72-118
1,4-Dichlorobenzene	8260C	18.8	20.0	94	72-117
1,4-Dioxane	8260C	368	400	92	59-147
2-Butanone (MEK)	8260C	20.7	20.0	103	67-129
2-Hexanone	8260C	20.2	20.0	101	68-118
4-Methyl-2-pentanone	8260C	20.1	20.0	100	64-123
Acetone	8260C	21.1	20.0	106	32-154
Benzene	8260C	18.0	20.0	90	77-114
Bromochloromethane	8260C	18.4	20.0	92	78-117
Bromodichloromethane	8260C	18.7	20.0	93	72-118
Bromoform	8260C	18.1	20.0	91	55-134
Bromomethane	8260C	18.4	20.0	92	10-150
Carbon Disulfide	8260C	16.8	20.0	84	44-139
Carbon Tetrachloride	8260C	18.3	20.0	92	51-123
Chlorobenzene	8260C	18.8	20.0	94	79-115
Chloroethane	8260C	16.6	20.0	83	10-140
Chloroform	8260C	19.6	20.0	98	76-115
Chloromethane	8260C	16.9	20.0	85	10-131
Cyclohexane	8260C	20.6	20.0	103	67-122
Dibromochloromethane	8260C	18.6	20.0	93	68-121

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York)
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

Service Request: R1904924
Date Analyzed: 06/04/19

Lab Control Sample Summary
Volatile Organic Compounds by GC/MS, Unp

Units:ug/Kg
Basis: Dry

Lab Control Sample
RQ1905473-03

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Dichlorodifluoromethane (CFC 12)	8260C	17.9	20.0	90	51-144
Dichloromethane	8260C	18.2	20.0	91	72-118
Ethylbenzene	8260C	18.7	20.0	93	64-118
Isopropylbenzene (Cumene)	8260C	17.7	20.0	88	60-123
Methyl Acetate	8260C	18.4	20.0	92	31-122
Methyl tert-Butyl Ether	8260C	19.0	20.0	95	76-118
Methylcyclohexane	8260C	20.4	20.0	102	70-124
Styrene	8260C	19.6	20.0	98	74-117
Tetrachloroethene (PCE)	8260C	17.4	20.0	87	58-124
Toluene	8260C	18.8	20.0	94	72-116
Trichloroethene (TCE)	8260C	18.2	20.0	91	69-118
Trichlorofluoromethane (CFC 11)	8260C	19.6	20.0	98	52-127
Vinyl Chloride	8260C	17.7	20.0	89	59-153
cis-1,2-Dichloroethene	8260C	18.6	20.0	93	79-113
cis-1,3-Dichloropropene	8260C	18.4	20.0	92	66-117
m,p-Xylenes	8260C	36.9	40.0	92	68-118
o-Xylene	8260C	18.7	20.0	94	71-116
trans-1,2-Dichloroethene	8260C	18.4	20.0	92	73-114
trans-1,3-Dichloropropene	8260C	18.6	20.0	93	57-135

Semivolatile Organic Compounds by GC/MS

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

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3541

Sample Name	Lab Code	2,4,6-Tribromophenol 10-109	2-Fluorobiphenyl 10-102	2-Fluorophenol 10-88
Municipal - 053019	R1904924-001	16	13	11
Municipal - 053019 RE	R1904924-001	57	36	33
Parker LS - 053019	R1904924-002	50	27	32
Parker LS - 053019 RE	R1904924-002	48	22	27
Method Blank	RQ1905677-01	19	20	18
Method Blank	RQ1905922-03	51	35	32
Lab Control Sample	RQ1905677-02	57	43	41
Duplicate Lab Control Sample	RQ1905677-03	24	17	16
Lab Control Sample	RQ1905922-04	48	36	33
Duplicate Lab Control Sample	RQ1905922-05	53	38	36

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Extraction Method: EPA 3541

Sample Name	Lab Code	Nitrobenzene-d5 10-95	Phenol-d6 10-145	Terphenyl-d14 10-106
Municipal - 053019	R1904924-001	12	11	12
Municipal - 053019 RE	R1904924-001	33	32	49
Parker LS - 053019	R1904924-002	25	34	41
Parker LS - 053019 RE	R1904924-002	24	28	40
Method Blank	RQ1905677-01	19	18	21
Method Blank	RQ1905922-03	32	31	57
Lab Control Sample	RQ1905677-02	42	40	43
Duplicate Lab Control Sample	RQ1905677-03	15	15	21
Lab Control Sample	RQ1905922-04	33	32	51
Duplicate Lab Control Sample	RQ1905922-05	34	35	52

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1905677-01	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	ND U	330	96	1	06/13/19 00:36	6/11/19	
2,3,4,6-Tetrachlorophenol	ND U	330	82	1	06/13/19 00:36	6/11/19	
2,4,5-Trichlorophenol	ND U	330	82	1	06/13/19 00:36	6/11/19	
2,4,6-Trichlorophenol	ND U	330	86	1	06/13/19 00:36	6/11/19	
2,4-Dichlorophenol	ND U	330	68	1	06/13/19 00:36	6/11/19	
2,4-Dimethylphenol	ND U	330	63	1	06/13/19 00:36	6/11/19	
2,4-Dinitrophenol	ND U	1700	62	1	06/13/19 00:36	6/11/19	
2,4-Dinitrotoluene	ND U	330	86	1	06/13/19 00:36	6/11/19	
2,6-Dinitrotoluene	ND U	330	120	1	06/13/19 00:36	6/11/19	
2-Chloronaphthalene	ND U	330	73	1	06/13/19 00:36	6/11/19	
2-Chlorophenol	ND U	330	80	1	06/13/19 00:36	6/11/19	
2-Methylnaphthalene	ND U	330	74	1	06/13/19 00:36	6/11/19	
2-Methylphenol	ND U	330	80	1	06/13/19 00:36	6/11/19	
2-Nitroaniline	ND U	1700	95	1	06/13/19 00:36	6/11/19	
2-Nitrophenol	ND U	330	75	1	06/13/19 00:36	6/11/19	
3,3'-Dichlorobenzidine	ND U	330	110	1	06/13/19 00:36	6/11/19	
3- and 4-Methylphenol Coelution	ND U	330	83	1	06/13/19 00:36	6/11/19	
3-Nitroaniline	ND U	1700	72	1	06/13/19 00:36	6/11/19	
4,6-Dinitro-2-methylphenol	ND U	1700	72	1	06/13/19 00:36	6/11/19	
4-Bromophenyl Phenyl Ether	ND U	330	94	1	06/13/19 00:36	6/11/19	
4-Chloro-3-methylphenol	ND U	330	75	1	06/13/19 00:36	6/11/19	
4-Chloroaniline	ND U	330	40	1	06/13/19 00:36	6/11/19	
4-Chlorophenyl Phenyl Ether	ND U	330	79	1	06/13/19 00:36	6/11/19	
4-Nitroaniline	ND U	1700	73	1	06/13/19 00:36	6/11/19	
4-Nitrophenol	ND U	1700	200	1	06/13/19 00:36	6/11/19	
Acenaphthene	ND U	330	73	1	06/13/19 00:36	6/11/19	
Acenaphthylene	ND U	330	68	1	06/13/19 00:36	6/11/19	
Acetophenone	ND U	330	77	1	06/13/19 00:36	6/11/19	
Anthracene	ND U	330	64	1	06/13/19 00:36	6/11/19	
Atrazine	ND U	330	89	1	06/13/19 00:36	6/11/19	
Benz(a)anthracene	ND U	330	58	1	06/13/19 00:36	6/11/19	
Benzaldehyde	ND U	1700	79	1	06/13/19 00:36	6/11/19	
Benzo(a)pyrene	ND U	330	67	1	06/13/19 00:36	6/11/19	
Benzo(b)fluoranthene	ND U	330	60	1	06/13/19 00:36	6/11/19	
Benzo(g,h,i)perylene	ND U	330	75	1	06/13/19 00:36	6/11/19	
Benzo(k)fluoranthene	ND U	330	74	1	06/13/19 00:36	6/11/19	
Biphenyl	ND U	330	77	1	06/13/19 00:36	6/11/19	
2,2'-Oxybis(1-chloropropane)	ND U	330	81	1	06/13/19 00:36	6/11/19	
Bis(2-chloroethoxy)methane	ND U	330	76	1	06/13/19 00:36	6/11/19	
Bis(2-chloroethyl) Ether	ND U	330	60	1	06/13/19 00:36	6/11/19	
Bis(2-ethylhexyl) Phthalate	ND U	500	460	1	06/13/19 00:36	6/11/19	
Butyl Benzyl Phthalate	ND U	330	63	1	06/13/19 00:36	6/11/19	
Caprolactam	ND U	330	74	1	06/13/19 00:36	6/11/19	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1905677-01	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	ND U	330	82	1	06/13/19 00:36	6/11/19	
Chrysene	ND U	330	65	1	06/13/19 00:36	6/11/19	
Di-n-butyl Phthalate	ND U	330	110	1	06/13/19 00:36	6/11/19	
Di-n-octyl Phthalate	ND U	330	99	1	06/13/19 00:36	6/11/19	
Dibenz(a,h)anthracene	ND U	330	60	1	06/13/19 00:36	6/11/19	
Dibenzofuran	ND U	330	68	1	06/13/19 00:36	6/11/19	
Diethyl Phthalate	ND U	330	180	1	06/13/19 00:36	6/11/19	
Dimethyl Phthalate	ND U	330	91	1	06/13/19 00:36	6/11/19	
Fluoranthene	ND U	330	78	1	06/13/19 00:36	6/11/19	
Fluorene	ND U	330	83	1	06/13/19 00:36	6/11/19	
Hexachlorobenzene	ND U	330	77	1	06/13/19 00:36	6/11/19	
Hexachlorobutadiene	ND U	330	56	1	06/13/19 00:36	6/11/19	
Hexachlorocyclopentadiene	ND U	330	55	1	06/13/19 00:36	6/11/19	
Hexachloroethane	ND U	330	58	1	06/13/19 00:36	6/11/19	
Indeno(1,2,3-cd)pyrene	ND U	330	73	1	06/13/19 00:36	6/11/19	
Isophorone	ND U	330	71	1	06/13/19 00:36	6/11/19	
N-Nitrosodi-n-propylamine	ND U	330	60	1	06/13/19 00:36	6/11/19	
N-Nitrosodiphenylamine	ND U	330	150	1	06/13/19 00:36	6/11/19	
Naphthalene	ND U	330	68	1	06/13/19 00:36	6/11/19	
Nitrobenzene	ND U	330	68	1	06/13/19 00:36	6/11/19	
Pentachlorophenol (PCP)	ND U	1700	110	1	06/13/19 00:36	6/11/19	
Phenanthrene	ND U	330	69	1	06/13/19 00:36	6/11/19	
Phenol	ND U	330	72	1	06/13/19 00:36	6/11/19	
Pyrene	ND U	330	65	1	06/13/19 00:36	6/11/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	19	10 - 109	06/13/19 00:36	
2-Fluorobiphenyl	20	10 - 102	06/13/19 00:36	
2-Fluorophenol	18	10 - 88	06/13/19 00:36	
Nitrobenzene-d5	19	10 - 95	06/13/19 00:36	
Phenol-d6	18	10 - 145	06/13/19 00:36	
Terphenyl-d14	21	10 - 106	06/13/19 00:36	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1905922-03	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
1,2,4,5-Tetrachlorobenzene	ND U	330	96	1	06/19/19 04:16	6/17/19	
2,3,4,6-Tetrachlorophenol	ND U	330	82	1	06/19/19 04:16	6/17/19	
2,4,5-Trichlorophenol	ND U	330	82	1	06/19/19 04:16	6/17/19	
2,4,6-Trichlorophenol	ND U	330	86	1	06/19/19 04:16	6/17/19	
2,4-Dichlorophenol	ND U	330	68	1	06/19/19 04:16	6/17/19	
2,4-Dimethylphenol	ND U	330	63	1	06/19/19 04:16	6/17/19	
2,4-Dinitrophenol	ND U	1700	62	1	06/19/19 04:16	6/17/19	
2,4-Dinitrotoluene	ND U	330	86	1	06/19/19 04:16	6/17/19	
2,6-Dinitrotoluene	ND U	330	120	1	06/19/19 04:16	6/17/19	
2-Chloronaphthalene	ND U	330	73	1	06/19/19 04:16	6/17/19	
2-Chlorophenol	ND U	330	80	1	06/19/19 04:16	6/17/19	
2-Methylnaphthalene	ND U	330	74	1	06/19/19 04:16	6/17/19	
2-Methylphenol	ND U	330	80	1	06/19/19 04:16	6/17/19	
2-Nitroaniline	ND U	1700	95	1	06/19/19 04:16	6/17/19	
2-Nitrophenol	ND U	330	75	1	06/19/19 04:16	6/17/19	
3,3'-Dichlorobenzidine	ND U	330	110	1	06/19/19 04:16	6/17/19	
3- and 4-Methylphenol Coelution	ND U	330	83	1	06/19/19 04:16	6/17/19	
3-Nitroaniline	ND U	1700	72	1	06/19/19 04:16	6/17/19	
4,6-Dinitro-2-methylphenol	ND U	1700	72	1	06/19/19 04:16	6/17/19	
4-Bromophenyl Phenyl Ether	ND U	330	94	1	06/19/19 04:16	6/17/19	
4-Chloro-3-methylphenol	ND U	330	75	1	06/19/19 04:16	6/17/19	
4-Chloroaniline	ND U	330	40	1	06/19/19 04:16	6/17/19	
4-Chlorophenyl Phenyl Ether	ND U	330	79	1	06/19/19 04:16	6/17/19	
4-Nitroaniline	ND U	1700	73	1	06/19/19 04:16	6/17/19	
4-Nitrophenol	ND U	1700	200	1	06/19/19 04:16	6/17/19	
Acenaphthene	ND U	330	73	1	06/19/19 04:16	6/17/19	
Acenaphthylene	ND U	330	68	1	06/19/19 04:16	6/17/19	
Acetophenone	ND U	330	77	1	06/19/19 04:16	6/17/19	
Anthracene	ND U	330	64	1	06/19/19 04:16	6/17/19	
Atrazine	ND U	330	89	1	06/19/19 04:16	6/17/19	
Benz(a)anthracene	ND U	330	58	1	06/19/19 04:16	6/17/19	
Benzaldehyde	ND U	1700	79	1	06/19/19 04:16	6/17/19	
Benzo(a)pyrene	ND U	330	67	1	06/19/19 04:16	6/17/19	
Benzo(b)fluoranthene	ND U	330	60	1	06/19/19 04:16	6/17/19	
Benzo(g,h,i)perylene	ND U	330	75	1	06/19/19 04:16	6/17/19	
Benzo(k)fluoranthene	ND U	330	74	1	06/19/19 04:16	6/17/19	
Biphenyl	ND U	330	77	1	06/19/19 04:16	6/17/19	
2,2'-Oxybis(1-chloropropane)	ND U	330	81	1	06/19/19 04:16	6/17/19	
Bis(2-chloroethoxy)methane	ND U	330	76	1	06/19/19 04:16	6/17/19	
Bis(2-chloroethyl) Ether	ND U	330	60	1	06/19/19 04:16	6/17/19	
Bis(2-ethylhexyl) Phthalate	ND U	500	460	1	06/19/19 04:16	6/17/19	
Butyl Benzyl Phthalate	**180 J**	330	63	1	06/19/19 04:16	6/17/19	
Caprolactam	ND U	330	74	1	06/19/19 04:16	6/17/19	

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1905922-03	**Basis:**	Dry

Semivolatile Organic Compounds by GC/MS

Analysis Method: 8270D
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Carbazole	ND U	330	82	1	06/19/19 04:16	6/17/19	
Chrysene	ND U	330	65	1	06/19/19 04:16	6/17/19	
Di-n-butyl Phthalate	ND U	330	110	1	06/19/19 04:16	6/17/19	
Di-n-octyl Phthalate	ND U	330	99	1	06/19/19 04:16	6/17/19	
Dibenz(a,h)anthracene	ND U	330	60	1	06/19/19 04:16	6/17/19	
Dibenzofuran	ND U	330	68	1	06/19/19 04:16	6/17/19	
Diethyl Phthalate	ND U	330	180	1	06/19/19 04:16	6/17/19	
Dimethyl Phthalate	ND U	330	91	1	06/19/19 04:16	6/17/19	
Fluoranthene	ND U	330	78	1	06/19/19 04:16	6/17/19	
Fluorene	ND U	330	83	1	06/19/19 04:16	6/17/19	
Hexachlorobenzene	ND U	330	77	1	06/19/19 04:16	6/17/19	
Hexachlorobutadiene	ND U	330	56	1	06/19/19 04:16	6/17/19	
Hexachlorocyclopentadiene	ND U	330	55	1	06/19/19 04:16	6/17/19	
Hexachloroethane	ND U	330	58	1	06/19/19 04:16	6/17/19	
Indeno(1,2,3-cd)pyrene	ND U	330	73	1	06/19/19 04:16	6/17/19	
Isophorone	ND U	330	71	1	06/19/19 04:16	6/17/19	
N-Nitrosodi-n-propylamine	ND U	330	60	1	06/19/19 04:16	6/17/19	
N-Nitrosodiphenylamine	ND U	330	150	1	06/19/19 04:16	6/17/19	
Naphthalene	ND U	330	68	1	06/19/19 04:16	6/17/19	
Nitrobenzene	ND U	330	68	1	06/19/19 04:16	6/17/19	
Pentachlorophenol (PCP)	ND U	1700	110	1	06/19/19 04:16	6/17/19	
Phenanthrene	ND U	330	69	1	06/19/19 04:16	6/17/19	
Phenol	**110 J**	330	72	1	06/19/19 04:16	6/17/19	
Pyrene	ND U	330	65	1	06/19/19 04:16	6/17/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4,6-Tribromophenol	51	10 - 109	06/19/19 04:16	
2-Fluorobiphenyl	35	10 - 102	06/19/19 04:16	
2-Fluorophenol	32	10 - 88	06/19/19 04:16	
Nitrobenzene-d5	32	10 - 95	06/19/19 04:16	
Phenol-d6	31	10 - 145	06/19/19 04:16	
Terphenyl-d14	57	10 - 106	06/19/19 04:16	

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000 **Date Analyzed:** 06/13/19
Sample Matrix: Soil

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

Units:ug/Kg
Basis: Dry

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1905677-02			RQ1905677-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4,5-Tetrachlorobenzene	8270D	835	1660	50	321 J	1680	19	10-115	90*	30
2,3,4,6-Tetrachlorophenol	8270D	825	1660	50	379	1670	23 *	29-100	74*	30
2,4,5-Trichlorophenol	8270D	710	1660	43	322 J	1670	19 *	29-97	77*	30
2,4,6-Trichlorophenol	8270D	714	1660	43	329 J	1670	20 *	26-97	73*	30
2,4-Dichlorophenol	8270D	672	1660	41	300 J	1670	18 *	25-90	78*	30
2,4-Dimethylphenol	8270D	703	1660	42	317 J	1670	19 *	26-89	75*	30
2,4-Dinitrophenol	8270D	401 J	1660	24	197 J	1670	12	10-128	67*	30
2,4-Dinitrotoluene	8270D	793	1660	48	376	1670	23 *	30-111	70*	30
2,6-Dinitrotoluene	8270D	797	1660	48	369	1670	22 *	28-105	74*	30
2-Chloronaphthalene	8270D	741	1660	45	316 J	1670	19 *	21-88	81*	30
2-Chlorophenol	8270D	667	1660	40	275 J	1670	16 *	18-87	86*	30
2-Methylnaphthalene	8270D	655	1660	39	277 J	1670	17 *	21-83	79*	30
2-Methylphenol	8270D	676	1660	41	264 J	1670	16 *	22-86	88*	30
2-Nitroaniline	8270D	808 J	1660	49	371 J	1670	22 *	27-105	76*	30
2-Nitrophenol	8270D	631	1660	38	240 J	1670	14 *	20-88	92*	30
3- and 4-Methylphenol Coelution	8270D	594	1660	36	264 J	1670	16 *	27-92	77*	30
3-Nitroaniline	8270D	742 J	1660	45	336 J	1670	20 *	27-98	77*	30
4,6-Dinitro-2-methylphenol	8270D	472 J	1660	28	188 J	1670	11	11-96	87*	30
4-Bromophenyl Phenyl Ether	8270D	872	1660	53	431	1670	26	25-96	68*	30
4-Chloro-3-methylphenol	8270D	665	1660	40	348	1670	21 *	29-92	62*	30
4-Chloroaniline	8270D	548	1660	33	248 J	1670	15 *	21-72	75*	30
4-Chlorophenyl Phenyl Ether	8270D	837	1660	50	399	1670	24 *	25-92	70*	30
4-Nitroaniline	8270D	780 J	1660	47	345 J	1670	21 *	27-102	76*	30
4-Nitrophenol	8270D	682 J	1660	41	241 J	1670	14	10-130	98*	30
Acenaphthene	8270D	710	1660	43	325 J	1670	19 *	25-92	77*	30
Acenaphthylene	8270D	769	1660	46	343	1670	20 *	27-93	79*	30
Acetophenone	8270D	1170	3320	35	476	3340	14 *	23-87	86*	30
Anthracene	8270D	827	1660	50	415	1670	25 *	32-106	67*	30
Benz(a)anthracene	8270D	853	1660	51	440	1670	26 *	33-109	65*	30
Benzo(a)pyrene	8270D	909	1660	55	449	1670	27 *	34-115	68*	30
Benzo(b)fluoranthene	8270D	833	1660	50	439	1670	26 *	31-107	63*	30
Benzo(g,h,i)perylene	8270D	1000	1660	60	506	1670	30	30-127	67*	30
Benzo(k)fluoranthene	8270D	902	1660	54	464	1670	28 *	34-111	63*	30

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000 **Date Analyzed:** 06/13/19
Sample Matrix: Soil

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

Units:ug/Kg
Basis: Dry

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1905677-02			RQ1905677-03					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Biphenyl	8270D	672	1660	41	290 J	1670	17 *	26-88	83*	30
2,2'-Oxybis(1-chloropropane)	8270D	913	1660	55	387	1670	23	10-82	82*	30
Bis(2-chloroethoxy)methane	8270D	798	1660	48	318 J	1670	19	17-85	87*	30
Bis(2-chloroethyl) Ether	8270D	729	1660	44	303 J	1670	18	10-79	84*	30
Bis(2-ethylhexyl) Phthalate	8270D	835	1660	50	460 U	1670	0 *	31-115	NC	30
Butyl Benzyl Phthalate	8270D	795	1660	48	387	1670	23 *	31-115	70*	30
Caprolactam	8270D	648	1660	39	301 J	1670	18 *	28-99	74*	30
Carbazole	8270D	832	1660	50	397	1670	24	23-129	70*	30
Chrysene	8270D	910	1660	55	468	1670	28 *	34-108	65*	30
Di-n-butyl Phthalate	8270D	836	1660	50	403	1670	24 *	33-114	70*	30
Di-n-octyl Phthalate	8270D	817	1660	49	420	1670	25 *	32-116	65*	30
Dibenz(a,h)anthracene	8270D	702	1660	42	352	1670	21 *	23-122	67*	30
Dibenzofuran	8270D	759	1660	46	350	1670	21 *	27-94	75*	30
Diethyl Phthalate	8270D	782	1660	47	368	1670	22 *	26-101	72*	30
Dimethyl Phthalate	8270D	749	1660	45	339	1670	20 *	27-98	77*	30
Fluoranthene	8270D	862	1660	52	411	1670	25 *	34-111	70*	30
Fluorene	8270D	793	1660	48	358	1670	21 *	27-95	78*	30
Hexachlorobenzene	8270D	887	1660	53	429	1670	26 *	30-104	68*	30
Hexachlorobutadiene	8270D	708	1660	43	292 J	1670	17	10-142	87*	30
Hexachlorocyclopentadiene	8270D	408	1660	25	141 J	1670	8 *	10-133	103*	30
Hexachloroethane	8270D	617	1660	37	249 J	1670	15	10-129	85*	30
Indeno(1,2,3-cd)pyrene	8270D	835	1660	50	410	1670	25 *	33-121	67*	30
Isophorone	8270D	703	1660	42	297 J	1670	18 *	21-79	80*	30
N-Nitrosodi-n-propylamine	8270D	641	1660	39	278 J	1670	17	15-78	79*	30
N-Nitrosodiphenylamine	8270D	851	1660	51	408	1670	24 *	29-108	72*	30
Naphthalene	8270D	669	1660	40	278 J	1670	17 *	18-81	81*	30
Nitrobenzene	8270D	676	1660	41	263 J	1670	16	14-80	88*	30
Pentachlorophenol (PCP)	8270D	880 J	1660	53	481 J	1670	29	13-117	59*	30
Phenanthrene	8270D	793	1660	48	403	1670	24 *	33-103	67*	30
Phenol	8270D	683	1660	41	298 J	1670	18	10-144	78*	30
Pyrene	8270D	833	1660	50	414	1670	25 *	33-111	67*	30

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000 **Date Analyzed:** 06/19/19
Sample Matrix: Soil

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

Units:ug/Kg
Basis: Dry

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1905922-04			RQ1905922-05					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,4,5-Tetrachlorobenzene	8270D	697	1660	42	710	1670	43	10-115	2	30
2,3,4,6-Tetrachlorophenol	8270D	716	1660	43	731	1670	44	29-100	2	30
2,4,5-Trichlorophenol	8270D	596	1660	36	690	1670	41	29-97	13	30
2,4,6-Trichlorophenol	8270D	650	1660	39	710	1670	43	26-97	10	30
2,4-Dichlorophenol	8270D	562	1660	34	595	1670	36	25-90	6	30
2,4-Dimethylphenol	8270D	609	1660	37	647	1670	39	26-89	5	30
2,4-Dinitrophenol	8270D	266 J	1660	16	454 J	1670	27	10-128	51*	30
2,4-Dinitrotoluene	8270D	612	1660	37	693	1670	42	30-111	13	30
2,6-Dinitrotoluene	8270D	632	1660	38	715	1670	43	28-105	12	30
2-Chloronaphthalene	8270D	601	1660	36	663	1670	40	21-88	11	30
2-Chlorophenol	8270D	549	1660	33	600	1670	36	18-87	9	30
2-Methylnaphthalene	8270D	573	1660	35	599	1670	36	21-83	3	30
2-Methylphenol	8270D	513	1660	31	597	1670	36	22-86	15	30
2-Nitroaniline	8270D	654 J	1660	39	709 J	1670	43	27-105	10	30
2-Nitrophenol	8270D	530	1660	32	578	1670	35	20-88	9	30
3- and 4-Methylphenol Coelution	8270D	504	1660	30	571	1670	34	27-92	13	30
3-Nitroaniline	8270D	588 J	1660	35	607 J	1670	36	27-98	3	30
4,6-Dinitro-2-methylphenol	8270D	383 J	1660	23	456 J	1670	27	11-96	16	30
4-Bromophenyl Phenyl Ether	8270D	804	1660	49	889	1670	53	25-96	8	30
4-Chloro-3-methylphenol	8270D	615	1660	37	667	1670	40	29-92	8	30
4-Chloroaniline	8270D	471	1660	28	476	1670	29	21-72	4	30
4-Chlorophenyl Phenyl Ether	8270D	700	1660	42	774	1670	47	25-92	11	30
4-Nitroaniline	8270D	678 J	1660	41	683 J	1670	41	27-102	<1	30
4-Nitrophenol	8270D	584 J	1660	35	693 J	1670	42	10-130	18	30
Acenaphthene	8270D	607	1660	37	656	1670	39	25-92	5	30
Acenaphthylene	8270D	629	1660	38	689	1670	41	27-93	8	30
Acetophenone	8270D	990	3310	30	1060	3330	32	23-87	6	30
Anthracene	8270D	693	1660	42	767	1670	46	32-106	9	30
Benz(a)anthracene	8270D	757	1660	46	818	1670	49	33-109	6	30
Benzo(a)pyrene	8270D	822	1660	50	868	1670	52	34-115	4	30
Benzo(b)fluoranthene	8270D	754	1660	46	785	1670	47	31-107	2	30
Benzo(g,h,i)perylene	8270D	1030	1660	62	1100	1670	66	30-127	6	30
Benzo(k)fluoranthene	8270D	782	1660	47	823	1670	49	34-111	4	30

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000 **Date Analyzed:** 06/19/19
Sample Matrix: Soil

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

Units:ug/Kg
Basis: Dry

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1905922-04			RQ1905922-05					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Biphenyl	8270D	556	1660	34	586	1670	35	26-88	3	30
2,2'-Oxybis(1-chloropropane)	8270D	760	1660	46	823	1670	49	10-82	6	30
Bis(2-chloroethoxy)methane	8270D	646	1660	39	688	1670	41	17-85	5	30
Bis(2-chloroethyl) Ether	8270D	586	1660	35	646	1670	39	10-79	11	30
Bis(2-ethylhexyl) Phthalate	8270D	719	1660	43	767	1670	46	31-115	7	30
Butyl Benzyl Phthalate	8270D	679	1660	41	734	1670	44	31-115	7	30
Caprolactam	8270D	545	1660	33	572	1670	34	28-99	3	30
Carbazole	8270D	737	1660	44	809	1670	49	23-129	11	30
Chrysene	8270D	789	1660	48	844	1670	51	34-108	6	30
Di-n-butyl Phthalate	8270D	746	1660	45	817	1670	49	33-114	9	30
Di-n-octyl Phthalate	8270D	691	1660	42	714	1670	43	32-116	2	30
Dibenz(a,h)anthracene	8270D	753	1660	45	802	1670	48	23-122	6	30
Dibenzofuran	8270D	624	1660	38	674	1670	40	27-94	5	30
Diethyl Phthalate	8270D	596	1660	36	653	1670	39	26-101	8	30
Dimethyl Phthalate	8270D	599	1660	36	652	1670	39	27-98	8	30
Fluoranthene	8270D	775	1660	47	850	1670	51	34-111	8	30
Fluorene	8270D	633	1660	38	699	1670	42	27-95	10	30
Hexachlorobenzene	8270D	783	1660	47	904	1670	54	30-104	14	30
Hexachlorobutadiene	8270D	645	1660	39	678	1670	41	10-142	5	30
Hexachlorocyclopentadiene	8270D	328 J	1660	20	360	1670	22	10-133	10	30
Hexachloroethane	8270D	547	1660	33	569	1670	34	10-129	3	30
Indeno(1,2,3-cd)pyrene	8270D	849	1660	51	903	1670	54	33-121	6	30
Isophorone	8270D	589	1660	36	643	1670	39	21-79	8	30
N-Nitrosodi-n-propylamine	8270D	523	1660	32	596	1670	36	15-78	12	30
N-Nitrosodiphenylamine	8270D	707	1660	43	807	1670	48	29-108	11	30
Naphthalene	8270D	571	1660	34	598	1670	36	18-81	6	30
Nitrobenzene	8270D	558	1660	34	585	1670	35	14-80	3	30
Pentachlorophenol (PCP)	8270D	804 J	1660	49	1000 J	1670	60	13-117	20	30
Phenanthrene	8270D	666	1660	40	726	1670	44	33-103	10	30
Phenol	8270D	803	1660	48	1170	1670	70	10-144	37*	30
Pyrene	8270D	720	1660	43	758	1670	46	33-111	7	30

Semivolatile Organic Compounds by GC

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Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Extraction Method: EPA 3541

Sample Name	Lab Code	Decachlorobiphenyl 10-145	Tetrachloro-m-xylene 10-123
Municipal - 053019	R1904924-001	0*	0*
Parker LS - 053019	R1904924-002	70	78
Method Blank	RQ1905613-01	60	34
Lab Control Sample	RQ1905613-05	66	25
Duplicate Lab Control Sample	RQ1905613-06	69	23

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1905613-01	**Basis:**	Dry

Organochlorine Pesticides by Gas Chromatography

Analysis Method: 8081B
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
4,4'-DDD	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
4,4'-DDE	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
4,4'-DDT	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
Aldrin	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
Dieldrin	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
Endosulfan I	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
Endosulfan II	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
Endosulfan Sulfate	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
Endrin	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
Endrin Aldehyde	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
Endrin Ketone	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
Heptachlor	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
Heptachlor Epoxide	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
Methoxychlor	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
Toxaphene	ND U	33	20	1	06/12/19 16:19	6/10/19	
alpha-BHC	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
alpha-Chlordane	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
beta-BHC	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
delta-BHC	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
gamma-BHC (Lindane)	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	
gamma-Chlordane	ND U	1.7	0.85	1	06/12/19 16:19	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	60	10 - 145	06/12/19 16:19	
Tetrachloro-m-xylene	34	10 - 123	06/12/19 16:19	

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000 **Date Analyzed:** 06/12/19
Sample Matrix: Soil

Duplicate Lab Control Sample Summary
Organochlorine Pesticides by Gas Chromatography

Units:ug/Kg
Basis: Dry

		Lab Control Sample			Duplicate Lab Control Sample					
		RQ1905613-05			RQ1905613-06					
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
4,4'-DDD	8081B	7.09	6.71	106	7.11	6.64	107	33-149	<1	30
4,4'-DDE	8081B	4.83	6.71	72	4.79	6.64	72	38-147	<1	30
4,4'-DDT	8081B	2.78	6.71	41	2.86	6.64	43	37-146	3	30
Aldrin	8081B	2.37	6.71	35	2.00	6.64	30	25-146	17	30
Dieldrin	8081B	4.80	6.71	71	4.74	6.64	71	40-140	1	30
Endosulfan I	8081B	4.29	6.71	64	4.17	6.64	63	35-116	3	30
Endosulfan II	8081B	5.68	6.71	85	5.74	6.64	87	39-122	1	30
Endosulfan Sulfate	8081B	5.71	6.71	85	5.87	6.64	88	31-132	3	30
Endrin	8081B	5.02	6.71	75	4.95	6.64	75	40-144	1	30
Endrin Aldehyde	8081B	2.59	6.71	39	2.49	6.64	37	10-109	4	30
Endrin Ketone	8081B	5.04	6.71	75	5.20	6.64	78	38-122	3	30
Heptachlor	8081B	2.40	6.71	36	2.39	6.64	36	34-142	<1	30
Heptachlor Epoxide	8081B	4.20	6.71	63	4.11	6.64	62	37-113	2	30
Methoxychlor	8081B	3.22	6.71	48	3.31	6.64	50	41-152	3	30
alpha-BHC	8081B	2.51	6.71	37	2.31	6.64	35	28-145	8	30
alpha-Chlordane	8081B	4.45	6.71	66	4.40	6.64	66	37-114	1	30
beta-BHC	8081B	3.96	6.71	59	4.06	6.64	61	38-144	2	30
delta-BHC	8081B	4.48	6.71	67	4.57	6.64	69	30-153	2	30
gamma-BHC (Lindane)	8081B	2.89	6.71	43	2.88	6.64	43	32-145	<1	30
gamma-Chlordane	8081B	4.25	6.71	63	4.22	6.64	64	34-123	<1	30

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Extraction Method: EPA 3541

Sample Name	Lab Code	Decachlorobiphenyl 22-128	Tetrachloro-m-xylene 14-119
Municipal - 053019	R1904924-001	94	96
Parker LS - 053019	R1904924-002	94	90
Method Blank	RQ1905613-01	73	32
Lab Control Sample	RQ1905613-07	81	36
Duplicate Lab Control Sample	RQ1905613-08	84	69

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1905613-01	**Basis:**	Dry

Polychlorinated Biphenyls (PCBs) by GC

Analysis Method: 8082A
Prep Method: EPA 3541

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Aroclor 1016	ND U	33	18	1	06/10/19 18:21	6/10/19	
Aroclor 1221	ND U	67	34	1	06/10/19 18:21	6/10/19	
Aroclor 1232	ND U	33	20	1	06/10/19 18:21	6/10/19	
Aroclor 1242	ND U	33	18	1	06/10/19 18:21	6/10/19	
Aroclor 1248	ND U	33	26	1	06/10/19 18:21	6/10/19	
Aroclor 1254	ND U	33	19	1	06/10/19 18:21	6/10/19	
Aroclor 1260	ND U	33	18	1	06/10/19 18:21	6/10/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Decachlorobiphenyl	73	22 - 128	06/10/19 18:21	
Tetrachloro-m-xylene	32	14 - 119	06/10/19 18:21	

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QA/QC Report

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York)
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

Service Request: R1904924
Date Analyzed: 06/10/19

Duplicate Lab Control Sample Summary
Polychlorinated Biphenyls (PCBs) by GC

Units:ug/Kg
Basis: Dry

			Lab Control Sample RQ1905613-07			Duplicate Lab Control Sample RQ1905613-08				
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	8082A	77.5	168	46	128	167	77	41-127	49*	30
Aroclor 1260	8082A	125	168	75	135	167	81	49-135	7	30

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York) **Service Request:** R1904924
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

SURROGATE RECOVERY SUMMARY
Chlorinated Herbicides by GC

Analysis Method: 8151A
Extraction Method: Method

Sample Name	Lab Code	2,4-Dichlorophenylacetic Acid 10-151
Municipal - 053019	R1904924-001	41
Parker LS - 053019	R1904924-002	57
Method Blank	RQ1905799-01	52
Lab Control Sample	RQ1905799-02	51
Duplicate Lab Control Sample	RQ1905799-03	59

Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	RQ1905799-01	**Basis:**	Dry

Chlorinated Herbicides by GC

Analysis Method: 8151A
Prep Method: Method

Analyte Name	Result	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
2,4,5-T	ND U	10	3.7	1	06/17/19 17:25	6/13/19	
2,4,5-TP	ND U	10	3.5	1	06/17/19 17:25	6/13/19	
2,4-D	ND U	10	5.7	1	06/17/19 17:25	6/13/19	
Dicamba	ND U	10	3.7	1	06/17/19 17:25	6/13/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
2,4-Dichlorophenylacetic Acid	52	10 - 151	06/17/19 17:25	

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York)
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

Service Request: R1904924
Date Analyzed: 06/17/19

Duplicate Lab Control Sample Summary
Chlorinated Herbicides by GC

Units:ug/Kg
Basis: Dry

			Lab Control Sample			Duplicate Lab Control Sample				
			RQ1905799-02			RQ1905799-03				
Analyte Name	**Analytical Method**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
2,4,5-T	8151A	23.6	50.3	47	28.5	50.2	57	19-127	19	30
2,4,5-TP	8151A	22.1	50.3	44	27.0	50.2	54	18-122	20	30
2,4-D	8151A	23.5	50.3	47	29.2	50.2	58	24-165	22	30
Dicamba	8151A	20.8	50.3	41	27.0	50.2	54	26-128	26	30

Metals

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Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	Dry
Lab Code:	R1904924-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Antimony, Total	6010C	ND U	mg/Kg	6.0	0.6	1	06/05/19 15:43	06/04/19	
Arsenic, Total	6010C	ND U	mg/Kg	1.0	0.7	1	06/05/19 15:43	06/04/19	
Barium, Total	6010C	ND U	mg/Kg	2.0	1.0	1	06/05/19 15:43	06/04/19	
Beryllium, Total	6010C	ND U	mg/Kg	0.30	0.03	1	06/05/19 15:43	06/04/19	
Cadmium, Total	6010C	ND U	mg/Kg	0.50	0.08	1	06/05/19 15:43	06/04/19	
Calcium, Total	6010C	ND U	mg/Kg	100	40	1	06/05/19 15:43	06/04/19	
Chromium, Total	6010C	ND U	mg/Kg	1.0	0.4	1	06/05/19 15:43	06/04/19	
Cobalt, Total	6010C	**0.2 J**	mg/Kg	5.0	0.2	1	06/05/19 15:43	06/04/19	
Copper, Total	6010C	ND U	mg/Kg	2.0	0.7	1	06/05/19 15:43	06/04/19	
Iron, Total	6010C	ND U	mg/Kg	20	13	1	06/05/19 15:43	06/04/19	
Lead, Total	6010C	ND U	mg/Kg	5.0	0.4	1	06/05/19 15:43	06/04/19	
Magnesium, Total	6010C	ND U	mg/Kg	100	20	1	06/05/19 15:43	06/04/19	
Manganese, Total	6010C	ND U	mg/Kg	2.0	1.5	1	06/05/19 15:43	06/04/19	
Mercury, Total	7471B	ND U	mg/Kg	0.033	0.006	1	06/07/19 12:36	06/06/19	
Nickel, Total	6010C	ND U	mg/Kg	4.0	0.7	1	06/05/19 15:43	06/04/19	
Potassium, Total	6010C	**30 J**	mg/Kg	200	10	1	06/05/19 15:43	06/04/19	
Selenium, Total	6010C	ND U	mg/Kg	1.0	0.6	1	06/05/19 15:43	06/04/19	
Silver, Total	6010C	**0.08 J**	mg/Kg	1.0	0.08	1	06/05/19 15:43	06/04/19	
Sodium, Total	6010C	ND U	mg/Kg	100	60	1	06/05/19 15:43	06/04/19	
Thallium, Total	6010C	ND U	mg/Kg	1.0	0.7	1	06/05/19 15:43	06/04/19	
Vanadium, Total	6010C	ND U	mg/Kg	5.0	0.8	1	06/05/19 15:43	06/04/19	
Zinc, Total	6010C	ND U	mg/Kg	2.0	1.4	1	06/05/19 15:43	06/04/19	

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York)
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

Service Request:R1904924
Date Collected:05/30/19
Date Received:05/30/19
Date Analyzed:6/5/19

Duplicate Matrix Spike Summary
Inorganic Parameters

Sample Name: Municipal - 053019
Lab Code: R1904924-001

Units:mg/Kg
Basis: Dry

			Matrix Spike R1904924-001MS			Duplicate Matrix Spike R1904924-001DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Antimony, Total	6010C	ND U	69	87	79	62.2	80.3	77	75-125	10	20
Arsenic, Total	6010C	2.1	8.6	6.9	94	8.8	6.4	104	75-125	2	20
Barium, Total	6010C	90.7	407	346	91	383	321	91	75-125	6	20
Beryllium, Total	6010C	0.16 J	8.30	8.66	94	7.57	8.03	92	75-125	9	20
Cadmium, Total	6010C	0.28 J	8.26	8.66	92	7.50	8.03	90	75-125	10	20
Calcium, Total	6010C	24200	14500	350	-2818 #	24000	320	-61 #	75-125	50*	20
Chromium, Total	6010C	7.0	42.4	34.6	102	37.6	32.1	95	75-125	12	20
Cobalt, Total	6010C	3.6 J	86.3	86.6	96	78.7	80.3	94	75-125	9	20
Copper, Total	6010C	15.2	59.3	43.3	102	54.7	40.2	98	75-125	8	20
Iron, Total	6010C	8150	9540	170	804 #	10200	160	1247 #	75-125	6	20
Lead, Total	6010C	22.8	100	86.6	90	107	80.3	105	75-125	6	20
Magnesium, Total	6010C	2850	2960	350	32 #	6660	320	1184 #	75-125	77*	20
Manganese, Total	6010C	303	380	86.6	89	466	80.3	204 *	75-125	20	20
Nickel, Total	6010C	7.3	87.2	86.6	92	80.4	80.3	91	75-125	8	20
Potassium, Total	6010C	2920	6080	3460	91	5970	3210	95	75-125	2	20
Selenium, Total	6010C	ND U	158	175	90	146	162	90	75-125	8	20
Silver, Total	6010C	ND U	8.0	8.7	93	7.4	8.0	92	75-125	8	20
Sodium, Total	6010C	410	3690	3460	95	3490	3210	96	75-125	5	20
Thallium, Total	6010C	ND U	315	346	91	293	321	91	75-125	7	20
Vanadium, Total	6010C	9.5	91.2	86.6	94	85.3	80.3	94	75-125	7	20
Zinc, Total	6010C	67.7	148	86.6	93	150	80.3	103	75-125	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.

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York)
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

Service Request: R1904924
Date Analyzed: 06/05/19 - 06/07/19

Lab Control Sample Summary
Inorganic Parameters

Units:mg/Kg
Basis: Dry

Lab Control Sample
R1904924-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Antimony, Total	6010C	43.7	50.0	87	80-120
Arsenic, Total	6010C	3.33	4.0	83	80-120
Barium, Total	6010C	196	200	98	80-120
Beryllium, Total	6010C	4.69	5.00	94	80-120
Cadmium, Total	6010C	4.74	5.00	95	80-120
Calcium, Total	6010C	179	200	89	80-120
Chromium, Total	6010C	19.5	20.0	98	80-120
Cobalt, Total	6010C	49.1	50.0	98	80-120
Copper, Total	6010C	24.1	25.0	96	80-120
Iron, Total	6010C	94.3	100	94	80-120
Lead, Total	6010C	47.7	50.0	95	80-120
Magnesium, Total	6010C	187	200	94	80-120
Manganese, Total	6010C	47.7	50.0	95	80-120
Mercury, Total	7471B	0.162	0.167	97	80-120
Nickel, Total	6010C	47.1	50.0	94	80-120
Potassium, Total	6010C	1860	2000	93	80-120
Selenium, Total	6010C	87.7	101	87	80-120
Silver, Total	6010C	4.70	5.0	94	80-120
Sodium, Total	6010C	1840	2000	92	80-120
Thallium, Total	6010C	179	200	89	80-120
Vanadium, Total	6010C	47.6	50.0	95	80-120
Zinc, Total	6010C	46.1	50.0	92	80-120

General Chemistry

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Analytical Report

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	NA
Sample Matrix:	Soil	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	Dry
Lab Code:	R1904924-MB		

Inorganic Parameters

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Cyanide, Total	9012B	ND U	mg/Kg	0.30	0.05	1	06/04/19 19:54	06/04/19	

Client:	ARCADIS U.S., Inc. (formerly ARCADIS of New York)	**Service Request:**	R1904924
Project:	Koppers Pond/B0039337.0000	**Date Collected:**	05/30/19
Sample Matrix:	Soil	**Date Received:**	05/30/19
		Date Analyzed:	06/4/19
		Date Extracted:	06/4/19

Duplicate Matrix Spike Summary
Cyanide, Total

Sample Name:	Parker LS - 053019	**Units:**	mg/Kg
Lab Code:	R1904924-002	**Basis:**	Dry
Analysis Method:	9012B		
Prep Method:	Method		

		Matrix Spike R1904924-002MS			Duplicate Matrix Spike R1904924-002DMS					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Cyanide, Total	0.81 J	8.48	8.97	85	8.45	9.04	84	10-159	<1	30

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

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

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

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York)
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

Service Request: R1904924
Date Analyzed: 06/04/19

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/Kg
Basis: Dry

Lab Control Sample
R1904924-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	9012B	2.81	3.00	94	85-115

Client: ARCADIS U.S., Inc. (formerly ARCADIS of New York)
Project: Koppers Pond/B0039337.0000
Sample Matrix: Soil

Service Request: R1904924
Date Analyzed: 06/04/19

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/Kg
Basis: Dry

Lab Control Sample
R1904924-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Cyanide, Total	9012B	17.1	18.0	95	85-115