APPENDIX H:

Laboratory Reports

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

August 26, 2015

Parrish Smolcha
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: 150 Mass Mills Dr., Lowell, MA
Client Job Number:
Project Number: 1785-5040
Laboratory Work Order Number: 15H0761

Enclosed are results of analyses for samples received by the laboratory on August 18, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Parrish Smolcha

REPORT DATE: 8/26/2015

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5040

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15H0761

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: 150 Mass Mills Dr., Lowell, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-1 (15'-20')	15H0761-01	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
B-3 (15'-20')	15H0761-02	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
B-4 (15'-20')	15H0761-03	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
B-3 (15'-20')(25-28")	15H0761-04	Soil		SM 2540G	
				SW-846 8015C	
B-4 (15'-20')(21-24")	15H0761-05	Soil		SM 2540G	
				SW-846 8015C	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

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MADEP-EPH-04-1.1

Qualifications:

L-07A

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.

Analyte & Samples(s) Qualified:

n-Decane
B128922-BSD1

n-Nonane
B128922-BSD1

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Acenaphthylene
15H0761-01[B-1 (15'-20')], 15H0761-02[B-3 (15'-20')], 15H0761-03[B-4 (15'-20')], B128922-BLK1, B128922-BS1, B128922-BSD1

C11-C22 Aromatics
15H0761-01[B-1 (15'-20')], 15H0761-02[B-3 (15'-20')], 15H0761-03[B-4 (15'-20')], B128922-BLK1

C9-C18 Aliphatics
15H0761-01[B-1 (15'-20')], 15H0761-02[B-3 (15'-20')], 15H0761-03[B-4 (15'-20')], B128922-BLK1

n-Decane
B128922-BLK1, B128922-BS1

n-Dodecane
B128922-BLK1, B128922-BS1, B128922-BSD1

n-Nonane
B128922-BLK1, B128922-BS1

Unadjusted C11-C22 Aromatics
15H0761-01[B-1 (15'-20')], 15H0761-02[B-3 (15'-20')], 15H0761-03[B-4 (15'-20')], B128922-BLK1

MADEP-VPH-04-1.1

Qualifications:

RL-05

Elevated reporting limit due to high concentration of target compounds. MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

C5-C8 Aliphatics
15H0761-01[B-1 (15'-20')], 15H0761-03[B-4 (15'-20')]

Naphthalene
15H0761-01[B-1 (15'-20')], 15H0761-03[B-4 (15'-20')]

Unadjusted C5-C8 Aliphatics
15H0761-01[B-1 (15'-20')], 15H0761-03[B-4 (15'-20')]

SW-846 8015C

Qualifications:

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

o-Terphenyl
15H0761-04[B-3 (15'-20')(25-28")], 15H0761-05[B-4 (15'-20')(21-24")]

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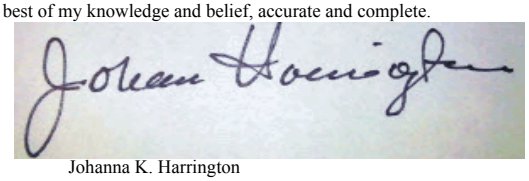
MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

MADEP-VPH-04-1.1

No significant modifications were made to the method. All VPH samples were received preserved properly in methanol with a soil/methanol ratio of 1:1 +/- 25% completely covered by methanol in the proper containers specified on the chain-of-custody form unless specified in this narrative.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.



Johanna K. Harrington
Manager, Laboratory Reporting

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 150 Mass Mills Dr., Lowell, MA Sample Description: Work Order: 15H0761

Date Received: 8/18/2015

Field Sample #: B-1 (15'-20') Sampled: 8/14/2015 09:54

Sample ID: 15H0761-01

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	810	220	mg/Kg dry	20	R-05	MADEP-EPH-04-1.1	8/19/15	8/24/15 19:54	SCS
C19-C36 Aliphatics	1700	220	mg/Kg dry	20		MADEP-EPH-04-1.1	8/19/15	8/24/15 19:54	SCS
Unadjusted C11-C22 Aromatics	3400	220	mg/Kg dry	20	R-05	MADEP-EPH-04-1.1	8/19/15	8/24/15 19:54	SCS
C11-C22 Aromatics	3400	220	mg/Kg dry	20	R-05	MADEP-EPH-04-1.1	8/19/15	8/24/15 19:54	SCS
Acenaphthene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Acenaphthylene	ND	0.22	mg/Kg dry	2	R-05	MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Anthracene	1.9	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Benzo(a)anthracene	3.0	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Benzo(a)pyrene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Benzo(b)fluoranthene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Benzo(g,h,i)perylene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Benzo(k)fluoranthene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Chrysene	3.8	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Dibenz(a,h)anthracene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Fluoranthene	3.5	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Fluorene	3.5	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Indeno(1,2,3-cd)pyrene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
2-Methylnaphthalene	0.49	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Naphthalene	1.3	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Phenanthrene	5.3	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS
Pyrene	2.6	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:32	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	40.6	40-140		8/24/15 10:32
o-Terphenyl (OTP)	69.0	40-140		8/24/15 10:32
2-Bromonaphthalene	74.0	40-140		8/24/15 10:32
2-Fluorobiphenyl	81.6	40-140		8/24/15 10:32

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Project Location: 150 Mass Mills Dr., Lowell, MA Sample Description: Work Order: 15H0761

Date Received: 8/18/2015

Field Sample #: B-1 (15'-20') Sampled: 8/14/2015 09:54

Sample ID: 15H0761-01

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 0.86

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	29	mg/Kg dry	2	RL-05	MADEP-VPH-04-1.1	8/24/15	8/25/15 8:25	EEH
C5-C8 Aliphatics	ND	29	mg/Kg dry	2	RL-05	MADEP-VPH-04-1.1	8/24/15	8/25/15 8:25	EEH
Unadjusted C9-C12 Aliphatics	88	29	mg/Kg dry	2		MADEP-VPH-04-1.1	8/24/15	8/25/15 8:25	EEH
C9-C12 Aliphatics	ND	29	mg/Kg dry	2		MADEP-VPH-04-1.1	8/24/15	8/25/15 8:25	EEH
C9-C10 Aromatics	84	29	mg/Kg dry	2		MADEP-VPH-04-1.1	8/24/15	8/25/15 8:25	EEH
Benzene	0.26	0.14	mg/Kg dry	2		MADEP-VPH-04-1.1	8/24/15	8/25/15 8:25	EEH
Ethylbenzene	ND	0.14	mg/Kg dry	2		MADEP-VPH-04-1.1	8/24/15	8/25/15 8:25	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.14	mg/Kg dry	2		MADEP-VPH-04-1.1	8/24/15	8/25/15 8:25	EEH
Naphthalene	ND	0.72	mg/Kg dry	2	RL-05	MADEP-VPH-04-1.1	8/24/15	8/25/15 8:25	EEH
Toluene	ND	0.14	mg/Kg dry	2		MADEP-VPH-04-1.1	8/24/15	8/25/15 8:25	EEH
m+p Xylene	ND	0.29	mg/Kg dry	2		MADEP-VPH-04-1.1	8/24/15	8/25/15 8:25	EEH
o-Xylene	ND	0.14	mg/Kg dry	2		MADEP-VPH-04-1.1	8/24/15	8/25/15 8:25	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	82.4	70-130		8/25/15 8:25
2,5-Dibromotoluene (PID)	84.8	70-130		8/25/15 8:25

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Project Location: 150 Mass Mills Dr., Lowell, MA
Sample Description:
Work Order: 15H0761

Date Received: 8/18/2015

Field Sample #: B-1 (15'-20')
Sampled: 8/14/2015 09:54

Sample ID: 15H0761-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.9		% Wt	1		SM 2540G	8/19/15	8/20/15 8:19	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 150 Mass Mills Dr., Lowell, MA Sample Description: Work Order: 15H0761

Date Received: 8/18/2015

Field Sample #: B-3 (15'-20') Sampled: 8/14/2015 11:47

Sample ID: 15H0761-02

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	48	11	mg/Kg dry	1	R-05	MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
C19-C36 Aliphatics	77	11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Unadjusted C11-C22 Aromatics	220	11	mg/Kg dry	1	R-05	MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
C11-C22 Aromatics	200	11	mg/Kg dry	1	R-05	MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Acenaphthene	0.22	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1	R-05	MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Anthracene	0.65	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Benzo(a)anthracene	1.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Benzo(a)pyrene	0.88	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Benzo(b)fluoranthene	1.2	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Benzo(g,h,i)perylene	0.58	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Benzo(k)fluoranthene	0.43	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Chrysene	1.2	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Fluoranthene	2.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Fluorene	0.44	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Indeno(1,2,3-cd)pyrene	0.51	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Naphthalene	0.12	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Phenanthrene	1.9	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS
Pyrene	2.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	8/19/15	8/24/15 10:11	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	56.2	40-140		8/24/15 10:11
o-Terphenyl (OTP)	74.5	40-140		8/24/15 10:11
2-Bromonaphthalene	94.0	40-140		8/24/15 10:11
2-Fluorobiphenyl	90.6	40-140		8/24/15 10:11

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Project Location: 150 Mass Mills Dr., Lowell, MA Sample Description: Work Order: 15H0761

Date Received: 8/18/2015

Field Sample #: B-3 (15'-20') Sampled: 8/14/2015 11:47

Sample ID: 15H0761-02

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.06

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	12	mg/Kg dry	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 18:24	EEH
C5-C8 Aliphatics	ND	12	mg/Kg dry	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 18:24	EEH
Unadjusted C9-C12 Aliphatics	53	12	mg/Kg dry	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 18:24	EEH
C9-C12 Aliphatics	ND	12	mg/Kg dry	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 18:24	EEH
C9-C10 Aromatics	51	12	mg/Kg dry	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 18:24	EEH
Benzene	ND	0.062	mg/Kg dry	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 18:24	EEH
Ethylbenzene	ND	0.062	mg/Kg dry	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 18:24	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.062	mg/Kg dry	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 18:24	EEH
Naphthalene	ND	0.31	mg/Kg dry	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 18:24	EEH
Toluene	ND	0.062	mg/Kg dry	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 18:24	EEH
m+p Xylene	ND	0.12	mg/Kg dry	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 18:24	EEH
o-Xylene	ND	0.062	mg/Kg dry	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 18:24	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	82.6	70-130		8/24/15 18:24
2,5-Dibromotoluene (PID)	86.0	70-130		8/24/15 18:24

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Project Location: 150 Mass Mills Dr., Lowell, MA
Sample Description:
Work Order: 15H0761

Date Received: 8/18/2015

Field Sample #: B-3 (15'-20')
Sampled: 8/14/2015 11:47

Sample ID: 15H0761-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.2		% Wt	1		SM 2540G	8/19/15	8/20/15 8:19	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 150 Mass Mills Dr., Lowell, MA Sample Description: Work Order: 15H0761

Date Received: 8/18/2015

Field Sample #: B-4 (15'-20') Sampled: 8/14/2015 13:33

Sample ID: 15H0761-03

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	570	220	mg/Kg dry	20	R-05	MADEP-EPH-04-1.1	8/19/15	8/25/15 12:22	SCS
C19-C36 Aliphatics	1200	220	mg/Kg dry	20		MADEP-EPH-04-1.1	8/19/15	8/25/15 12:22	SCS
Unadjusted C11-C22 Aromatics	3700	220	mg/Kg dry	20	R-05	MADEP-EPH-04-1.1	8/19/15	8/25/15 12:22	SCS
C11-C22 Aromatics	3600	220	mg/Kg dry	20	R-05	MADEP-EPH-04-1.1	8/19/15	8/25/15 12:22	SCS
Acenaphthene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Acenaphthylene	ND	0.22	mg/Kg dry	2	R-05	MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Anthracene	5.4	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Benzo(a)anthracene	7.4	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Benzo(a)pyrene	5.5	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Benzo(b)fluoranthene	7.1	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Benzo(g,h,i)perylene	1.5	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Benzo(k)fluoranthene	2.5	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Chrysene	7.8	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Dibenz(a,h)anthracene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Fluoranthene	15	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Fluorene	6.9	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Indeno(1,2,3-cd)pyrene	2.6	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
2-Methylnaphthalene	3.1	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Naphthalene	2.1	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Phenanthrene	21	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS
Pyrene	13	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	8/19/15	8/25/15 4:08	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	42.7	40-140		8/25/15 4:08
o-Terphenyl (OTP)	116	40-140		8/25/15 4:08
2-Bromonaphthalene	87.3	40-140		8/25/15 4:08
2-Fluorobiphenyl	91.1	40-140		8/25/15 4:08

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 150 Mass Mills Dr., Lowell, MA Sample Description: Work Order: 15H0761

Date Received: 8/18/2015

Field Sample #: B-4 (15'-20') Sampled: 8/14/2015 13:33

Sample ID: 15H0761-03

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.11

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	44	mg/Kg dry	4	RL-05	MADEP-VPH-04-1.1	8/24/15	8/25/15 7:49	EEH
C5-C8 Aliphatics	ND	44	mg/Kg dry	4	RL-05	MADEP-VPH-04-1.1	8/24/15	8/25/15 7:49	EEH
Unadjusted C9-C12 Aliphatics	100	44	mg/Kg dry	4		MADEP-VPH-04-1.1	8/24/15	8/25/15 7:49	EEH
C9-C12 Aliphatics	ND	44	mg/Kg dry	4		MADEP-VPH-04-1.1	8/24/15	8/25/15 7:49	EEH
C9-C10 Aromatics	100	44	mg/Kg dry	4		MADEP-VPH-04-1.1	8/24/15	8/25/15 7:49	EEH
Benzene	0.52	0.22	mg/Kg dry	4		MADEP-VPH-04-1.1	8/24/15	8/25/15 7:49	EEH
Ethylbenzene	ND	0.22	mg/Kg dry	4		MADEP-VPH-04-1.1	8/24/15	8/25/15 7:49	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.22	mg/Kg dry	4		MADEP-VPH-04-1.1	8/24/15	8/25/15 7:49	EEH
Naphthalene	ND	1.1	mg/Kg dry	4	RL-05	MADEP-VPH-04-1.1	8/24/15	8/25/15 7:49	EEH
Toluene	0.32	0.22	mg/Kg dry	4		MADEP-VPH-04-1.1	8/24/15	8/25/15 7:49	EEH
m+p Xylene	ND	0.44	mg/Kg dry	4		MADEP-VPH-04-1.1	8/24/15	8/25/15 7:49	EEH
o-Xylene	ND	0.22	mg/Kg dry	4		MADEP-VPH-04-1.1	8/24/15	8/25/15 7:49	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	90.7	70-130		8/25/15 7:49
2,5-Dibromotoluene (PID)	92.9	70-130		8/25/15 7:49

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 150 Mass Mills Dr., Lowell, MA
Sample Description:
Work Order: 15H0761

Date Received: 8/18/2015

Field Sample #: B-4 (15'-20')
Sampled: 8/14/2015 13:33

Sample ID: 15H0761-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.0		% Wt	1		SM 2540G	8/19/15	8/20/15 8:19	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 150 Mass Mills Dr., Lowell, MA Sample Description: Work Order: 15H0761

Date Received: 8/18/2015

Field Sample #: B-3 (15'-20')(25-28'') Sampled: 8/14/2015 12:06

Sample ID: 15H0761-04

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Fuel Oil #6	10000	370	mg/Kg dry	20		SW-846 8015C	8/19/15	8/21/15 3:24	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
o-Terphenyl	*	40-140	S-01	8/21/15 3:24

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 150 Mass Mills Dr., Lowell, MA Sample Description: Work Order: 15H0761

Date Received: 8/18/2015

Field Sample #: B-3 (15'-20')(25-28'') Sampled: 8/14/2015 12:06

Sample ID: 15H0761-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.6		% Wt	1		SM 2540G	8/19/15	8/20/15 8:19	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 150 Mass Mills Dr., Lowell, MA Sample Description: Work Order: 15H0761

Date Received: 8/18/2015

Field Sample #: B-4 (15'-20')(21-24'') Sampled: 8/14/2015 13:35

Sample ID: 15H0761-05

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Fuel Oil #6	6300	390	mg/Kg dry	20		SW-846 8015C	8/19/15	8/21/15 3:42	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
o-Terphenyl	*	40-140	S-01	8/21/15 3:42

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 150 Mass Mills Dr., Lowell, MA Sample Description: Work Order: 15H0761

Date Received: 8/18/2015

Field Sample #: B-4 (15'-20')(21-24'') Sampled: 8/14/2015 13:35

Sample ID: 15H0761-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.1		% Wt	1		SM 2540G	8/19/15	8/20/15 8:19	MRL

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Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
15H0761-01 [B-1 (15'-20')]	B128922	20.1	2.00	08/19/15
15H0761-02 [B-3 (15'-20')]	B128922	20.0	2.00	08/19/15
15H0761-03 [B-4 (15'-20')]	B128922	20.0	2.00	08/19/15

Prep Method: MA VPH-MADEP-VPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
15H0761-01 [B-1 (15'-20')]	B129244	12.9	16.5	08/24/15
15H0761-02 [B-3 (15'-20')]	B129244	15.9	17.1	08/24/15
15H0761-03 [B-4 (15'-20')]	B129244	16.6	16.6	08/24/15

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
15H0761-01 [B-1 (15'-20')]	B128948	08/19/15
15H0761-02 [B-3 (15'-20')]	B128948	08/19/15
15H0761-03 [B-4 (15'-20')]	B128948	08/19/15
15H0761-04 [B-3 (15'-20')(25-28")]	B128948	08/19/15
15H0761-05 [B-4 (15'-20')(21-24")]	B128948	08/19/15

Prep Method: SW-846 3546-SW-846 8015C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
15H0761-04 [B-3 (15'-20')(25-28")]	B128926	15.0	1.00	08/19/15
15H0761-05 [B-4 (15'-20')(21-24")]	B128926	15.0	1.00	08/19/15

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B128926 - SW-846 3546										
Blank (B128926-BLK1)				Prepared: 08/19/15 Analyzed: 08/20/15						
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: o-Terphenyl	*2.15*		mg/Kg wet	3.33		64.5	40-140			
LCS (B128926-BS1)				Prepared: 08/19/15 Analyzed: 08/20/15						
Fuel Oil #2	24.3	8.3	mg/Kg wet	33.3		73.0	40-140			
Surrogate: o-Terphenyl	*2.19*		mg/Kg wet	3.33		65.7	40-140			
LCS Dup (B128926-BSD1)				Prepared: 08/19/15 Analyzed: 08/20/15						
Fuel Oil #2	24.4	8.3	mg/Kg wet	33.3		73.2	40-140	0.170	25	
Surrogate: o-Terphenyl	*2.17*		mg/Kg wet	3.33		65.1	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B128922 - SW-846 3546										
Blank (B128922-BLK1)				Prepared: 08/19/15 Analyzed: 08/21/15						
C9-C18 Aliphatics	ND	10	mg/Kg wet							R-05
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							R-05
C11-C22 Aromatics	ND	10	mg/Kg wet							R-05
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							R-05
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							R-05
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							R-05
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							R-05
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*2.91*		mg/Kg wet	5.00		58.3	40-140			
Surrogate: o-Terphenyl (OTP)	*3.44*		mg/Kg wet	5.00		68.7	40-140			
Surrogate: 2-Bromonaphthalene	*2.62*		mg/Kg wet	5.00		52.5	40-140			
Surrogate: 2-Fluorobiphenyl	*2.90*		mg/Kg wet	5.00		58.0	40-140			
LCS (B128922-BS1)				Prepared: 08/19/15 Analyzed: 08/21/15						
Acenaphthene	3.25	0.10	mg/Kg wet	5.00		65.0	40-140			
Acenaphthylene	3.15	0.10	mg/Kg wet	5.00		63.0	40-140			R-05
Anthracene	3.94	0.10	mg/Kg wet	5.00		78.7	40-140			
Benzo(a)anthracene	3.60	0.10	mg/Kg wet	5.00		72.1	40-140			
Benzo(a)pyrene	3.53	0.10	mg/Kg wet	5.00		70.6	40-140			
Benzo(b)fluoranthene	3.57	0.10	mg/Kg wet	5.00		71.4	40-140			
Benzo(g,h,i)perylene	3.61	0.10	mg/Kg wet	5.00		72.2	40-140			
Benzo(k)fluoranthene	3.54	0.10	mg/Kg wet	5.00		70.7	40-140			
Chrysene	3.59	0.10	mg/Kg wet	5.00		71.8	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes
Batch B128922 - SW-846 3546												
LCS (B128922-BS1)				Prepared: 08/19/15 Analyzed: 08/21/15								
Dibenz(a,h)anthracene	3.65	0.10	mg/Kg wet	5.00		73.1		40-140				
Fluoranthene	3.58	0.10	mg/Kg wet	5.00		71.6		40-140				
Fluorene	3.39	0.10	mg/Kg wet	5.00		67.8		40-140				
Indeno(1,2,3-cd)pyrene	3.56	0.10	mg/Kg wet	5.00		71.1		40-140				
2-Methylnaphthalene	3.04	0.10	mg/Kg wet	5.00		60.8		40-140				
Naphthalene	2.74	0.10	mg/Kg wet	5.00		54.7		40-140				
Phenanthrene	3.48	0.10	mg/Kg wet	5.00		69.6		40-140				
Pyrene	3.58	0.10	mg/Kg wet	5.00		71.6		40-140				
n-Decane	2.23	0.10	mg/Kg wet	5.00		44.6		40-140				R-05
n-Docosane	3.45	0.10	mg/Kg wet	5.00		68.9		40-140				
n-Dodecane	2.65	0.10	mg/Kg wet	5.00		53.0		40-140				R-05
n-Eicosane	3.40	0.10	mg/Kg wet	5.00		67.9		40-140				
n-Hexacosane	3.24	0.10	mg/Kg wet	5.00		64.8		40-140				
n-Hexadecane	3.42	0.10	mg/Kg wet	5.00		68.5		40-140				
n-Hexatriacontane	3.70	0.10	mg/Kg wet	5.00		74.0		40-140				
n-Nonadecane	3.43	0.10	mg/Kg wet	5.00		68.7		40-140				
n-Nonane	1.76	0.10	mg/Kg wet	5.00		35.3		30-140				R-05
n-Octacosane	3.31	0.10	mg/Kg wet	5.00		66.1		40-140				
n-Octadecane	3.48	0.10	mg/Kg wet	5.00		69.7		40-140				
n-Tetracosane	3.55	0.10	mg/Kg wet	5.00		71.0		40-140				
n-Tetradecane	3.06	0.10	mg/Kg wet	5.00		61.3		40-140				
n-Triacontane	3.36	0.10	mg/Kg wet	5.00		67.3		40-140				
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5				
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5				
Surrogate: Chlorooctadecane (COD)	*2.91*		mg/Kg wet	5.00		58.2		40-140				
Surrogate: o-Terphenyl (OTP)	*3.35*		mg/Kg wet	5.00		67.0		40-140				
Surrogate: 2-Bromonaphthalene	*3.95*		mg/Kg wet	5.00		79.1		40-140				
Surrogate: 2-Fluorobiphenyl	*3.95*		mg/Kg wet	5.00		79.1		40-140				
LCS Dup (B128922-BSD1)				Prepared: 08/19/15 Analyzed: 08/21/15								
Acenaphthene	2.81	0.10	mg/Kg wet	5.00		56.1		40-140	14.6		25	
Acenaphthylene	2.20	0.10	mg/Kg wet	5.00		43.9		40-140	**35.8**	*	25	R-05
Anthracene	3.54	0.10	mg/Kg wet	5.00		70.9		40-140	10.5		25	
Benzo(a)anthracene	3.54	0.10	mg/Kg wet	5.00		70.7		40-140	1.89		25	
Benzo(a)pyrene	2.76	0.10	mg/Kg wet	5.00		55.2		40-140	24.5		25	
Benzo(b)fluoranthene	3.58	0.10	mg/Kg wet	5.00		71.6		40-140	0.308		25	
Benzo(g,h,i)perylene	3.32	0.10	mg/Kg wet	5.00		66.5		40-140	8.18		25	
Benzo(k)fluoranthene	3.48	0.10	mg/Kg wet	5.00		69.7		40-140	1.52		25	
Chrysene	3.57	0.10	mg/Kg wet	5.00		71.3		40-140	0.718		25	
Dibenz(a,h)anthracene	3.61	0.10	mg/Kg wet	5.00		72.2		40-140	1.27		25	
Fluoranthene	3.58	0.10	mg/Kg wet	5.00		71.6		40-140	0.0223		25	
Fluorene	3.27	0.10	mg/Kg wet	5.00		65.4		40-140	3.64		25	
Indeno(1,2,3-cd)pyrene	3.31	0.10	mg/Kg wet	5.00		66.2		40-140	7.23		25	
2-Methylnaphthalene	2.65	0.10	mg/Kg wet	5.00		53.0		40-140	13.7		25	
Naphthalene	2.32	0.10	mg/Kg wet	5.00		46.4		40-140	16.5		25	
Phenanthrene	3.47	0.10	mg/Kg wet	5.00		69.4		40-140	0.259		25	
Pyrene	3.36	0.10	mg/Kg wet	5.00		67.3		40-140	6.17		25	
n-Decane	1.65	0.10	mg/Kg wet	5.00		**33.1**	*	40-140	**29.7**	*	25	L-07A
n-Docosane	3.08	0.10	mg/Kg wet	5.00		61.7		40-140	11.1		25	
n-Dodecane	2.05	0.10	mg/Kg wet	5.00		41.0		40-140	**25.7**	*	25	R-05
n-Eicosane	3.05	0.10	mg/Kg wet	5.00		61.1		40-140	10.6		25	
n-Hexacosane	2.90	0.10	mg/Kg wet	5.00		58.0		40-140	11.1		25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes
Batch B128922 - SW-846 3546												
LCS Dup (B128922-BSD1)				Prepared: 08/19/15 Analyzed: 08/21/15								
n-Hexadecane	3.00	0.10	mg/Kg wet	5.00		59.9		40-140	13.3		25	
n-Hexatriacontane	3.31	0.10	mg/Kg wet	5.00		66.2		40-140	11.2		25	
n-Nonadecane	3.07	0.10	mg/Kg wet	5.00		61.5		40-140	11.1		25	
n-Nonane	1.29	0.10	mg/Kg wet	5.00		**25.9**	*	30-140	**30.7**	*	25	L-07A
n-Octacosane	2.93	0.10	mg/Kg wet	5.00		58.6		40-140	12.0		25	
n-Octadecane	3.11	0.10	mg/Kg wet	5.00		62.2		40-140	11.2		25	
n-Tetracosane	3.20	0.10	mg/Kg wet	5.00		63.9		40-140	10.5		25	
n-Tetradecane	2.53	0.10	mg/Kg wet	5.00		50.7		40-140	19.0		25	
n-Triacontane	3.00	0.10	mg/Kg wet	5.00		60.0		40-140	11.4		25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5				
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5				
Surrogate: Chlorooctadecane (COD)	*2.54*		mg/Kg wet	5.00		50.8		40-140				
Surrogate: o-Terphenyl (OTP)	*3.34*		mg/Kg wet	5.00		66.8		40-140				
Surrogate: 2-Bromonaphthalene	*4.32*		mg/Kg wet	5.00		86.4		40-140				
Surrogate: 2-Fluorobiphenyl	*4.14*		mg/Kg wet	5.00		82.9		40-140				

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B129244 - MA VPH										
Blank (B129244-BLK1)				Prepared & Analyzed: 08/24/15						
Unadjusted C5-C8 Aliphatics	ND	10	mg/Kg wet							
C5-C8 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C10 Aromatics	ND	10	mg/Kg wet							
Benzene	ND	0.050	mg/Kg wet							
Butylcyclohexane	ND	0.050	mg/Kg wet							
Decane	ND	0.050	mg/Kg wet							
Ethylbenzene	ND	0.050	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg wet							
2-Methylpentane	ND	0.050	mg/Kg wet							
Naphthalene	ND	0.25	mg/Kg wet							
Nonane	ND	0.050	mg/Kg wet							
Pentane	ND	0.050	mg/Kg wet							
Toluene	ND	0.050	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.050	mg/Kg wet							
2,2,4-Trimethylpentane	ND	0.050	mg/Kg wet							
m+p Xylene	ND	0.10	mg/Kg wet							
o-Xylene	ND	0.050	mg/Kg wet							
Surrogate: 2,5-Dibromotoluene (FID)	*2.92*		mg/Kg wet	3.33		87.6	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*2.65*		mg/Kg wet	3.33		79.4	70-130			
LCS (B129244-BS1)				Prepared & Analyzed: 08/24/15						
Benzene	0.0921	0.0010	mg/Kg wet	0.100		92.1	70-130			
Butylcyclohexane	0.0856	0.0010	mg/Kg wet	0.100		85.6	70-130			
Decane	0.0948	0.0010	mg/Kg wet	0.100		94.8	70-130			
Ethylbenzene	0.0919	0.0010	mg/Kg wet	0.100		91.9	70-130			
Methyl tert-Butyl Ether (MTBE)	0.103	0.0010	mg/Kg wet	0.100		103	70-130			
2-Methylpentane	0.0906	0.0010	mg/Kg wet	0.100		90.6	70-130			
Naphthalene	0.103	0.0050	mg/Kg wet	0.100		103	70-130			
Nonane	0.0832	0.0010	mg/Kg wet	0.100		83.2	30-130			
Pentane	0.0944	0.0010	mg/Kg wet	0.100		94.4	70-130			
Toluene	0.0919	0.0010	mg/Kg wet	0.100		91.9	70-130			
1,2,4-Trimethylbenzene	0.0967	0.0010	mg/Kg wet	0.100		96.7	70-130			
2,2,4-Trimethylpentane	0.0858	0.0010	mg/Kg wet	0.100		85.8	70-130			
m+p Xylene	0.187	0.0020	mg/Kg wet	0.200		93.4	70-130			
o-Xylene	0.0942	0.0010	mg/Kg wet	0.100		94.2	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*0.0422*		mg/Kg wet	0.0400		105	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0421*		mg/Kg wet	0.0400		105	70-130			
LCS Dup (B129244-BSD1)				Prepared & Analyzed: 08/24/15						
Benzene	0.0902	0.0010	mg/Kg wet	0.100		90.2	70-130	2.17	25	
Butylcyclohexane	0.0835	0.0010	mg/Kg wet	0.100		83.5	70-130	2.47	25	
Decane	0.0929	0.0010	mg/Kg wet	0.100		92.9	70-130	2.02	25	
Ethylbenzene	0.0899	0.0010	mg/Kg wet	0.100		89.9	70-130	2.19	25	
Methyl tert-Butyl Ether (MTBE)	0.0994	0.0010	mg/Kg wet	0.100		99.4	70-130	3.33	25	
2-Methylpentane	0.0891	0.0010	mg/Kg wet	0.100		89.1	70-130	1.61	25	
Naphthalene	0.0929	0.0050	mg/Kg wet	0.100		92.9	70-130	10.4	25	
Nonane	0.0821	0.0010	mg/Kg wet	0.100		82.1	30-130	1.31	25	
Pentane	0.0908	0.0010	mg/Kg wet	0.100		90.8	70-130	3.92	25	
Toluene	0.0900	0.0010	mg/Kg wet	0.100		90.0	70-130	2.08	25	
1,2,4-Trimethylbenzene	0.0926	0.0010	mg/Kg wet	0.100		92.6	70-130	4.28	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B129244 - MA VPH										
LCS Dup (B129244-BSD1)				Prepared & Analyzed: 08/24/15						
2,2,4-Trimethylpentane	0.0850	0.0010	mg/Kg wet	0.100		85.0	70-130	0.842	25	
m+p Xylene	0.183	0.0020	mg/Kg wet	0.200		91.7	70-130	1.88	25	
o-Xylene	0.0924	0.0010	mg/Kg wet	0.100		92.4	70-130	1.93	25	
Surrogate: 2,5-Dibromotoluene (FID)	*0.0489*		mg/Kg wet	0.0400		122	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0373*		mg/Kg wet	0.0400		93.3	70-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-07A	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
RL-05	Elevated reporting limit due to high concentration of target compounds. MA CAM reporting limit not met.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,WA,ME,NH-P
C19-C36 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME,NH-P
C11-C22 Aromatics	CT,NC,WA,ME,NH-P
Acenaphthene	CT,NC,WA,ME,NH-P
Acenaphthylene	CT,NC,WA,ME,NH-P
Anthracene	CT,NC,WA,ME,NH-P
Benzo(a)anthracene	CT,NC,WA,ME,NH-P
Benzo(a)pyrene	CT,NC,WA,ME,NH-P
Benzo(b)fluoranthene	CT,NC,WA,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,WA,ME,NH-P
Benzo(k)fluoranthene	CT,NC,WA,ME,NH-P
Chrysene	CT,NC,WA,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,WA,ME,NH-P
Fluoranthene	CT,NC,WA,ME,NH-P
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME,NH-P
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME,NH-P
Phenanthrene	CT,NC,WA,ME,NH-P
Pyrene	CT,NC,WA,ME,NH-P
MADEP-VPH-04-1.1 in Soil	
Unadjusted C5-C8 Aliphatics	CT,NC,WA,ME,NH-P
C5-C8 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C9-C12 Aliphatics	CT,NC,WA,ME,NH-P
C9-C12 Aliphatics	CT,NC,WA,ME,NH-P
C9-C10 Aromatics	CT,NC,WA,ME,NH-P
Benzene	CT,NC,WA,ME,NH-P
Ethylbenzene	CT,NC,WA,ME,NH-P
Methyl tert-Butyl Ether (MTBE)	CT,NC,WA,ME,NH-P
Naphthalene	CT,NC,WA,ME,NH-P
Toluene	CT,NC,WA,ME,NH-P
m+p Xylene	CT,NC,WA,ME,NH-P
o-Xylene	CT,NC,WA,ME,NH-P

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	09/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015

Playmate

CHAIN OF CUSTODY RECORD

15H0761

(11 total)

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East Longmeadow, MA 01028

Rev 04.05.12

Company Name: Goldman Environmental
Address: 60 Brooks Dr.
Braintree, MA 02184
Attention: Parrish Smolcha
Project Location: 150 Massmills Dr., Lowell, MA
Sampled By: Ally Suding

Telephone: 781-356-9140
Project #: 1785-5040
Client PO#:

DATA DELIVERY (check all that apply)
○ FAX ☒ EMAIL ○ WEBSITE
Fax #:
Email: psmolcha@goldmanenvironmental.com
Format: ☒ PDF ☒ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	VPH with target VOCs (Mass DEP Method)	Petroleum fingerprint TPH 8015	EPH with target PAH ⊗
01	B-1 (15-20')	8/14/15	9:54	✓		S	M	X		X
02	B-3 (15-20')	8/14/15	11:47	✓		S	M	X		X
03	B-4 (15-20')	8/14/15	1:33	✓		S	M	X		X
04	B-3 (15-20')(25-28")	8/14/15	12:06		✓	S	H		X	
05	B-4 (15-20')(21-24")	8/14/15	1:35		✓	S	H		X	
# of Containers								6	2	3
** Preservation								I,M	I	I
***Container Code								G,V	A	A

ANALYSIS REQUESTED

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:**
A=amber glass
G=glass
P=plastic
ST=sterile
V=vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW = groundwater
WW = wastewater
DW = drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Comments:
⊗ VPH w/ target VOCs by MassDEP method (no 8260C)
EPH w/ target PAHs by MassDEP Method

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time: 8/18 9:55	
Received by: (signature)	Date/Time: 8/18 9:55	
Relinquished by: (signature)	Date/Time: 8/18 19:00	
Received by: (signature) 2.0	Date/Time: 8/18/15 1900	

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other 5-day
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: RCS-1
Connecticut:
Other:

Is your project MCP or RCP ?
☒ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Goldman Environmental **RECEIVED BY:** LMP **DATE:** 8/18/15

1) **Was the chain(s) of custody relinquished and signed?** (Yes) No **No CoC Included**
2) **Does the chain agree with the samples?** (Yes) No
   If not, explain:
3) **Are all the samples in good condition?** (Yes) No
   If not, explain:
4) **How were the samples received:**
   On Ice ☑ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☑
   Were the samples received in Temperature Compliance of (2-6°C)? (Yes) No N/A
   Temperature °C by Temp blank _____ Temperature °C by Temp gun 2.0
5) **Are there Dissolved samples for the lab to filter?** Yes (No)
   Who was notified _____ Date _____ Time _____
6) **Are there any RUSH or SHORT HOLDING TIME samples?** Yes (No)
   Who was notified _____ Date _____ Time _____
7) **Location where samples are stored:** 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

8) **Do all samples have the proper Acid pH:** Yes No (N/A) _____
9) **Do all samples have the proper Base pH:** Yes No (N/A) _____
10) **Was the PC notified of any discrepancies with the CoC vs the samples:** Yes No (N/A)

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	6
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	2
1 Liter Plastic		Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic		Non-ConTest Container	
40 mL Vial - type listed below	3	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

40 mL vials: # HCl _____ # Methanol 3
Bisulfate _____ # DI Water _____
Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Doc# 277
Rev. 4 August 2013

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	N/A	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	N/A	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	N/A	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	N/A	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Log-In Technician Initials: LMP **Date/Time:** 8/18/15 1900

Doc #277 Rev. 4 August 2013

MADEP MCP Analytical Method Report Certification Form

Laboratory Name:	Con-Test Analytical Laboratory	Project #:	15H0761
Project Location:	150 Mass Mills Dr., Lowell, MA	RTN:	

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

15H0761-01 thru 15H0761-05

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A (X)	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

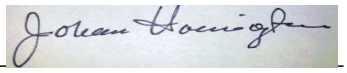
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature:  Position: Manager, Laboratory Reporting

Printed Name: Johanna K. Harrington Date: 08/26/15

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

August 26, 2015

Parrish Smolcha
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: 150 Massmills Dr., Lowell, MA
Client Job Number:
Project Number: 1785-5040
Laboratory Work Order Number: 15H0854

Enclosed are results of analyses for samples received by the laboratory on August 20, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Parrish Smolcha

REPORT DATE: 8/26/2015

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5040

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15H0854

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: 150 Massmills Dr., Lowell, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GEC-1	15H0854-01	Ground Water		MADEP-EPH-04-1.1	
GEC-2	15H0854-02	Ground Water		MADEP-EPH-04-1.1	
GEC-3	15H0854-03	Ground Water		MADEP-EPH-04-1.1	
GEC-3	15H0854-04	Ground Water		MADEP-VPH-04-1.1	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

MADEP-EPH-04-1.1

Qualifications:

L-04

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

C9-C18 Aliphatics

15H0854-01[GEC-1], 15H0854-02[GEC-2], 15H0854-03[GEC-3], B129078-BLK1

n-Decane

B129078-BLK1, B129078-BS1, B129078-BSD1

n-Nonane

B129078-BLK1, B129078-BS1, B129078-BSD1

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

MADEP-VPH-04-1.1

No significant modifications were made to the method. All VPH samples were received preserved properly at pH <2 in the proper containers as specified on the chain-of-custody form unless specified in this narrative.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 150 Massmills Dr., Lowell, MA
Sample Description:
Work Order: 15H0854

Date Received: 8/20/2015

Field Sample #: GEC-1
Sampled: 8/18/2015 11:30

Sample ID: 15H0854-01

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	6300	1000	µg/L	10	L-04	MADEP-EPH-04-1.1	8/20/15	8/25/15 12:01	SCS
C19-C36 Aliphatics	13000	1000	µg/L	10		MADEP-EPH-04-1.1	8/20/15	8/25/15 12:01	SCS
Unadjusted C11-C22 Aromatics	26000	1000	µg/L	10		MADEP-EPH-04-1.1	8/20/15	8/25/15 12:01	SCS
C11-C22 Aromatics	26000	1000	µg/L	10		MADEP-EPH-04-1.1	8/20/15	8/25/15 12:01	SCS
Acenaphthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Acenaphthylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Anthracene	18	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Benzo(a)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Benzo(a)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Benzo(b)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Benzo(g,h,i)perylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Benzo(k)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Chrysene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Dibenz(a,h)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Fluoranthene	32	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Fluorene	31	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Indeno(1,2,3-cd)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
2-Methylnaphthalene	2.8	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Naphthalene	14	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Phenanthrene	63	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS
Pyrene	18	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/25/15 3:47	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	45.5	40-140		8/25/15 3:47
o-Terphenyl (OTP)	78.3	40-140		8/25/15 3:47
2-Bromonaphthalene	81.0	40-140		8/25/15 3:47
2-Fluorobiphenyl	77.4	40-140		8/25/15 3:47

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Project Location: 150 Massmills Dr., Lowell, MA
Sample Description:
Work Order: 15H0854

Date Received: 8/20/2015

Field Sample #: GEC-2
Sampled: 8/18/2015 10:40

Sample ID: 15H0854-02

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	100	µg/L	1	L-04	MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
C19-C36 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Unadjusted C11-C22 Aromatics	150	100	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
C11-C22 Aromatics	140	100	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Acenaphthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Acenaphthylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Benzo(a)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Benzo(a)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Benzo(b)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Benzo(g,h,i)perylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Benzo(k)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Chrysene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Dibenz(a,h)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Fluoranthene	2.9	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Fluorene	2.5	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Indeno(1,2,3-cd)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
2-Methylnaphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Naphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Phenanthrene	3.2	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS
Pyrene	2.7	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 22:53	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	57.5	40-140		8/24/15 22:53
o-Terphenyl (OTP)	70.3	40-140		8/24/15 22:53
2-Bromonaphthalene	73.4	40-140		8/24/15 22:53
2-Fluorobiphenyl	79.3	40-140		8/24/15 22:53

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Project Location: 150 Massmills Dr., Lowell, MA
Sample Description:
Work Order: 15H0854

Date Received: 8/20/2015

Field Sample #: GEC-3
Sampled: 8/18/2015 11:05

Sample ID: 15H0854-03

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	120	100	µg/L	1	L-04	MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
C19-C36 Aliphatics	ND	100	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Unadjusted C11-C22 Aromatics	520	100	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
C11-C22 Aromatics	520	100	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Acenaphthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Acenaphthylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Benzo(a)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Benzo(a)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Benzo(b)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Benzo(g,h,i)perylene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Benzo(k)fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Chrysene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Dibenz(a,h)anthracene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Fluoranthene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Fluorene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Indeno(1,2,3-cd)pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
2-Methylnaphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Naphthalene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Phenanthrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS
Pyrene	ND	2.0	µg/L	1		MADEP-EPH-04-1.1	8/20/15	8/24/15 23:14	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	49.4	40-140		8/24/15 23:14
o-Terphenyl (OTP)	70.6	40-140		8/24/15 23:14
2-Bromonaphthalene	82.2	40-140		8/24/15 23:14
2-Fluorobiphenyl	84.4	40-140		8/24/15 23:14

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Project Location: 150 Massmills Dr., Lowell, MA
Sample Description:
Work Order: 15H0854

Date Received: 8/20/2015

Field Sample #: GEC-3
Sampled: 8/18/2015 11:10

Sample ID: 15H0854-04

Sample Matrix: Ground Water

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 19:59	EEH
C5-C8 Aliphatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 19:59	EEH
Unadjusted C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 19:59	EEH
C9-C12 Aliphatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 19:59	EEH
C9-C10 Aromatics	ND	100	µg/L	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 19:59	EEH
Benzene	ND	1.0	µg/L	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 19:59	EEH
Ethylbenzene	ND	1.0	µg/L	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 19:59	EEH
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 19:59	EEH
Naphthalene	ND	5.0	µg/L	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 19:59	EEH
Toluene	ND	1.0	µg/L	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 19:59	EEH
m+p Xylene	ND	2.0	µg/L	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 19:59	EEH
o-Xylene	ND	1.0	µg/L	1		MADEP-VPH-04-1.1	8/24/15	8/24/15 19:59	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	107	70-130		8/24/15 19:59
2,5-Dibromotoluene (PID)	115	70-130		8/24/15 19:59

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Sample Extraction Data

Prep Method: SW-846 3510C-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15H0854-01 [GEC-1]	B129078	700	1.40	08/20/15
15H0854-02 [GEC-2]	B129078	800	1.60	08/20/15
15H0854-03 [GEC-3]	B129078	900	1.80	08/20/15

Prep Method: MA VPH-MADEP-VPH-04-1.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15H0854-04 [GEC-3]	B129250	5	5.00	08/24/15

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B129078 - SW-846 3510C										
Blank (B129078-BLK1)				Prepared: 08/20/15 Analyzed: 08/21/15						
C9-C18 Aliphatics	ND	100	µg/L							L-04
C19-C36 Aliphatics	ND	100	µg/L							
Unadjusted C11-C22 Aromatics	ND	100	µg/L							
C11-C22 Aromatics	ND	100	µg/L							
Acenaphthene	ND	2.0	µg/L							
Acenaphthylene	ND	2.0	µg/L							
Anthracene	ND	2.0	µg/L							
Benzo(a)anthracene	ND	2.0	µg/L							
Benzo(a)pyrene	ND	2.0	µg/L							
Benzo(b)fluoranthene	ND	2.0	µg/L							
Benzo(g,h,i)perylene	ND	2.0	µg/L							
Benzo(k)fluoranthene	ND	2.0	µg/L							
Chrysene	ND	2.0	µg/L							
Dibenz(a,h)anthracene	ND	2.0	µg/L							
Fluoranthene	ND	2.0	µg/L							
Fluorene	ND	2.0	µg/L							
Indeno(1,2,3-cd)pyrene	ND	2.0	µg/L							
2-Methylnaphthalene	ND	2.0	µg/L							
Naphthalene	ND	2.0	µg/L							
Phenanthrene	ND	2.0	µg/L							
Pyrene	ND	2.0	µg/L							
n-Decane	ND	2.0	µg/L							L-04
n-Docosane	ND	2.0	µg/L							
n-Dodecane	ND	2.0	µg/L							
n-Eicosane	ND	2.0	µg/L							
n-Hexacosane	ND	2.0	µg/L							
n-Hexadecane	ND	2.0	µg/L							
n-Hexatriacontane	ND	2.0	µg/L							
n-Nonadecane	ND	2.0	µg/L							
n-Nonane	ND	2.0	µg/L							L-04
n-Octacosane	ND	2.0	µg/L							
n-Octadecane	ND	2.0	µg/L							
n-Tetracosane	ND	2.0	µg/L							
n-Tetradecane	ND	2.0	µg/L							
n-Triacontane	ND	2.0	µg/L							
Naphthalene-aliphatic fraction	ND	2.0	µg/L							
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L							
Surrogate: Chlorooctadecane (COD)	*66.9*		µg/L	100		66.9	40-140			
Surrogate: o-Terphenyl (OTP)	*79.2*		µg/L	100		79.2	40-140			
Surrogate: 2-Bromonaphthalene	*88.7*		µg/L	100		88.7	40-140			
Surrogate: 2-Fluorobiphenyl	*85.3*		µg/L	100		85.3	40-140			
LCS (B129078-BS1)				Prepared: 08/20/15 Analyzed: 08/21/15						
Acenaphthene	79.0	2.0	µg/L	100		79.0	40-140			
Acenaphthylene	76.6	2.0	µg/L	100		76.6	40-140			
Anthracene	95.0	2.0	µg/L	100		95.0	40-140			
Benzo(a)anthracene	96.9	2.0	µg/L	100		96.9	40-140			
Benzo(a)pyrene	94.4	2.0	µg/L	100		94.4	40-140			
Benzo(b)fluoranthene	95.5	2.0	µg/L	100		95.5	40-140			
Benzo(g,h,i)perylene	98.2	2.0	µg/L	100		98.2	40-140			
Benzo(k)fluoranthene	93.9	2.0	µg/L	100		93.9	40-140			
Chrysene	97.2	2.0	µg/L	100		97.2	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B129078 - SW-846 3510C											
LCS (B129078-BS1)				Prepared: 08/20/15 Analyzed: 08/21/15							
Dibenz(a,h)anthracene	99.6	2.0	µg/L	100		99.6		40-140			
Fluoranthene	96.6	2.0	µg/L	100		96.6		40-140			
Fluorene	85.1	2.0	µg/L	100		85.1		40-140			
Indeno(1,2,3-cd)pyrene	96.6	2.0	µg/L	100		96.6		40-140			
2-Methylnaphthalene	70.4	2.0	µg/L	100		70.4		40-140			
Naphthalene	59.9	2.0	µg/L	100		59.9		40-140			
Phenanthrene	92.4	2.0	µg/L	100		92.4		40-140			
Pyrene	97.0	2.0	µg/L	100		97.0		40-140			
n-Decane	33.5	2.0	µg/L	100		**33.5**	*	40-140			L-04
n-Docosane	82.6	2.0	µg/L	100		82.6		40-140			
n-Dodecane	51.1	2.0	µg/L	100		51.1		40-140			
n-Eicosane	81.5	2.0	µg/L	100		81.5		40-140			
n-Hexacosane	80.8	2.0	µg/L	100		80.8		40-140			
n-Hexadecane	76.6	2.0	µg/L	100		76.6		40-140			
n-Hexatriacontane	86.8	2.0	µg/L	100		86.8		40-140			
n-Nonadecane	81.0	2.0	µg/L	100		81.0		40-140			
n-Nonane	24.1	2.0	µg/L	100		**24.1**	*	30-140			L-04
n-Octacosane	81.5	2.0	µg/L	100		81.5		40-140			
n-Octadecane	81.4	2.0	µg/L	100		81.4		40-140			
n-Tetracosane	87.0	2.0	µg/L	100		87.0		40-140			
n-Tetradecane	64.5	2.0	µg/L	100		64.5		40-140			
n-Triacontane	80.9	2.0	µg/L	100		80.9		40-140			
Naphthalene-aliphatic fraction	ND	2.0	µg/L	100				0-5			
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L	100				0-5			
Surrogate: Chlorooctadecane (COD)	*66.4*		µg/L	100		66.4		40-140			
Surrogate: o-Terphenyl (OTP)	*83.6*		µg/L	100		83.6		40-140			
Surrogate: 2-Bromonaphthalene	*93.2*		µg/L	100		93.2		40-140			
Surrogate: 2-Fluorobiphenyl	*89.7*		µg/L	100		89.7		40-140			
LCS Dup (B129078-BSD1)				Prepared: 08/20/15 Analyzed: 08/21/15							
Acenaphthene	85.3	2.0	µg/L	100		85.3		40-140	7.75	25	
Acenaphthylene	82.8	2.0	µg/L	100		82.8		40-140	7.70	25	
Anthracene	94.8	2.0	µg/L	100		94.8		40-140	0.188	25	
Benzo(a)anthracene	93.6	2.0	µg/L	100		93.6		40-140	3.44	25	
Benzo(a)pyrene	90.1	2.0	µg/L	100		90.1		40-140	4.63	25	
Benzo(b)fluoranthene	91.4	2.0	µg/L	100		91.4		40-140	4.43	25	
Benzo(g,h,i)perylene	92.5	2.0	µg/L	100		92.5		40-140	6.05	25	
Benzo(k)fluoranthene	89.8	2.0	µg/L	100		89.8		40-140	4.41	25	
Chrysene	93.6	2.0	µg/L	100		93.6		40-140	3.80	25	
Dibenz(a,h)anthracene	93.6	2.0	µg/L	100		93.6		40-140	6.24	25	
Fluoranthene	94.6	2.0	µg/L	100		94.6		40-140	2.02	25	
Fluorene	90.4	2.0	µg/L	100		90.4		40-140	6.00	25	
Indeno(1,2,3-cd)pyrene	91.3	2.0	µg/L	100		91.3		40-140	5.56	25	
2-Methylnaphthalene	76.4	2.0	µg/L	100		76.4		40-140	8.18	25	
Naphthalene	64.1	2.0	µg/L	100		64.1		40-140	6.67	25	
Phenanthrene	93.4	2.0	µg/L	100		93.4		40-140	1.07	25	
Pyrene	94.9	2.0	µg/L	100		94.9		40-140	2.15	25	
n-Decane	37.0	2.0	µg/L	100		**37.0**	*	40-140	10.0	25	L-04
n-Docosane	80.5	2.0	µg/L	100		80.5		40-140	2.58	25	
n-Dodecane	57.4	2.0	µg/L	100		57.4		40-140	11.7	25	
n-Eicosane	79.3	2.0	µg/L	100		79.3		40-140	2.71	25	
n-Hexacosane	78.2	2.0	µg/L	100		78.2		40-140	3.26	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B129078 - SW-846 3510C											
LCS Dup (B129078-BSD1)				Prepared: 08/20/15 Analyzed: 08/21/15							
n-Hexadecane	77.8	2.0	µg/L	100		77.8		40-140	1.59	25	
n-Hexatriacontane	84.0	2.0	µg/L	100		84.0		40-140	3.33	25	
n-Nonadecane	79.2	2.0	µg/L	100		79.2		40-140	2.29	25	
n-Nonane	25.8	2.0	µg/L	100		**25.8**	*	30-140	6.58	25	L-04
n-Octacosane	78.8	2.0	µg/L	100		78.8		40-140	3.43	25	
n-Octadecane	80.0	2.0	µg/L	100		80.0		40-140	1.72	25	
n-Tetracosane	84.5	2.0	µg/L	100		84.5		40-140	2.94	25	
n-Tetradecane	70.6	2.0	µg/L	100		70.6		40-140	9.03	25	
n-Triacontane	78.1	2.0	µg/L	100		78.1		40-140	3.48	25	
Naphthalene-aliphatic fraction	ND	2.0	µg/L	100				0-5			
2-Methylnaphthalene-aliphatic fraction	ND	2.0	µg/L	100				0-5			
Surrogate: Chlorooctadecane (COD)	*62.8*		µg/L	100		62.8		40-140			
Surrogate: o-Terphenyl (OTP)	*83.3*		µg/L	100		83.3		40-140			
Surrogate: 2-Bromonaphthalene	*98.7*		µg/L	100		98.7		40-140			
Surrogate: 2-Fluorobiphenyl	*95.3*		µg/L	100		95.3		40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B129250 - MA VPH										
Blank (B129250-BLK1)				Prepared & Analyzed: 08/24/15						
Unadjusted C5-C8 Aliphatics	ND	100	µg/L							
C5-C8 Aliphatics	ND	100	µg/L							
Unadjusted C9-C12 Aliphatics	ND	100	µg/L							
C9-C12 Aliphatics	ND	100	µg/L							
C9-C10 Aromatics	ND	100	µg/L							
Benzene	ND	1.0	µg/L							
Butylcyclohexane	ND	1.0	µg/L							
Decane	ND	1.0	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
2-Methylpentane	ND	1.0	µg/L							
Naphthalene	ND	5.0	µg/L							
Nonane	ND	1.0	µg/L							
Pentane	ND	1.0	µg/L							
Toluene	ND	1.0	µg/L							
1,2,4-Trimethylbenzene	ND	1.0	µg/L							
2,2,4-Trimethylpentane	ND	1.0	µg/L							
m+p Xylene	ND	2.0	µg/L							
o-Xylene	ND	1.0	µg/L							
Surrogate: 2,5-Dibromotoluene (FID)	*38.9*		µg/L	40.0		97.2	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*41.9*		µg/L	40.0		105	70-130			
LCS (B129250-BS1)				Prepared & Analyzed: 08/24/15						
Benzene	85.1	1.0	µg/L	100		85.1	70-130			
Butylcyclohexane	92.6	1.0	µg/L	100		92.6	70-130			
Decane	105	1.0	µg/L	100		105	70-130			
Ethylbenzene	89.6	1.0	µg/L	100		89.6	70-130			
Methyl tert-Butyl Ether (MTBE)	93.7	1.0	µg/L	100		93.7	70-130			
2-Methylpentane	105	1.0	µg/L	100		105	70-130			
Naphthalene	91.1	5.0	µg/L	100		91.1	70-130			
Nonane	98.2	1.0	µg/L	100		98.2	30-130			
Pentane	83.8	1.0	µg/L	100		83.8	70-130			
Toluene	88.1	1.0	µg/L	100		88.1	70-130			
1,2,4-Trimethylbenzene	87.2	1.0	µg/L	100		87.2	70-130			
2,2,4-Trimethylpentane	94.3	1.0	µg/L	100		94.3	70-130			
m+p Xylene	178	2.0	µg/L	200		89.2	70-130			
o-Xylene	89.7	1.0	µg/L	100		89.7	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*45.5*		µg/L	40.0		114	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*50.2*		µg/L	40.0		125	70-130			
LCS Dup (B129250-BSD1)				Prepared & Analyzed: 08/24/15						
Benzene	83.0	1.0	µg/L	100		83.0	70-130	2.49	25	
Butylcyclohexane	93.7	1.0	µg/L	100		93.7	70-130	1.18	25	
Decane	107	1.0	µg/L	100		107	70-130	1.44	25	
Ethylbenzene	86.9	1.0	µg/L	100		86.9	70-130	3.04	25	
Methyl tert-Butyl Ether (MTBE)	93.1	1.0	µg/L	100		93.1	70-130	0.563	25	
2-Methylpentane	100	1.0	µg/L	100		100	70-130	4.54	25	
Naphthalene	97.1	5.0	µg/L	100		97.1	70-130	6.35	25	
Nonane	100	1.0	µg/L	100		100	30-130	1.75	25	
Pentane	78.4	1.0	µg/L	100		78.4	70-130	6.73	25	
Toluene	87.0	1.0	µg/L	100		87.0	70-130	1.24	25	
1,2,4-Trimethylbenzene	85.2	1.0	µg/L	100		85.2	70-130	2.29	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B129250 - MA VPH										
LCS Dup (B129250-BSD1)				Prepared & Analyzed: 08/24/15						
2,2,4-Trimethylpentane	91.6	1.0	µg/L	100		91.6	70-130	2.93	25	
m+p Xylene	174	2.0	µg/L	200		87.1	70-130	2.47	25	
o-Xylene	88.1	1.0	µg/L	100		88.1	70-130	1.89	25	
Surrogate: 2,5-Dibromotoluene (FID)	*48.9*		µg/L	40.0		122	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*51.7*		µg/L	40.0		129	70-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Water	
C9-C18 Aliphatics	CT,NC,WA,ME,NH-P
C19-C36 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME,NH-P
C11-C22 Aromatics	CT,NC,WA,ME,NH-P
Acenaphthene	CT,NC,WA,ME,NH-P
Acenaphthylene	CT,NC,WA,ME,NH-P
Anthracene	CT,NC,WA,ME,NH-P
Benzo(a)anthracene	CT,NC,WA,ME,NH-P
Benzo(a)pyrene	CT,NC,WA,ME,NH-P
Benzo(b)fluoranthene	CT,NC,WA,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,WA,ME,NH-P
Benzo(k)fluoranthene	CT,NC,WA,ME,NH-P
Chrysene	CT,NC,WA,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,WA,ME,NH-P
Fluoranthene	CT,NC,WA,ME,NH-P
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME,NH-P
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME,NH-P
Phenanthrene	CT,NC,WA,ME,NH-P
Pyrene	CT,NC,WA,ME,NH-P
MADEP-VPH-04-1.1 in Water	
Unadjusted C5-C8 Aliphatics	CT,NC,WA,ME,NH-P
C5-C8 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C9-C12 Aliphatics	CT,NC,WA,ME,NH-P
C9-C12 Aliphatics	CT,NC,WA,ME,NH-P
C9-C10 Aromatics	CT,NC,WA,ME,NH-P
Benzene	CT,NC,WA,ME,NH-P
Ethylbenzene	CT,NC,WA,ME,NH-P
Methyl tert-Butyl Ether (MTBE)	CT,NC,WA,ME,NH-P
Naphthalene	CT,NC,WA,ME,NH-P
Toluene	CT,NC,WA,ME,NH-P
m+p Xylene	CT,NC,WA,ME,NH-P
o-Xylene	CT,NC,WA,ME,NH-P

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2015
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	09/30/2015
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2015

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

15H0854

Rev. 04.05.12

7 total

Company Name: Goldman Environmental
Address: 60 Brooks Drive, Braintree, MA
Attention: Parrish Smolcha
Project Location: 150 Massmills Drive, Lowell, MA
Sampled By: Ally Suding

Telephone: (781) 356-9140
Project #: 1785-5040
Client PO#:

DATA DELIVERY (check all that apply)
○ FAX ☒ EMAIL ○ WEBSITE
Fax #:
Email: psmolcha@goldmanenvironmental.com
Format: ☒ PDF ☒ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPH with target PAH* (# of Containers: 6; Preservation: H; Container Code: A)	VPH with target VOC** (# of Containers: 1; Preservation: H; Container Code: V)
01	GEC-1	8/18/15	11:30am		X	GW	H	X	
02	GEC-2	↓	10:40am		X	GW	H	X	
03	GEC-3	↓	11:05am		X	GW	H	X	
04	GEC-3	↓	11:10am		X	GW	H		X

ANALYSIS REQUESTED

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:**
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Comments: * EPH with target ~~VOCs~~ PAH by Mass DEP Method
** VPH with target VOCs by Mass DEP Method (No 8260C)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time: 8/20/15 12:30
Relinquished by: (signature)	Date/Time: 8/20/15 1665
Received by: (signature)	Date/Time: 8/20/15 1600

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other _____
RUSH †
☐ †24-Hr ☐ †48-Hr
☒ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: RSGW-2
Connecticut:
Other:

Is your project MCP or RCP ?
☒ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
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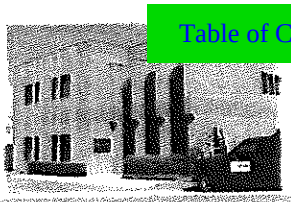

Sample Receipt Checklist

CLIENT NAME: Goldman **RECEIVED BY:** RLF **DATE:** 8/20/15

1) **Was the chain(s) of custody relinquished and signed?** Yes No No CoC Included
2) **Does the chain agree with the samples?** Yes No
   If not, explain:
3) **Are all the samples in good condition?** Yes No
   If not, explain:
4) **How were the samples received:**
   On Ice ☑ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☑
   Were the samples received in Temperature Compliance of (2-6°C)? Yes No N/A
   Temperature °C by Temp blank _____ Temperature °C by Temp gun 2 °C
5) **Are there Dissolved samples for the lab to filter?** Yes No
   Who was notified _____ Date _____ Time _____
6) **Are there any RUSH or SHORT HOLDING TIME samples?** Yes No
   Who was notified _____ Date _____ Time _____
7) **Location where samples are stored:** —

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: _____

8) **Do all samples have the proper Acid pH:** Yes No N/A _____
9) **Do all samples have the proper Base pH:** Yes No N/A _____
10) **Was the PC notified of any discrepancies with the CoC vs the samples:** Yes No N/A

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	6	8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	
250 mL Amber (8oz amber)		2 oz amber/clear jar	
1 Liter Plastic		Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic		Non-ConTest Container	
40 mL Vial - type listed below	1	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments: only received one vial (limited volume)

40 mL vials: # HCl 1 # Methanol _____
Bisulfate _____ # DI Water _____
Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Doc# 277
Rev. 4 August 2013

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	T	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T NA	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** **Date/Time:**

RLF 8/20/15 1400

Table of Contents

MADEP MCP Analytical Method Report Certification Form

Laboratory Name:	Con-Test Analytical Laboratory	Project #:	15H0854
Project Location:	150 Massmills Dr., Lowell, MA	RTN:	

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

15H0854-01 thru 15H0854-04

Matrices: Water

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A (X)	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Position: Laboratory Manager

Printed Name: Daren J. Damboragian Date: 08/25/15

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

February 23, 2016

Mike Bradley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: NA
Client Job Number:
Project Number: 1785-6070
Laboratory Work Order Number: 16B0685

Enclosed are results of analyses for samples received by the laboratory on February 16, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Mike Bradley

REPORT DATE: 2/23/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6070

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16B0685

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: NA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-1 (0-5')	16B0685-01	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
B-2 (2-5')	16B0685-02	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
B-3 (2-7')	16B0685-03	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
B-4 (2-5')	16B0685-04	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
B-5 (0-5')	16B0685-05	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
B-6 (0-4')	16B0685-06	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

MADEP-EPH-04-1.1

Qualifications:

MS-09

Matrix spike recovery and/or matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a low bias for reported result or non-homogeneous sample aliquots cannot be eliminated.

Analyte & Samples(s) Qualified:

n-Nonane
B142292-MS1, B142292-MSD1

MS-22

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.

Analyte & Samples(s) Qualified:

C9-C18 Aliphatics
B142292-MSD1

Naphthalene
B142292-MSD1

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

C9-C18 Aliphatics
16B0685-01[B-1 (0-5')], 16B0685-02[B-2 (2-5')], 16B0685-03[B-3 (2-7')], 16B0685-05[B-5 (0-5')], 16B0685-06[B-6 (0-4')], B142292-BLK1

n-Nonane
B142292-BLK1, B142292-BS1, B142292-BSD1

MADEP-VPH-04-1.1

Qualifications:

O-01

Soil/methanol ratio does not meet method specifications. Excess amount of soil. Sample was completely covered with methanol, but with less than the method-specified amount.

Analyte & Samples(s) Qualified:

16B0685-03[B-3 (2-7')], 16B0685-05[B-5 (0-5')], 16B0685-06[B-6 (0-4')]

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MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

MADEP-VPH-04-1.1

No significant modifications were made to the method. All VPH samples were received preserved properly in methanol with a soil/methanol ratio of 1:1 +/- 25% completely covered by methanol in the proper containers specified on the chain-of-custody form unless specified in this narrative.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Johanna K. Harrington
Manager, Laboratory Reporting

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: NA
Sample Description:
Work Order: 16B0685
Date Received: 2/16/2016
Field Sample #: B-1 (0-5')
Sampled: 2/12/2016 08:30
Sample ID: 16B0685-01
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	19	11	mg/Kg dry	1	R-05	MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
C19-C36 Aliphatics	120	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Unadjusted C11-C22 Aromatics	250	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
C11-C22 Aromatics	240	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Anthracene	0.28	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Benzo(a)anthracene	0.63	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Benzo(a)pyrene	1.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Benzo(b)fluoranthene	1.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Benzo(g,h,i)perylene	0.54	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Benzo(k)fluoranthene	0.51	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Chrysene	1.9	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Dibenz(a,h)anthracene	0.27	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Fluoranthene	2.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Indeno(1,2,3-cd)pyrene	0.75	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Phenanthrene	1.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS
Pyrene	2.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:00	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	50.1	40-140		2/18/16 13:00
o-Terphenyl (OTP)	70.9	40-140		2/18/16 13:00
2-Bromonaphthalene	87.7	40-140		2/18/16 13:00
2-Fluorobiphenyl	97.7	40-140		2/18/16 13:00

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Project Location: NA
Sample Description:
Work Order: 16B0685
Date Received: 2/16/2016
Field Sample #: B-1 (0-5')
Sampled: 2/12/2016 08:30
Sample ID: 16B0685-01
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.18

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/17/16 23:45	EEH
C5-C8 Aliphatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/17/16 23:45	EEH
Unadjusted C9-C12 Aliphatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/17/16 23:45	EEH
C9-C12 Aliphatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/17/16 23:45	EEH
C9-C10 Aromatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/17/16 23:45	EEH
Benzene	ND	0.056	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/17/16 23:45	EEH
Ethylbenzene	ND	0.056	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/17/16 23:45	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.056	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/17/16 23:45	EEH
Naphthalene	ND	0.28	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/17/16 23:45	EEH
Toluene	ND	0.056	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/17/16 23:45	EEH
m+p Xylene	ND	0.11	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/17/16 23:45	EEH
o-Xylene	ND	0.056	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/17/16 23:45	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	78.5	70-130		2/17/16 23:45
2,5-Dibromotoluene (PID)	83.9	70-130		2/17/16 23:45

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Project Location: NA
Sample Description:
Work Order: 16B0685

Date Received: 2/16/2016

Field Sample #: B-1 (0-5')
Sampled: 2/12/2016 08:30

Sample ID: 16B0685-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.1		% Wt	1		SM 2540G	2/17/16	2/18/16 8:45	MRL

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Project Location: NA
Sample Description:
Work Order: 16B0685
Date Received: 2/16/2016
Field Sample #: B-2 (2-5')
Sampled: 2/12/2016 09:30
Sample ID: 16B0685-02
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1	R-05	MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
C19-C36 Aliphatics	20	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Unadjusted C11-C22 Aromatics	43	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
C11-C22 Aromatics	33	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Acenaphthene	0.20	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Anthracene	0.32	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Benzo(a)anthracene	0.74	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Benzo(a)pyrene	0.76	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Benzo(b)fluoranthene	0.95	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Benzo(g,h,i)perylene	0.45	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Benzo(k)fluoranthene	0.33	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Chrysene	0.87	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Dibenz(a,h)anthracene	0.14	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Fluoranthene	1.7	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Fluorene	0.13	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Indeno(1,2,3-cd)pyrene	0.53	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Phenanthrene	1.4	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS
Pyrene	1.7	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:21	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	54.4	40-140		2/18/16 13:21
o-Terphenyl (OTP)	63.1	40-140		2/18/16 13:21
2-Bromonaphthalene	82.9	40-140		2/18/16 13:21
2-Fluorobiphenyl	88.5	40-140		2/18/16 13:21

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Project Location: NA
Sample Description:
Work Order: 16B0685
Date Received: 2/16/2016
Field Sample #: B-2 (2-5')
Sampled: 2/12/2016 09:30
Sample ID: 16B0685-02
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.21

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:21	EEH
C5-C8 Aliphatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:21	EEH
Unadjusted C9-C12 Aliphatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:21	EEH
C9-C12 Aliphatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:21	EEH
C9-C10 Aromatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:21	EEH
Benzene	ND	0.052	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:21	EEH
Ethylbenzene	ND	0.052	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:21	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.052	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:21	EEH
Naphthalene	ND	0.26	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:21	EEH
Toluene	ND	0.052	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:21	EEH
m+p Xylene	ND	0.10	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:21	EEH
o-Xylene	ND	0.052	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:21	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	94.8	70-130		2/18/16 0:21
2,5-Dibromotoluene (PID)	86.4	70-130		2/18/16 0:21

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Project Location: NA
Sample Description:
Work Order: 16B0685

Date Received: 2/16/2016

Field Sample #: B-2 (2-5')
Sampled: 2/12/2016 09:30

Sample ID: 16B0685-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.1		% Wt	1		SM 2540G	2/17/16	2/18/16 8:45	MRL

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Project Location: NA
Sample Description:
Work Order: 16B0685

Date Received: 2/16/2016

Field Sample #: B-3 (2-7')
Sampled: 2/12/2016 10:30

Sample ID: 16B0685-03

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1	R-05	MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
C19-C36 Aliphatics	15	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Unadjusted C11-C22 Aromatics	33	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
C11-C22 Aromatics	26	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Anthracene	0.26	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Benzo(a)anthracene	0.58	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Benzo(a)pyrene	0.58	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Benzo(b)fluoranthene	0.70	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Benzo(g,h,i)perylene	0.45	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Benzo(k)fluoranthene	0.25	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Chrysene	0.64	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Fluoranthene	1.2	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Indeno(1,2,3-cd)pyrene	0.38	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Phenanthrene	0.98	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS
Pyrene	1.2	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 13:42	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	47.8	40-140		2/18/16 13:42
o-Terphenyl (OTP)	53.2	40-140		2/18/16 13:42
2-Bromonaphthalene	80.7	40-140		2/18/16 13:42
2-Fluorobiphenyl	87.9	40-140		2/18/16 13:42

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Project Location: NA
Sample Description:
Work Order: 16B0685
Date Received: 2/16/2016
Field Sample #: B-3 (2-7')
Sampled: 2/12/2016 10:30
Sample ID: 16B0685-03
Sample Matrix: Soil

Sample Flags: O-01
Soil/Methanol Preservation Ratio: 1.27

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:57	EEH
C5-C8 Aliphatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:57	EEH
Unadjusted C9-C12 Aliphatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:57	EEH
C9-C12 Aliphatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:57	EEH
C9-C10 Aromatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:57	EEH
Benzene	ND	0.051	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:57	EEH
Ethylbenzene	ND	0.051	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:57	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.051	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:57	EEH
Naphthalene	ND	0.25	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:57	EEH
Toluene	ND	0.051	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:57	EEH
m+p Xylene	ND	0.10	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:57	EEH
o-Xylene	ND	0.051	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 0:57	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	82.7	70-130		2/18/16 0:57
2,5-Dibromotoluene (PID)	86.9	70-130		2/18/16 0:57

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Project Location: NA
Sample Description:
Work Order: 16B0685

Date Received: 2/16/2016

Field Sample #: B-3 (2-7')
Sampled: 2/12/2016 10:30

Sample ID: 16B0685-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.7		% Wt	1		SM 2540G	2/17/16	2/18/16 8:45	MRL

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Project Location: NA
Sample Description:
Work Order: 16B0685
Date Received: 2/16/2016
Field Sample #: B-4 (2-5')
Sampled: 2/12/2016 11:30
Sample ID: 16B0685-04
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	58	45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
C19-C36 Aliphatics	130	45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Unadjusted C11-C22 Aromatics	1700	230	mg/Kg dry	10		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:38	SCS
C11-C22 Aromatics	1000	45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Acenaphthene	8.8	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Acenaphthylene	2.3	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Anthracene	27	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Benzo(a)anthracene	45	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Benzo(a)pyrene	34	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Benzo(b)fluoranthene	45	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Benzo(g,h,i)perylene	15	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Benzo(k)fluoranthene	17	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Chrysene	46	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Dibenz(a,h)anthracene	4.6	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Fluoranthene	120	2.3	mg/Kg dry	10		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:38	SCS
Fluorene	9.8	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Indeno(1,2,3-cd)pyrene	18	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
2-Methylnaphthalene	3.2	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Naphthalene	5.8	0.45	mg/Kg dry	2		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:17	SCS
Phenanthrene	96	2.3	mg/Kg dry	10		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:38	SCS
Pyrene	100	2.3	mg/Kg dry	10		MADEP-EPH-04-1.1	2/19/16	2/22/16 12:38	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	48.7	40-140		2/22/16 12:17
o-Terphenyl (OTP)	64.7	40-140		2/22/16 12:17
2-Bromonaphthalene	78.7	40-140		2/22/16 12:17
2-Fluorobiphenyl	83.3	40-140		2/22/16 12:17

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Project Location: NA
Sample Description:
Work Order: 16B0685
Date Received: 2/16/2016
Field Sample #: B-4 (2-5')
Sampled: 2/12/2016 11:30
Sample ID: 16B0685-04
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.23

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 5:45	EEH
C5-C8 Aliphatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 5:45	EEH
Unadjusted C9-C12 Aliphatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 5:45	EEH
C9-C12 Aliphatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 5:45	EEH
C9-C10 Aromatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 5:45	EEH
Benzene	ND	0.053	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 5:45	EEH
Ethylbenzene	ND	0.053	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 5:45	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.053	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 5:45	EEH
Naphthalene	6.3	0.26	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 5:45	EEH
Toluene	ND	0.053	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 5:45	EEH
m+p Xylene	ND	0.11	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 5:45	EEH
o-Xylene	ND	0.053	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 5:45	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	72.1	70-130		2/18/16 5:45
2,5-Dibromotoluene (PID)	85.1	70-130		2/18/16 5:45

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Project Location: NA
Sample Description:
Work Order: 16B0685

Date Received: 2/16/2016

Field Sample #: B-4 (2-5')
Sampled: 2/12/2016 11:30

Sample ID: 16B0685-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.0		% Wt	1		SM 2540G	2/17/16	2/18/16 8:45	MRL

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Project Location: NA
Sample Description:
Work Order: 16B0685
Date Received: 2/16/2016
Field Sample #: B-5 (0-5')
Sampled: 2/12/2016 12:15
Sample ID: 16B0685-05
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1	R-05	MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
C19-C36 Aliphatics	19	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Unadjusted C11-C22 Aromatics	140	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
C11-C22 Aromatics	89	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Acenaphthene	0.35	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Anthracene	1.5	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Benzo(a)anthracene	3.7	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Benzo(a)pyrene	3.4	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Benzo(b)fluoranthene	4.7	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Benzo(g,h,i)perylene	2.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Benzo(k)fluoranthene	1.5	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Chrysene	3.9	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Dibenz(a,h)anthracene	0.52	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Fluoranthene	8.5	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Fluorene	0.37	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Indeno(1,2,3-cd)pyrene	2.2	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
2-Methylnaphthalene	0.13	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Naphthalene	0.28	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Phenanthrene	5.7	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS
Pyrene	8.6	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:24	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	40.5	40-140		2/18/16 14:24
o-Terphenyl (OTP)	44.9	40-140		2/18/16 14:24
2-Bromonaphthalene	92.8	40-140		2/18/16 14:24
2-Fluorobiphenyl	103	40-140		2/18/16 14:24

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Project Location: NA
Sample Description:
Work Order: 16B0685
Date Received: 2/16/2016
Field Sample #: B-5 (0-5')
Sampled: 2/12/2016 12:15
Sample ID: 16B0685-05
Sample Matrix: Soil

Sample Flags: O-01
Soil/Methanol Preservation Ratio: 1.45

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	9.0	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 1:33	EEH
C5-C8 Aliphatics	ND	9.0	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 1:33	EEH
Unadjusted C9-C12 Aliphatics	ND	9.0	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 1:33	EEH
C9-C12 Aliphatics	ND	9.0	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 1:33	EEH
C9-C10 Aromatics	ND	9.0	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 1:33	EEH
Benzene	ND	0.045	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 1:33	EEH
Ethylbenzene	ND	0.045	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 1:33	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.045	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 1:33	EEH
Naphthalene	0.29	0.22	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 1:33	EEH
Toluene	ND	0.045	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 1:33	EEH
m+p Xylene	ND	0.090	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 1:33	EEH
o-Xylene	ND	0.045	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 1:33	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	90.5	70-130		2/18/16 1:33
2,5-Dibromotoluene (PID)	85.5	70-130		2/18/16 1:33

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Project Location: NA
Sample Description:
Work Order: 16B0685

Date Received: 2/16/2016

Field Sample #: B-5 (0-5')
Sampled: 2/12/2016 12:15

Sample ID: 16B0685-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.0		% Wt	1		SM 2540G	2/17/16	2/18/16 8:45	MRL

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Project Location: NA
Sample Description:
Work Order: 16B0685

Date Received: 2/16/2016

Field Sample #: B-6 (0-4')
Sampled: 2/12/2016 12:45

Sample ID: 16B0685-06

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1	R-05	MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Unadjusted C11-C22 Aromatics	38	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
C11-C22 Aromatics	28	11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Acenaphthene	0.14	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Anthracene	0.34	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Benzo(a)anthracene	0.75	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Benzo(a)pyrene	0.70	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Benzo(b)fluoranthene	0.86	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Benzo(g,h,i)perylene	0.41	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Benzo(k)fluoranthene	0.32	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Chrysene	0.80	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Dibenz(a,h)anthracene	0.13	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Fluoranthene	1.6	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Indeno(1,2,3-cd)pyrene	0.50	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Phenanthrene	1.4	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS
Pyrene	1.6	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	2/17/16	2/18/16 14:45	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	45.9	40-140		2/18/16 14:45
o-Terphenyl (OTP)	59.9	40-140		2/18/16 14:45
2-Bromonaphthalene	90.5	40-140		2/18/16 14:45
2-Fluorobiphenyl	96.6	40-140		2/18/16 14:45

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: NA
Sample Description:
Work Order: 16B0685
Date Received: 2/16/2016
Field Sample #: B-6 (0-4')
Sampled: 2/12/2016 12:45
Sample ID: 16B0685-06
Sample Matrix: Soil

Sample Flags: O-01
Soil/Methanol Preservation Ratio: 1.40

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	8.2	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 2:09	EEH
C5-C8 Aliphatics	ND	8.2	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 2:09	EEH
Unadjusted C9-C12 Aliphatics	ND	8.2	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 2:09	EEH
C9-C12 Aliphatics	ND	8.2	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 2:09	EEH
C9-C10 Aromatics	ND	8.2	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 2:09	EEH
Benzene	ND	0.041	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 2:09	EEH
Ethylbenzene	ND	0.041	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 2:09	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.041	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 2:09	EEH
Naphthalene	0.33	0.21	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 2:09	EEH
Toluene	ND	0.041	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 2:09	EEH
m+p Xylene	ND	0.082	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 2:09	EEH
o-Xylene	ND	0.041	mg/Kg dry	1		MADEP-VPH-04-1.1	2/17/16	2/18/16 2:09	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	75.1	70-130		2/18/16 2:09
2,5-Dibromotoluene (PID)	80.6	70-130		2/18/16 2:09

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: NA
Sample Description:
Work Order: 16B0685

Date Received: 2/16/2016

Field Sample #: B-6 (0-4')
Sampled: 2/12/2016 12:45

Sample ID: 16B0685-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.7		% Wt	1		SM 2540G	2/17/16	2/18/16 8:45	MRL

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Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16B0685-01 [B-1 (0-5')]	B142292	20.2	2.00	02/17/16
16B0685-02 [B-2 (2-5')]	B142292	20.1	2.00	02/17/16
16B0685-03 [B-3 (2-7')]	B142292	20.0	2.00	02/17/16
16B0685-05 [B-5 (0-5')]	B142292	20.1	2.00	02/17/16
16B0685-06 [B-6 (0-4')]	B142292	20.0	2.00	02/17/16

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16B0685-04RE1 [B-4 (2-5')]	B142509	10.0	2.00	02/19/16

Prep Method: MA VPH-MADEP-VPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16B0685-01 [B-1 (0-5')]	B142328	17.6	17.3	02/17/16
16B0685-02 [B-2 (2-5')]	B142328	18.2	17.0	02/17/16
16B0685-03 [B-3 (2-7')]	B142328	19.0	17.1	02/17/16
16B0685-04 [B-4 (2-5')]	B142328	18.5	17.2	02/17/16
16B0685-05 [B-5 (0-5')]	B142328	21.8	17.4	02/17/16
16B0685-06 [B-6 (0-4')]	B142328	21.1	16.3	02/17/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16B0685-01 [B-1 (0-5')]	B142322	02/17/16
16B0685-02 [B-2 (2-5')]	B142322	02/17/16
16B0685-03 [B-3 (2-7')]	B142322	02/17/16
16B0685-04 [B-4 (2-5')]	B142322	02/17/16
16B0685-05 [B-5 (0-5')]	B142322	02/17/16
16B0685-06 [B-6 (0-4')]	B142322	02/17/16

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B142292 - SW-846 3546										
Blank (B142292-BLK1)				Prepared: 02/17/16 Analyzed: 02/18/16						
C9-C18 Aliphatics	ND	10	mg/Kg wet							R-05
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							R-05
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*3.55*		mg/Kg wet	4.99		71.2	40-140			
Surrogate: o-Terphenyl (OTP)	*4.19*		mg/Kg wet	5.00		83.7	40-140			
Surrogate: 2-Bromonaphthalene	*4.32*		mg/Kg wet	5.00		86.3	40-140			
Surrogate: 2-Fluorobiphenyl	*4.55*		mg/Kg wet	5.00		91.1	40-140			
LCS (B142292-BS1)				Prepared: 02/17/16 Analyzed: 02/18/16						
Acenaphthene	3.34	0.10	mg/Kg wet	5.00		66.9	40-140			
Acenaphthylene	3.16	0.10	mg/Kg wet	5.00		63.2	40-140			
Anthracene	3.99	0.10	mg/Kg wet	5.00		79.9	40-140			
Benzo(a)anthracene	3.58	0.10	mg/Kg wet	5.00		71.5	40-140			
Benzo(a)pyrene	3.51	0.10	mg/Kg wet	5.00		70.1	40-140			
Benzo(b)fluoranthene	3.48	0.10	mg/Kg wet	5.00		69.7	40-140			
Benzo(g,h,i)perylene	3.41	0.10	mg/Kg wet	5.00		68.2	40-140			
Benzo(k)fluoranthene	3.54	0.10	mg/Kg wet	5.00		70.8	40-140			
Chrysene	3.63	0.10	mg/Kg wet	5.00		72.5	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B142292 - SW-846 3546										
LCS (B142292-BS1)				Prepared: 02/17/16 Analyzed: 02/18/16						
Dibenz(a,h)anthracene	3.67	0.10	mg/Kg wet	5.00		73.3	40-140			
Fluoranthene	3.56	0.10	mg/Kg wet	5.00		71.2	40-140			
Fluorene	3.35	0.10	mg/Kg wet	5.00		67.0	40-140			
Indeno(1,2,3-cd)pyrene	3.35	0.10	mg/Kg wet	5.00		67.0	40-140			
2-Methylnaphthalene	2.92	0.10	mg/Kg wet	5.00		58.4	40-140			
Naphthalene	2.81	0.10	mg/Kg wet	5.00		56.1	40-140			
Phenanthrene	3.51	0.10	mg/Kg wet	5.00		70.3	40-140			
Pyrene	3.57	0.10	mg/Kg wet	5.00		71.5	40-140			
n-Decane	2.20	0.10	mg/Kg wet	5.00		43.9	40-140			
n-Docosane	3.17	0.10	mg/Kg wet	5.00		63.5	40-140			
n-Dodecane	2.59	0.10	mg/Kg wet	5.00		51.8	40-140			
n-Eicosane	3.23	0.10	mg/Kg wet	5.00		64.6	40-140			
n-Hexacosane	3.29	0.10	mg/Kg wet	5.00		65.9	40-140			
n-Hexadecane	3.13	0.10	mg/Kg wet	5.00		62.6	40-140			
n-Hexatriacontane	3.29	0.10	mg/Kg wet	5.00		65.9	40-140			
n-Nonadecane	3.21	0.10	mg/Kg wet	5.00		64.2	40-140			
n-Nonane	1.69	0.10	mg/Kg wet	5.00		33.8	30-140			R-05
n-Octacosane	3.29	0.10	mg/Kg wet	5.00		65.9	40-140			
n-Octadecane	3.21	0.10	mg/Kg wet	5.00		64.3	40-140			
n-Tetracosane	3.52	0.10	mg/Kg wet	5.00		70.3	40-140			
n-Tetradecane	2.87	0.10	mg/Kg wet	5.00		57.3	40-140			
n-Triacontane	3.35	0.10	mg/Kg wet	5.00		67.0	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*2.87*		mg/Kg wet	4.99		57.4	40-140			
Surrogate: o-Terphenyl (OTP)	*3.60*		mg/Kg wet	5.00		72.1	40-140			
Surrogate: 2-Bromonaphthalene	*4.60*		mg/Kg wet	5.00		92.0	40-140			
Surrogate: 2-Fluorobiphenyl	*4.80*		mg/Kg wet	5.00		96.1	40-140			
LCS Dup (B142292-BSD1)				Prepared: 02/17/16 Analyzed: 02/18/16						
Acenaphthene	3.74	0.10	mg/Kg wet	5.00		74.7	40-140	11.1	25	
Acenaphthylene	3.54	0.10	mg/Kg wet	5.00		70.7	40-140	11.2	25	
Anthracene	4.44	0.10	mg/Kg wet	5.00		88.8	40-140	10.5	25	
Benzo(a)anthracene	3.96	0.10	mg/Kg wet	5.00		79.3	40-140	10.2	25	
Benzo(a)pyrene	3.90	0.10	mg/Kg wet	5.00		78.0	40-140	10.6	25	
Benzo(b)fluoranthene	3.87	0.10	mg/Kg wet	5.00		77.4	40-140	10.6	25	
Benzo(g,h,i)perylene	3.78	0.10	mg/Kg wet	5.00		75.5	40-140	10.2	25	
Benzo(k)fluoranthene	3.92	0.10	mg/Kg wet	5.00		78.4	40-140	10.3	25	
Chrysene	3.99	0.10	mg/Kg wet	5.00		79.8	40-140	9.59	25	
Dibenz(a,h)anthracene	4.03	0.10	mg/Kg wet	5.00		80.6	40-140	9.49	25	
Fluoranthene	3.95	0.10	mg/Kg wet	5.00		79.0	40-140	10.3	25	
Fluorene	3.75	0.10	mg/Kg wet	5.00		75.0	40-140	11.3	25	
Indeno(1,2,3-cd)pyrene	3.74	0.10	mg/Kg wet	5.00		74.7	40-140	10.9	25	
2-Methylnaphthalene	3.25	0.10	mg/Kg wet	5.00		65.0	40-140	10.6	25	
Naphthalene	3.18	0.10	mg/Kg wet	5.00		63.6	40-140	12.4	25	
Phenanthrene	3.91	0.10	mg/Kg wet	5.00		78.3	40-140	10.8	25	
Pyrene	3.96	0.10	mg/Kg wet	5.00		79.2	40-140	10.2	25	
n-Decane	2.82	0.10	mg/Kg wet	5.00		56.5	40-140	25.0	25	
n-Docosane	3.94	0.10	mg/Kg wet	5.00		78.8	40-140	21.5	25	
n-Dodecane	3.30	0.10	mg/Kg wet	5.00		66.1	40-140	24.2	25	
n-Eicosane	4.04	0.10	mg/Kg wet	5.00		80.9	40-140	22.3	25	
n-Hexacosane	4.11	0.10	mg/Kg wet	5.00		82.2	40-140	22.0	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes
Batch B142292 - SW-846 3546												
LCS Dup (B142292-BSD1)				Prepared: 02/17/16 Analyzed: 02/18/16								
n-Hexadecane	3.94	0.10	mg/Kg wet	5.00		78.9		40-140	23.0		25	
n-Hexatriacontane	4.14	0.10	mg/Kg wet	5.00		82.9		40-140	22.9		25	
n-Nonadecane	4.02	0.10	mg/Kg wet	5.00		80.5		40-140	22.5		25	
n-Nonane	2.19	0.10	mg/Kg wet	5.00		43.8		30-140	**25.8**	*	25	R-05
n-Octacosane	4.12	0.10	mg/Kg wet	5.00		82.4		40-140	22.2		25	
n-Octadecane	4.02	0.10	mg/Kg wet	5.00		80.4		40-140	22.3		25	
n-Tetracosane	4.40	0.10	mg/Kg wet	5.00		88.0		40-140	22.3		25	
n-Tetradecane	3.63	0.10	mg/Kg wet	5.00		72.7		40-140	23.6		25	
n-Triacontane	4.20	0.10	mg/Kg wet	5.00		84.1		40-140	22.6		25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5				
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5				
Surrogate: Chlorooctadecane (COD)	*3.54*		mg/Kg wet	4.99		70.9		40-140				
Surrogate: o-Terphenyl (OTP)	*3.93*		mg/Kg wet	5.00		78.6		40-140				
Surrogate: 2-Bromonaphthalene	*4.09*		mg/Kg wet	5.00		81.8		40-140				
Surrogate: 2-Fluorobiphenyl	*4.26*		mg/Kg wet	5.00		85.3		40-140				
Matrix Spike (B142292-MS1)		**Source: 16B0685-06**		Prepared: 02/17/16 Analyzed: 02/18/16								
C9-C18 Aliphatics	26.8	11	mg/Kg dry	32.0	10.6	50.5		40-140				
C19-C36 Aliphatics	43.2	11	mg/Kg dry	42.7	8.34	81.6		40-140				
Unadjusted C11-C22 Aromatics	112	11	mg/Kg dry	90.7	37.6	81.6		40-140				
Acenaphthene	3.40	0.11	mg/Kg dry	5.34	0.138	61.2		40-140				
Acenaphthylene	3.12	0.11	mg/Kg dry	5.34	0.0497	57.6		40-140				
Anthracene	4.42	0.11	mg/Kg dry	5.34	0.341	76.5		40-140				
Benzo(a)anthracene	4.81	0.11	mg/Kg dry	5.34	0.746	76.2		40-140				
Benzo(a)pyrene	4.52	0.11	mg/Kg dry	5.34	0.699	71.5		40-140				
Benzo(b)fluoranthene	4.82	0.11	mg/Kg dry	5.34	0.863	74.1		40-140				
Benzo(g,h,i)perylene	3.68	0.11	mg/Kg dry	5.34	0.409	61.3		40-140				
Benzo(k)fluoranthene	3.93	0.11	mg/Kg dry	5.34	0.319	67.7		40-140				
Chrysene	4.88	0.11	mg/Kg dry	5.34	0.802	76.3		40-140				
Dibenz(a,h)anthracene	3.53	0.11	mg/Kg dry	5.34	0.125	63.8		40-140				
Fluoranthene	6.21	0.11	mg/Kg dry	5.34	1.60	86.4		40-140				
Fluorene	3.52	0.11	mg/Kg dry	5.34	0.103	64.0		40-140				
Indeno(1,2,3-cd)pyrene	3.92	0.11	mg/Kg dry	5.34	0.498	64.2		40-140				
2-Methylnaphthalene	2.72	0.11	mg/Kg dry	5.34	0.00	50.9		40-140				
Naphthalene	2.50	0.11	mg/Kg dry	5.34	0.0947	45.1		40-140				
Phenanthrene	5.50	0.11	mg/Kg dry	5.34	1.40	76.8		40-140				
Pyrene	6.22	0.11	mg/Kg dry	5.34	1.57	87.1		40-140				
n-Nonane	1.55	0.11	mg/Kg dry	5.34	0.00	**29.0**	*	30-140				MS-09
Surrogate: Chlorooctadecane (COD)	*3.10*		mg/Kg dry	5.33		58.2		40-140				
Surrogate: o-Terphenyl (OTP)	*3.54*		mg/Kg dry	5.34		66.2		40-140				
Surrogate: 2-Bromonaphthalene	*4.55*		mg/Kg dry	5.34		85.3		40-140				
Surrogate: 2-Fluorobiphenyl	*4.74*		mg/Kg dry	5.34		88.8		40-140				

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B142292 - SW-846 3546											
Matrix Spike Dup (B142292-MSD1)		**Source: 16B0685-06**		Prepared: 02/17/16 Analyzed: 02/18/16							
C9-C18 Aliphatics	22.7	11	mg/Kg dry	32.0	10.6	**37.8**	*	40-140	16.4	50	MS-22
C19-C36 Aliphatics	32.5	11	mg/Kg dry	42.7	8.34	56.5		40-140	28.3	50	
Unadjusted C11-C22 Aromatics	85.4	11	mg/Kg dry	90.7	37.6	52.6		40-140	26.7	50	
Acenaphthene	2.67	0.11	mg/Kg dry	5.34	0.138	47.4		40-140	24.3	50	
Acenaphthylene	2.50	0.11	mg/Kg dry	5.34	0.0497	45.9		40-140	22.1	50	
Anthracene	3.43	0.11	mg/Kg dry	5.34	0.341	57.9		40-140	25.2	50	
Benzo(a)anthracene	3.63	0.11	mg/Kg dry	5.34	0.746	54.1		40-140	28.0	50	
Benzo(a)pyrene	3.43	0.11	mg/Kg dry	5.34	0.699	51.2		40-140	27.3	50	
Benzo(b)fluoranthene	3.65	0.11	mg/Kg dry	5.34	0.863	52.2		40-140	27.6	50	
Benzo(g,h,i)perylene	2.89	0.11	mg/Kg dry	5.34	0.409	46.4		40-140	24.1	50	
Benzo(k)fluoranthene	2.99	0.11	mg/Kg dry	5.34	0.319	50.1		40-140	27.2	50	
Chrysene	3.67	0.11	mg/Kg dry	5.34	0.802	53.7		40-140	28.3	50	
Dibenz(a,h)anthracene	2.75	0.11	mg/Kg dry	5.34	0.125	49.1		40-140	25.0	50	
Fluoranthene	4.89	0.11	mg/Kg dry	5.34	1.60	61.6		40-140	23.9	50	
Fluorene	2.73	0.11	mg/Kg dry	5.34	0.103	49.2		40-140	25.3	50	
Indeno(1,2,3-cd)pyrene	3.04	0.11	mg/Kg dry	5.34	0.498	47.7		40-140	25.3	50	
2-Methylnaphthalene	2.29	0.11	mg/Kg dry	5.34	0.00	43.0		40-140	16.8	50	
Naphthalene	2.20	0.11	mg/Kg dry	5.34	0.0947	**39.4**	*	40-140	13.0	50	MS-22
Phenanthrene	4.51	0.11	mg/Kg dry	5.34	1.40	58.3		40-140	19.7	50	
Pyrene	4.78	0.11	mg/Kg dry	5.34	1.57	60.1		40-140	26.3	50	
n-Nonane	1.30	0.11	mg/Kg dry	5.34	0.00	**24.3**	*	30-140	17.4	50	MS-09
Surrogate: Chlorooctadecane (COD)	*2.28*		mg/Kg dry	5.33		42.7		40-140			
Surrogate: o-Terphenyl (OTP)	*2.69*		mg/Kg dry	5.34		50.5		40-140			
Surrogate: 2-Bromonaphthalene	*4.17*		mg/Kg dry	5.34		78.2		40-140			
Surrogate: 2-Fluorobiphenyl	*4.40*		mg/Kg dry	5.34		82.5		40-140			
Batch B142509 - SW-846 3546											
Blank (B142509-BLK1)				Prepared: 02/19/16 Analyzed: 02/22/16							
C9-C18 Aliphatics	ND	10	mg/Kg wet								
C19-C36 Aliphatics	ND	10	mg/Kg wet								
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet								
C11-C22 Aromatics	ND	10	mg/Kg wet								
Acenaphthene	ND	0.10	mg/Kg wet								
Acenaphthylene	ND	0.10	mg/Kg wet								
Anthracene	ND	0.10	mg/Kg wet								
Benzo(a)anthracene	ND	0.10	mg/Kg wet								
Benzo(a)pyrene	ND	0.10	mg/Kg wet								
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet								
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet								
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet								
Chrysene	ND	0.10	mg/Kg wet								
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet								
Fluoranthene	ND	0.10	mg/Kg wet								
Fluorene	ND	0.10	mg/Kg wet								
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet								
2-Methylnaphthalene	ND	0.10	mg/Kg wet								
Naphthalene	ND	0.10	mg/Kg wet								
Phenanthrene	ND	0.10	mg/Kg wet								
Pyrene	ND	0.10	mg/Kg wet								
n-Decane	ND	0.10	mg/Kg wet								
n-Docosane	ND	0.10	mg/Kg wet								
n-Dodecane	ND	0.10	mg/Kg wet								

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B142509 - SW-846 3546										
Blank (B142509-BLK1)				Prepared: 02/19/16 Analyzed: 02/22/16						
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*3.05*		mg/Kg wet	4.99		61.1	40-140			
Surrogate: o-Terphenyl (OTP)	*3.42*		mg/Kg wet	5.00		68.4	40-140			
Surrogate: 2-Bromonaphthalene	*4.11*		mg/Kg wet	5.00		82.2	40-140			
Surrogate: 2-Fluorobiphenyl	*4.31*		mg/Kg wet	5.00		86.1	40-140			
LCS (B142509-BS1)				Prepared: 02/19/16 Analyzed: 02/22/16						
Acenaphthene	3.54	0.10	mg/Kg wet	5.00		70.9	40-140			
Acenaphthylene	3.33	0.10	mg/Kg wet	5.00		66.6	40-140			
Anthracene	4.05	0.10	mg/Kg wet	5.00		81.0	40-140			
Benzo(a)anthracene	3.75	0.10	mg/Kg wet	5.00		75.0	40-140			
Benzo(a)pyrene	3.69	0.10	mg/Kg wet	5.00		73.9	40-140			
Benzo(b)fluoranthene	3.71	0.10	mg/Kg wet	5.00		74.3	40-140			
Benzo(g,h,i)perylene	3.54	0.10	mg/Kg wet	5.00		70.9	40-140			
Benzo(k)fluoranthene	3.70	0.10	mg/Kg wet	5.00		74.0	40-140			
Chrysene	3.76	0.10	mg/Kg wet	5.00		75.1	40-140			
Dibenz(a,h)anthracene	3.80	0.10	mg/Kg wet	5.00		76.0	40-140			
Fluoranthene	3.80	0.10	mg/Kg wet	5.00		76.1	40-140			
Fluorene	3.52	0.10	mg/Kg wet	5.00		70.4	40-140			
Indeno(1,2,3-cd)pyrene	3.60	0.10	mg/Kg wet	5.00		72.1	40-140			
2-Methylnaphthalene	3.04	0.10	mg/Kg wet	5.00		60.8	40-140			
Naphthalene	2.91	0.10	mg/Kg wet	5.00		58.3	40-140			
Phenanthrene	3.77	0.10	mg/Kg wet	5.00		75.4	40-140			
Pyrene	3.80	0.10	mg/Kg wet	5.00		76.1	40-140			
n-Decane	2.58	0.10	mg/Kg wet	5.00		51.6	40-140			
n-Docosane	3.76	0.10	mg/Kg wet	5.00		75.1	40-140			
n-Dodecane	3.04	0.10	mg/Kg wet	5.00		60.8	40-140			
n-Eicosane	3.90	0.10	mg/Kg wet	5.00		77.9	40-140			
n-Hexacosane	3.97	0.10	mg/Kg wet	5.00		79.4	40-140			
n-Hexadecane	3.76	0.10	mg/Kg wet	5.00		75.3	40-140			
n-Hexatriacontane	3.87	0.10	mg/Kg wet	5.00		77.5	40-140			
n-Nonadecane	3.86	0.10	mg/Kg wet	5.00		77.1	40-140			
n-Nonane	2.03	0.10	mg/Kg wet	5.00		40.6	30-140			
n-Octacosane	3.97	0.10	mg/Kg wet	5.00		79.3	40-140			
n-Octadecane	3.86	0.10	mg/Kg wet	5.00		77.2	40-140			
n-Tetracosane	4.25	0.10	mg/Kg wet	5.00		85.1	40-140			
n-Tetradecane	3.44	0.10	mg/Kg wet	5.00		68.8	40-140			
n-Triacontane	4.01	0.10	mg/Kg wet	5.00		80.3	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B142509 - SW-846 3546										
LCS (B142509-BS1)				Prepared: 02/19/16 Analyzed: 02/22/16						
Surrogate: Chlorooctadecane (COD)	*3.48*		mg/Kg wet	4.99		69.8	40-140			
Surrogate: o-Terphenyl (OTP)	*3.86*		mg/Kg wet	5.00		77.2	40-140			
Surrogate: 2-Bromonaphthalene	*4.57*		mg/Kg wet	5.00		91.4	40-140			
Surrogate: 2-Fluorobiphenyl	*4.73*		mg/Kg wet	5.00		94.6	40-140			
LCS Dup (B142509-BSD1)				Prepared: 02/19/16 Analyzed: 02/22/16						
Acenaphthene	3.22	0.10	mg/Kg wet	5.00		64.3	40-140	9.73	25	
Acenaphthylene	3.11	0.10	mg/Kg wet	5.00		62.3	40-140	6.73	25	
Anthracene	3.84	0.10	mg/Kg wet	5.00		76.8	40-140	5.27	25	
Benzo(a)anthracene	3.63	0.10	mg/Kg wet	5.00		72.7	40-140	3.13	25	
Benzo(a)pyrene	3.57	0.10	mg/Kg wet	5.00		71.5	40-140	3.29	25	
Benzo(b)fluoranthene	3.56	0.10	mg/Kg wet	5.00		71.3	40-140	4.11	25	
Benzo(g,h,i)perylene	3.51	0.10	mg/Kg wet	5.00		70.1	40-140	1.02	25	
Benzo(k)fluoranthene	3.61	0.10	mg/Kg wet	5.00		72.1	40-140	2.58	25	
Chrysene	3.67	0.10	mg/Kg wet	5.00		73.5	40-140	2.26	25	
Dibenz(a,h)anthracene	3.72	0.10	mg/Kg wet	5.00		74.4	40-140	2.02	25	
Fluoranthene	3.63	0.10	mg/Kg wet	5.00		72.6	40-140	4.62	25	
Fluorene	3.28	0.10	mg/Kg wet	5.00		65.7	40-140	6.92	25	
Indeno(1,2,3-cd)pyrene	3.43	0.10	mg/Kg wet	5.00		68.6	40-140	5.02	25	
2-Methylnaphthalene	2.80	0.10	mg/Kg wet	5.00		56.0	40-140	8.18	25	
Naphthalene	2.67	0.10	mg/Kg wet	5.00		53.3	40-140	8.80	25	
Phenanthrene	3.56	0.10	mg/Kg wet	5.00		71.1	40-140	5.83	25	
Pyrene	3.64	0.10	mg/Kg wet	5.00		72.7	40-140	4.46	25	
n-Decane	2.41	0.10	mg/Kg wet	5.00		48.2	40-140	6.75	25	
n-Docosane	3.76	0.10	mg/Kg wet	5.00		75.2	40-140	0.0532	25	
n-Dodecane	2.87	0.10	mg/Kg wet	5.00		57.4	40-140	5.83	25	
n-Eicosane	3.82	0.10	mg/Kg wet	5.00		76.4	40-140	2.00	25	
n-Hexacosane	3.91	0.10	mg/Kg wet	5.00		78.1	40-140	1.66	25	
n-Hexadecane	3.62	0.10	mg/Kg wet	5.00		72.5	40-140	3.73	25	
n-Hexatriacontane	3.88	0.10	mg/Kg wet	5.00		77.7	40-140	0.240	25	
n-Nonadecane	3.76	0.10	mg/Kg wet	5.00		75.2	40-140	2.46	25	
n-Nonane	1.86	0.10	mg/Kg wet	5.00		37.3	30-140	8.48	25	
n-Octacosane	3.92	0.10	mg/Kg wet	5.00		78.4	40-140	1.22	25	
n-Octadecane	3.77	0.10	mg/Kg wet	5.00		75.4	40-140	2.27	25	
n-Tetracosane	4.16	0.10	mg/Kg wet	5.00		83.3	40-140	2.10	25	
n-Tetradecane	3.27	0.10	mg/Kg wet	5.00		65.5	40-140	5.05	25	
n-Triacontane	3.99	0.10	mg/Kg wet	5.00		79.7	40-140	0.680	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.40*		mg/Kg wet	4.99		68.2	40-140			
Surrogate: o-Terphenyl (OTP)	*3.65*		mg/Kg wet	5.00		73.0	40-140			
Surrogate: 2-Bromonaphthalene	*4.00*		mg/Kg wet	5.00		80.0	40-140			
Surrogate: 2-Fluorobiphenyl	*4.26*		mg/Kg wet	5.00		85.1	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B142328 - MA VPH										
Blank (B142328-BLK1)				Prepared & Analyzed: 02/17/16						
Unadjusted C5-C8 Aliphatics	ND	10	mg/Kg wet							
C5-C8 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C10 Aromatics	ND	10	mg/Kg wet							
Benzene	ND	0.050	mg/Kg wet							
Butylcyclohexane	ND	0.050	mg/Kg wet							
Decane	ND	0.050	mg/Kg wet							
Ethylbenzene	ND	0.050	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg wet							
2-Methylpentane	ND	0.050	mg/Kg wet							
Naphthalene	ND	0.25	mg/Kg wet							
Nonane	ND	0.050	mg/Kg wet							
Pentane	ND	0.050	mg/Kg wet							
Toluene	ND	0.050	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.050	mg/Kg wet							
2,2,4-Trimethylpentane	ND	0.050	mg/Kg wet							
m+p Xylene	ND	0.10	mg/Kg wet							
o-Xylene	ND	0.050	mg/Kg wet							
Surrogate: 2,5-Dibromotoluene (FID)	*0.0376*		mg/Kg wet	0.0400		94.0	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0372*		mg/Kg wet	0.0400		93.1	70-130			
LCS (B142328-BS1)				Prepared & Analyzed: 02/17/16						
Benzene	0.0987	0.0010	mg/Kg wet	0.100		98.7	70-130			
Butylcyclohexane	0.0834	0.0010	mg/Kg wet	0.100		83.4	70-130			
Decane	0.0958	0.0010	mg/Kg wet	0.100		95.8	70-130			
Ethylbenzene	0.100	0.0010	mg/Kg wet	0.100		100	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0987	0.0010	mg/Kg wet	0.100		98.7	70-130			
2-Methylpentane	0.100	0.0010	mg/Kg wet	0.100		100	70-130			
Naphthalene	0.102	0.0050	mg/Kg wet	0.100		102	70-130			
Nonane	0.0830	0.0010	mg/Kg wet	0.100		83.0	30-130			
Pentane	0.0948	0.0010	mg/Kg wet	0.100		94.8	70-130			
Toluene	0.0977	0.0010	mg/Kg wet	0.100		97.7	70-130			
1,2,4-Trimethylbenzene	0.110	0.0010	mg/Kg wet	0.100		110	70-130			
2,2,4-Trimethylpentane	0.0843	0.0010	mg/Kg wet	0.100		84.3	70-130			
m+p Xylene	0.209	0.0020	mg/Kg wet	0.200		105	70-130			
o-Xylene	0.103	0.0010	mg/Kg wet	0.100		103	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*0.0353*		mg/Kg wet	0.0400		88.1	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0337*		mg/Kg wet	0.0400		84.3	70-130			
LCS Dup (B142328-BSD1)				Prepared & Analyzed: 02/17/16						
Benzene	0.0967	0.0010	mg/Kg wet	0.100		96.7	70-130	2.06	25	
Butylcyclohexane	0.0817	0.0010	mg/Kg wet	0.100		81.7	70-130	2.07	25	
Decane	0.0923	0.0010	mg/Kg wet	0.100		92.3	70-130	3.66	25	
Ethylbenzene	0.0971	0.0010	mg/Kg wet	0.100		97.1	70-130	3.03	25	
Methyl tert-Butyl Ether (MTBE)	0.0994	0.0010	mg/Kg wet	0.100		99.4	70-130	0.769	25	
2-Methylpentane	0.0886	0.0010	mg/Kg wet	0.100		88.6	70-130	12.2	25	
Naphthalene	0.101	0.0050	mg/Kg wet	0.100		101	70-130	0.922	25	
Nonane	0.0828	0.0010	mg/Kg wet	0.100		82.8	30-130	0.221	25	
Pentane	0.0942	0.0010	mg/Kg wet	0.100		94.2	70-130	0.569	25	
Toluene	0.0952	0.0010	mg/Kg wet	0.100		95.2	70-130	2.59	25	
1,2,4-Trimethylbenzene	0.106	0.0010	mg/Kg wet	0.100		106	70-130	3.00	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B142328 - MA VPH										
LCS Dup (B142328-BSD1)				Prepared & Analyzed: 02/17/16						
2,2,4-Trimethylpentane	0.0786	0.0010	mg/Kg wet	0.100		78.6	70-130	7.02	25	
m+p Xylene	0.203	0.0020	mg/Kg wet	0.200		101	70-130	3.13	25	
o-Xylene	0.100	0.0010	mg/Kg wet	0.100		100	70-130	2.45	25	
Surrogate: 2,5-Dibromotoluene (FID)	*0.0340*		mg/Kg wet	0.0400		85.0	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0356*		mg/Kg wet	0.0400		89.0	70-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-09	Matrix spike recovery and/or matrix spike duplicate recovery outside of control limits. Possibility of sample matrix effects that lead to a low bias for reported result or non-homogeneous sample aliquots cannot be eliminated.
MS-22	Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.
O-01	Soil/methanol ratio does not meet method specifications. Excess amount of soil. Sample was completely covered with methanol, but with less than the method-specified amount.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,WA,ME,NH-P
C19-C36 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME,NH-P
C11-C22 Aromatics	CT,NC,WA,ME,NH-P
Acenaphthene	CT,NC,WA,ME,NH-P
Acenaphthylene	CT,NC,WA,ME,NH-P
Anthracene	CT,NC,WA,ME,NH-P
Benzo(a)anthracene	CT,NC,WA,ME,NH-P
Benzo(a)pyrene	CT,NC,WA,ME,NH-P
Benzo(b)fluoranthene	CT,NC,WA,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,WA,ME,NH-P
Benzo(k)fluoranthene	CT,NC,WA,ME,NH-P
Chrysene	CT,NC,WA,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,WA,ME,NH-P
Fluoranthene	CT,NC,WA,ME,NH-P
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME,NH-P
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME,NH-P
Phenanthrene	CT,NC,WA,ME,NH-P
Pyrene	CT,NC,WA,ME,NH-P
MADEP-VPH-04-1.1 in Soil	
Unadjusted C5-C8 Aliphatics	CT,NC,WA,ME,NH-P
C5-C8 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C9-C12 Aliphatics	CT,NC,WA,ME,NH-P
C9-C12 Aliphatics	CT,NC,WA,ME,NH-P
C9-C10 Aromatics	CT,NC,WA,ME,NH-P
Benzene	CT,NC,WA,ME,NH-P
Ethylbenzene	CT,NC,WA,ME,NH-P
Methyl tert-Butyl Ether (MTBE)	CT,NC,WA,ME,NH-P
Naphthalene	CT,NC,WA,ME,NH-P
Toluene	CT,NC,WA,ME,NH-P
m+p Xylene	CT,NC,WA,ME,NH-P
o-Xylene	CT,NC,WA,ME,NH-P

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

16B0685

Rev. 04.05.12

Company Name: GEC
Telephone: 781-356-9140
Address: 60 Brooke Dr
Project #: 1785-6070
Client PO#:
Attention:
Project Location:
Sampled By: A Foley

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #:
Email: afoley@golder
Format: ○ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes ____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPH w/ Targets (# of Containers: 6, ** Preservation: I, ***Container Code: A)	VPH w/ Targets (# of Containers: 6, ** Preservation: M, ***Container Code: A)
01	B-1 (0-5')	2/12/16	8:30		X	S	U	X	X
02	B-2 (2-5')		9:30						
03	B-3 (2-7')		10:30						
04	B-4 (2-5')		11:30						
05	B-5 (0-5')		12:15						
06	B-6 (0-4')		12:45						

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other ____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other ____

Relinquished by: (signature)	2/12/16	Date/Time: 17:00
Received by: (signature)	2/14	Date/Time: 1.-
Relinquished by: (signature)	2/14	Date/Time: 5:40
Received by: (signature)	2/16/16	Date/Time: 1740

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # ____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY**: JDL **DATE**: 2/16/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 4.6

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	6
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		SOC Kit	
40 mL Vial - type listed below	6	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials:	# HCl		# Methanol	6
Doc# 277	# Bisulfate		# DI Water	
Rev. 4 August 2013	# Thiosulfate		Unpreserved	

Time and Date Frozen:

Page 2 of 2

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JDL **2/16/16 1740**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name:	Con-Test Analytical Laboratory	Project #:	16B0685
Project Location:	NA	RTN:	

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16B0685-01 thru 16B0685-06

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A (X)	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

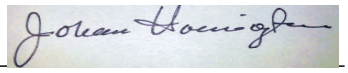
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature:  Position: Manager, Laboratory Reporting

Printed Name: Johanna K. Harrington Date: 02/23/16

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June 3, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16B1140

Enclosed are results of analyses for samples received by the laboratory on February 29, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 6/3/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16B1140

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SP-1	16B1140-01	Soil		SM 2540G	
				SM21-22 2510B Modified	
				SW-846 1030	
				SW-846 1311	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
				SW-846 8100 Modified	
				SW-846 8151A	
				SW-846 8270D	
				SW-846 9014	
				SW-846 9030A	
				SW-846 9045C	
SP-1	16B1140-02	Soil		SM 2540G	
				SW-846 8260C	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

REVISED REPORT 06/03/16 - TCLP Chromium requested and reported.

For method 8151, samples were derivatized on 03/03/16.

For method 8151, sample analysis bracketed by LCS to monitor esterification. All recoveries in the bracketing LCS met method criteria.

For method 6010 TCLP, only Pb was requested and reported.

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SW-846 8081B

Qualifications:

DL-04

Elevated reporting limit due to high concentration of an interfering analyte(s).

Analyte & Samples(s) Qualified:

16B1140-01[SP-1]

P-02

Sample RPD between primary and confirmatory analysis exceeded 40%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.

Analyte & Samples(s) Qualified:

Heptachlor Epoxide

16B1140-01[SP-1]

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Chlordane [2C]

B143191-BLK1

SW-846 8082A

Qualifications:

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl

16B1140-01[SP-1]

Decachlorobiphenyl [2C]

16B1140-01[SP-1]

Tetrachloro-m-xylene

16B1140-01[SP-1]

Tetrachloro-m-xylene [2C]

16B1140-01[SP-1]

SW-846 8100 Modified

Qualifications:

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

o-Terphenyl

16B1140-01[SP-1]

SW-846 8151A

Qualifications:

DL-03

Elevated reporting limit due to matrix.

Analyte & Samples(s) Qualified:

16B1140-01[SP-1]

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Dalapon

B143386-BS1

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S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

2,4-Dichlorophenylacetic acid
16B1140-01[SP-1]

2,4-Dichlorophenylacetic acid [2C]
16B1140-01[SP-1]

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Dinoseb
B143386-BLK1, B143386-BS1, B143386-BSD1

V-06

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Dalapon [2C]
B143386-BS1, B143386-BSD1

SW-846 8260C

Qualifications:

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
16B1140-02[SP-1], B143235-BLK1, B143235-BS1, B143235-BSD1

SW-846 8270D

Qualifications:

RL-05

Elevated reporting limit due to high concentration of target compounds. MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

16B1140-01[SP-1]

S-07

One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.

Analyte & Samples(s) Qualified:

2,4,6-Tribromophenol
16B1140-01[SP-1]

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Aniline
16B1140-01[SP-1], B143193-BLK1, B143193-BS1, B143193-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

3,3-Dichlorobenzidine
16B1140-01[SP-1], B143193-BLK1, B143193-BS1, B143193-BSD1

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SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

SW-846 8100 Modified

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for "difficult analytes" where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

SW-846 8270D

Laboratory control sample recoveries for required MCP Data Enhancement 8270 compounds were all within control limits specified by the method, 40-140% for base/neutrals and 30-130% for acids except for "difficult analytes" listed below and/or otherwise listed in this narrative. Difficult analytes limits are 15 and 140%: 2,4-dinitrophenol, 4-chloroaniline, 4-nitrophenol, and phenol.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16B1140
Date Received: 2/29/2016
Field Sample #: SP-1
Sampled: 2/29/2016 10:30
Sample ID: 16B1140-01
Sample Matrix: Soil
Sample Flags: RL-05

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	2.4	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Acenaphthylene	ND	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Acetophenone	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Aniline	ND	1.7	mg/Kg dry	2	V-05	SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Anthracene	5.3	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Benzo(a)anthracene	10	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Benzo(a)pyrene	8.0	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Benzo(b)fluoranthene	9.8	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Benzo(g,h,i)perylene	4.5	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Benzo(k)fluoranthene	3.9	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Bis(2-chloroethoxy)methane	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Bis(2-chloroethyl)ether	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Bis(2-chloroisopropyl)ether	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Bis(2-Ethylhexyl)phthalate	30	4.2	mg/Kg dry	5		SW-846 8270D	2/29/16	3/2/16 18:24	CMR
4-Bromophenylphenylether	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Butylbenzylphthalate	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
4-Chloroaniline	ND	3.3	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
2-Chloronaphthalene	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
2-Chlorophenol	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Chrysene	9.7	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Dibenz(a,h)anthracene	1.4	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Dibenzofuran	1.9	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Di-n-butylphthalate	5.6	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
1,2-Dichlorobenzene	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
1,3-Dichlorobenzene	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
1,4-Dichlorobenzene	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
3,3-Dichlorobenzidine	ND	0.85	mg/Kg dry	2	V-20	SW-846 8270D	2/29/16	3/1/16 14:27	CMR
2,4-Dichlorophenol	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Diethylphthalate	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
2,4-Dimethylphenol	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Dimethylphthalate	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
2,4-Dinitrophenol	ND	3.3	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
2,4-Dinitrotoluene	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
2,6-Dinitrotoluene	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Di-n-octylphthalate	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
1,2-Diphenylhydrazine (as Azobenzene)	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Fluoranthene	22	2.1	mg/Kg dry	5		SW-846 8270D	2/29/16	3/2/16 18:24	CMR
Fluorene	2.8	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Hexachlorobenzene	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Hexachlorobutadiene	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Hexachloroethane	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Indeno(1,2,3-cd)pyrene	5.1	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Isophorone	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
2-Methylnaphthalene	0.93	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16B1140

Date Received: 2/29/2016

Field Sample #: SP-1 | Sampled: 2/29/2016 10:30

Sample ID: 16B1140-01

Sample Matrix: Soil

Sample Flags: RL-05

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
3/4-Methylphenol	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Naphthalene	1.6	0.85	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Nitrobenzene	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
2-Nitrophenol	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
4-Nitrophenol	ND	3.3	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Pentachlorophenol	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Phenanthrene	24	2.1	mg/Kg dry	5		SW-846 8270D	2/29/16	3/2/16 18:24	CMR
Phenol	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
Pyrene	23	2.1	mg/Kg dry	5		SW-846 8270D	2/29/16	3/2/16 18:24	CMR
Pyridine	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
1,2,4-Trichlorobenzene	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
2,4,5-Trichlorophenol	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR
2,4,6-Trichlorophenol	ND	1.7	mg/Kg dry	2		SW-846 8270D	2/29/16	3/1/16 14:27	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	32.1	30-130		3/1/16 14:27
Phenol-d6	33.0	30-130		3/1/16 14:27
Nitrobenzene-d5	38.9	30-130		3/1/16 14:27
2-Fluorobiphenyl	36.0	30-130		3/1/16 14:27
2,4,6-Tribromophenol	**26.3** *	30-130	S-07	3/1/16 14:27
p-Terphenyl-d14	40.2	30-130		3/1/16 14:27

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16B1140
Date Received: 2/29/2016
Field Sample #: SP-1
Sampled: 2/29/2016 10:30
Sample ID: 16B1140-01
Sample Matrix: Soil
Sample Flags: DL-04

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
alpha-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
beta-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
delta-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
gamma-BHC (Lindane) [1]	ND	0.049	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
Chlordane [1]	ND	0.49	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
4,4'-DDD [1]	ND	0.099	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
4,4'-DDE [1]	ND	0.099	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
4,4'-DDT [1]	ND	0.099	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
Dieldrin [1]	ND	0.099	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
Endosulfan I [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
Endosulfan II [1]	ND	0.20	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
Endosulfan sulfate [1]	ND	0.20	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
Endrin [1]	ND	0.20	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
Endrin ketone [1]	ND	0.20	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
Heptachlor [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
Heptachlor epoxide [1]	0.29	0.12	mg/Kg dry	20	P-02	SW-846 8081B	2/29/16	3/4/16 13:40	JMB
Hexachlorobenzene [1]	ND	0.15	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB
Methoxychlor [1]	ND	1.2	mg/Kg dry	20		SW-846 8081B	2/29/16	3/4/16 13:40	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	134	30-150		3/4/16 13:40
Decachlorobiphenyl [2]	136	30-150		3/4/16 13:40
Tetrachloro-m-xylene [1]	62.9	30-150		3/4/16 13:40
Tetrachloro-m-xylene [2]	71.5	30-150		3/4/16 13:40

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16B1140
Date Received: 2/29/2016
Field Sample #: SP-1
Sampled: 2/29/2016 10:30
Sample ID: 16B1140-01
Sample Matrix: Soil

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	12	mg/Kg dry	500		SW-846 8082A	2/29/16	3/3/16 11:08	BJH
Aroclor-1221 [1]	ND	12	mg/Kg dry	500		SW-846 8082A	2/29/16	3/3/16 11:08	BJH
Aroclor-1232 [1]	ND	12	mg/Kg dry	500		SW-846 8082A	2/29/16	3/3/16 11:08	BJH
Aroclor-1242 [1]	ND	12	mg/Kg dry	500		SW-846 8082A	2/29/16	3/3/16 11:08	BJH
Aroclor-1248 [1]	ND	12	mg/Kg dry	500		SW-846 8082A	2/29/16	3/3/16 11:08	BJH
Aroclor-1254 [2]	63	12	mg/Kg dry	500		SW-846 8082A	2/29/16	3/3/16 11:08	BJH
Aroclor-1260 [1]	ND	12	mg/Kg dry	500		SW-846 8082A	2/29/16	3/3/16 11:08	BJH
Aroclor-1262 [1]	ND	12	mg/Kg dry	500		SW-846 8082A	2/29/16	3/3/16 11:08	BJH
Aroclor-1268 [1]	ND	12	mg/Kg dry	500		SW-846 8082A	2/29/16	3/3/16 11:08	BJH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/3/16 11:08
Decachlorobiphenyl [2]	*	30-150	S-01	3/3/16 11:08
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/3/16 11:08
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/3/16 11:08

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16B1140
Date Received: 2/29/2016
Field Sample #: SP-1
Sampled: 2/29/2016 10:30
Sample ID: 16B1140-01
Sample Matrix: Soil
Sample Flags: DL-03

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	310	µg/kg dry	10		SW-846 8151A	3/2/16	3/4/16 19:29	JMB
2,4-DB [1]	ND	310	µg/kg dry	10		SW-846 8151A	3/2/16	3/4/16 19:29	JMB
2,4,5-TP (Silvex) [1]	ND	31	µg/kg dry	10		SW-846 8151A	3/2/16	3/4/16 19:29	JMB
2,4,5-T [1]	ND	31	µg/kg dry	10		SW-846 8151A	3/2/16	3/4/16 19:29	JMB
Dalalpon [1]	ND	770	µg/kg dry	10		SW-846 8151A	3/2/16	3/4/16 19:29	JMB
Dicamba [1]	ND	31	µg/kg dry	10		SW-846 8151A	3/2/16	3/4/16 19:29	JMB
Dichloroprop [1]	ND	310	µg/kg dry	10		SW-846 8151A	3/2/16	3/4/16 19:29	JMB
Dinoseb [1]	ND	150	µg/kg dry	10		SW-846 8151A	3/2/16	3/4/16 19:29	JMB
MCPA [1]	ND	31000	µg/kg dry	10		SW-846 8151A	3/2/16	3/4/16 19:29	JMB
MCPP [1]	ND	31000	µg/kg dry	10		SW-846 8151A	3/2/16	3/4/16 19:29	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	*	30-150	S-01	3/4/16 19:29
2,4-Dichlorophenylacetic acid [2]	*	30-150	S-01	3/4/16 19:29

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16B1140
Date Received: 2/29/2016
Field Sample #: SP-1
Sampled: 2/29/2016 10:30
Sample ID: 16B1140-01
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	3800	1000	mg/Kg dry	50		SW-846 8100 Modified	3/1/16	3/2/16 21:05	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
o-Terphenyl	*	40-140	S-01	3/2/16 21:05

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Project Location: Lowell
Sample Description:
Work Order: 16B1140

Date Received: 2/29/2016

Field Sample #: SP-1
Sampled: 2/29/2016 10:30

Sample ID: 16B1140-01

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	3.1	mg/Kg dry	1		SW-846 6010C-D	3/1/16	3/3/16 1:00	AME
Arsenic	23	3.1	mg/Kg dry	1		SW-846 6010C-D	3/1/16	3/3/16 1:00	AME
Barium	800	3.1	mg/Kg dry	1		SW-846 6010C-D	3/1/16	3/3/16 1:00	AME
Beryllium	14	0.31	mg/Kg dry	1		SW-846 6010C-D	3/1/16	3/3/16 1:00	AME
Cadmium	3.9	0.31	mg/Kg dry	1		SW-846 6010C-D	3/1/16	3/3/16 1:00	AME
Chromium	160	0.62	mg/Kg dry	1		SW-846 6010C-D	3/1/16	3/3/16 1:00	AME
Lead	2400	0.94	mg/Kg dry	1		SW-846 6010C-D	3/1/16	3/3/16 1:00	AME
Mercury	0.43	0.030	mg/Kg dry	1		SW-846 7471B	3/1/16	3/4/16 14:20	SCB
Nickel	240	0.62	mg/Kg dry	1		SW-846 6010C-D	3/1/16	3/3/16 1:00	AME
Selenium	ND	6.2	mg/Kg dry	1		SW-846 6010C-D	3/1/16	3/3/16 1:00	AME
Silver	ND	0.62	mg/Kg dry	1		SW-846 6010C-D	3/1/16	3/3/16 1:00	AME
Thallium	ND	3.1	mg/Kg dry	1		SW-846 6010C-D	3/1/16	3/3/16 1:00	AME
Vanadium	3500	1.2	mg/Kg dry	1		SW-846 6010C-D	3/1/16	3/3/16 1:00	AME
Zinc	1100	1.2	mg/Kg dry	1		SW-846 6010C-D	3/1/16	3/3/16 1:00	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16B1140

Date Received: 2/29/2016

Field Sample #: SP-1
Sampled: 2/29/2016 10:30

Sample ID: 16B1140-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ignitability	Absent		present/absent	1		SW-846 1030	3/2/16	3/2/16 13:00	AG
pH @20.4°C	6.9		pH Units	1		SW-846 9045C	3/1/16	3/1/16 7:50	LL
Reactive Cyanide	ND	3.9	mg/Kg	1		SW-846 9014	3/1/16	3/1/16 19:55	DJM
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	3/1/16	3/1/16 18:20	DJM
Specific conductance	35	2.0	µmhos/cm	1		SM21-22 2510B Modified	3/2/16	3/2/16 13:10	AG
% Solids	80.2		% Wt	1		SM 2540G	2/29/16	3/1/16 8:05	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16B1140

Date Received: 2/29/2016

Field Sample #: SP-1
Sampled: 2/29/2016 10:30

Sample ID: 16B1140-01

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cadmium	0.025	0.0040	mg/L	1		SW-846 6010C-D	3/2/16	3/6/16 18:08	AME
Chromium	0.012	0.010	mg/L	1		SW-846 6010C-D	3/2/16	3/6/16 18:08	AME
Lead	0.78	0.010	mg/L	1		SW-846 6010C-D	3/2/16	3/6/16 18:08	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16B1140
Date Received: 2/29/2016
Field Sample #: SP-1
Sampled: 2/29/2016 10:30
Sample ID: 16B1140-02
Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Benzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Bromobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Bromochloromethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Bromodichloromethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Bromoform	ND	0.0089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Bromomethane	ND	0.0089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
2-Butanone (MEK)	ND	0.036	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
n-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
sec-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
tert-Butylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Carbon Disulfide	ND	0.0053	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Carbon Tetrachloride	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Chlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Chlorodibromomethane	ND	0.00089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Chloroethane	ND	0.0089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Chloroform	ND	0.0036	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Chloromethane	ND	0.0089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
2-Chlorotoluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
4-Chlorotoluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0036	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,2-Dibromoethane (EDB)	ND	0.00089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Dibromomethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,2-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,3-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,4-Dichlorobenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,1-Dichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,2-Dichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,1-Dichloroethylene	ND	0.0036	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
cis-1,2-Dichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
trans-1,2-Dichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,2-Dichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,3-Dichloropropane	ND	0.00089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
2,2-Dichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,1-Dichloropropene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
cis-1,3-Dichloropropene	ND	0.00089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
trans-1,3-Dichloropropene	ND	0.0036	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Diethyl Ether	ND	0.0089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Diisopropyl Ether (DIPE)	ND	0.00089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,4-Dioxane	ND	0.089	mg/Kg dry	1	V-16	SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Ethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16B1140
Date Received: 2/29/2016
Field Sample #: SP-1
Sampled: 2/29/2016 10:30
Sample ID: 16B1140-02
Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
2-Hexanone (MBK)	ND	0.018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Isopropylbenzene (Cumene)	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0036	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Methylene Chloride	ND	0.0089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Naphthalene	ND	0.0089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
n-Propylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Styrene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,1,1,2-Tetrachloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,1,2,2-Tetrachloroethane	ND	0.00089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Tetrachloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Tetrahydrofuran	ND	0.0089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Toluene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,2,3-Trichlorobenzene	ND	0.0036	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,2,4-Trichlorobenzene	ND	0.0036	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,1,1-Trichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,1,2-Trichloroethane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Trichloroethylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,2,3-Trichloropropane	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,2,4-Trimethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
1,3,5-Trimethylbenzene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
Vinyl Chloride	ND	0.0089	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
m+p Xylene	ND	0.0036	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF
o-Xylene	ND	0.0018	mg/Kg dry	1		SW-846 8260C	3/1/16	3/1/16 10:02	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	105	70-130		3/1/16 10:02
Toluene-d8	94.5	70-130		3/1/16 10:02
4-Bromofluorobenzene	96.0	70-130		3/1/16 10:02

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16B1140

Date Received: 2/29/2016

Field Sample #: SP-1
Sampled: 2/29/2016 10:30

Sample ID: 16B1140-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.2		% Wt	1		SM 2540G	3/2/16	3/2/16 11:21	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16B1140-01 [SP-1]	B143185	02/29/16
16B1140-02 [SP-1]	B143185	03/02/16

SM21-22 2510B Modified

Lab Number [Field ID]	Batch	Initial [g]	Date
16B1140-01 [SP-1]	B143346	1.00	03/02/16

SW-846 1030

Lab Number [Field ID]	Batch	Initial [g]	Date
16B1140-01 [SP-1]	B143332	50.0	03/02/16

Prep Method: SW-846 3050B-SW-846 6010C-D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16B1140-01 [SP-1]	B143246	1.00	50.0	03/01/16

Prep Method: SW-846 3010A-SW-846 6010C-D **Leachates were extracted on 3/1/2016 per SW-846 1311 in Batch B143215**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16B1140-01 [SP-1]	B143342	50.0	50.0	03/02/16

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16B1140-01 [SP-1]	B143249	0.621	50.0	03/01/16

Prep Method: SW-846 3546-SW-846 8081B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16B1140-01 [SP-1]	B143191	10.1	10.0	02/29/16

Prep Method: SW-846 3546-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16B1140-01 [SP-1]	B143192	10.1	10.0	02/29/16

Prep Method: SW-846 3546-SW-846 8100 Modified

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16B1140-01 [SP-1]	B143282	30.1	2.00	03/01/16

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Sample Extraction Data

Prep Method: SW-846 8151-SW-846 8151A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16B1140-01 [SP-1]	B143386	20.2	5.00	03/02/16

Prep Method: SW-846 5035-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16B1140-02 [SP-1]	B143235	7.01	10.0	03/01/16

Prep Method: SW-846 3546-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16B1140-01 [SP-1]	B143193	30.0	2.00	02/29/16
16B1140-01RE1 [SP-1]	B143193	30.0	2.00	02/29/16

SW-846 9014

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16B1140-01 [SP-1]	B143230	25.3	250	03/01/16

SW-846 9030A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16B1140-01 [SP-1]	B143231	25.3	250	03/01/16

SW-846 9045C

Lab Number [Field ID]	Batch	Initial [g]	Date
16B1140-01 [SP-1]	B143211	20.0	03/01/16

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143235 - SW-846 5035										
Blank (B143235-BLK1)				Prepared & Analyzed: 03/01/16						
Acetone	ND	0.10	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.010	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0040	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0040	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							V-16
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.010	mg/Kg wet							

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B143235 - SW-846 5035											
Blank (B143235-BLK1)				Prepared & Analyzed: 03/01/16							
n-Propylbenzene	ND	0.0020	mg/Kg wet								
Styrene	ND	0.0020	mg/Kg wet								
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet								
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet								
Tetrachloroethylene	ND	0.0020	mg/Kg wet								
Tetrahydrofuran	ND	0.010	mg/Kg wet								
Toluene	ND	0.0020	mg/Kg wet								
1,2,3-Trichlorobenzene	ND	0.0040	mg/Kg wet								
1,2,4-Trichlorobenzene	ND	0.0040	mg/Kg wet								
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet								
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet								
Trichloroethylene	ND	0.0020	mg/Kg wet								
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet								
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet								
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet								
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet								
Vinyl Chloride	ND	0.010	mg/Kg wet								
m+p Xylene	ND	0.0040	mg/Kg wet								
o-Xylene	ND	0.0020	mg/Kg wet								
Surrogate: 1,2-Dichloroethane-d4	*0.0442*		mg/Kg wet	0.0500		88.4	70-130				
Surrogate: Toluene-d8	*0.0486*		mg/Kg wet	0.0500		97.2	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0502*		mg/Kg wet	0.0500		100	70-130				
LCS (B143235-BS1)				Prepared & Analyzed: 03/01/16							
Acetone	0.227	0.10	mg/Kg wet	0.200		113	40-160				†
tert-Amyl Methyl Ether (TAME)	0.0190	0.0010	mg/Kg wet	0.0200		94.9	70-130				
Benzene	0.0190	0.0020	mg/Kg wet	0.0200		94.8	70-130				
Bromobenzene	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130				
Bromochloromethane	0.0193	0.0020	mg/Kg wet	0.0200		96.3	70-130				
Bromodichloromethane	0.0198	0.0020	mg/Kg wet	0.0200		98.8	70-130				
Bromoform	0.0203	0.010	mg/Kg wet	0.0200		102	70-130				
Bromomethane	0.00888	0.010	mg/Kg wet	0.0200		44.4	40-160			L-14	†
2-Butanone (MEK)	0.193	0.040	mg/Kg wet	0.200		96.5	40-160				†
n-Butylbenzene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130				
sec-Butylbenzene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130				
tert-Butylbenzene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130				
tert-Butyl Ethyl Ether (TBEE)	0.0194	0.0010	mg/Kg wet	0.0200		97.0	70-130				
Carbon Disulfide	0.0160	0.0060	mg/Kg wet	0.0200		80.0	70-130				
Carbon Tetrachloride	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130				
Chlorobenzene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130				
Chlorodibromomethane	0.0204	0.0010	mg/Kg wet	0.0200		102	70-130				
Chloroethane	0.0171	0.010	mg/Kg wet	0.0200		85.5	70-130				
Chloroform	0.0191	0.0040	mg/Kg wet	0.0200		95.4	70-130				
Chloromethane	0.0116	0.010	mg/Kg wet	0.0200		58.2	40-160			L-14	†
2-Chlorotoluene	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130				
4-Chlorotoluene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0161	0.0040	mg/Kg wet	0.0200		80.7	70-130				
1,2-Dibromoethane (EDB)	0.0205	0.0010	mg/Kg wet	0.0200		102	70-130				
Dibromomethane	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130				
1,2-Dichlorobenzene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130				
1,3-Dichlorobenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130				
1,4-Dichlorobenzene	0.0199	0.0020	mg/Kg wet	0.0200		99.7	70-130				

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B143235 - SW-846 5035											
LCS (B143235-BS1)				Prepared & Analyzed: 03/01/16							
Dichlorodifluoromethane (Freon 12)	0.00906	0.010	mg/Kg wet	0.0200		45.3	40-160			L-14	†
1,1-Dichloroethane	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130				
1,2-Dichloroethane	0.0185	0.0020	mg/Kg wet	0.0200		92.6	70-130				
1,1-Dichloroethylene	0.0165	0.0040	mg/Kg wet	0.0200		82.6	70-130				
cis-1,2-Dichloroethylene	0.0182	0.0020	mg/Kg wet	0.0200		90.8	70-130				
trans-1,2-Dichloroethylene	0.0180	0.0020	mg/Kg wet	0.0200		90.1	70-130				
1,2-Dichloropropane	0.0195	0.0020	mg/Kg wet	0.0200		97.7	70-130				
1,3-Dichloropropane	0.0187	0.0010	mg/Kg wet	0.0200		93.6	70-130				
2,2-Dichloropropane	0.0190	0.0020	mg/Kg wet	0.0200		95.0	70-130				
1,1-Dichloropropene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130				
cis-1,3-Dichloropropene	0.0183	0.0010	mg/Kg wet	0.0200		91.5	70-130				
trans-1,3-Dichloropropene	0.0184	0.0040	mg/Kg wet	0.0200		92.1	70-130				
Diethyl Ether	0.0177	0.010	mg/Kg wet	0.0200		88.7	70-130				
Diisopropyl Ether (DIPE)	0.0170	0.0010	mg/Kg wet	0.0200		85.0	70-130				
1,4-Dioxane	0.182	0.10	mg/Kg wet	0.200		90.9	40-160			V-16	†
Ethylbenzene	0.0222	0.0020	mg/Kg wet	0.0200		111	70-130				
Hexachlorobutadiene	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130				
2-Hexanone (MBK)	0.187	0.020	mg/Kg wet	0.200		93.5	40-160				†
Isopropylbenzene (Cumene)	0.0231	0.0020	mg/Kg wet	0.0200		116	70-130				
p-Isopropyltoluene (p-Cymene)	0.0217	0.0020	mg/Kg wet	0.0200		109	70-130				
Methyl tert-Butyl Ether (MTBE)	0.0193	0.0040	mg/Kg wet	0.0200		96.3	70-130				
Methylene Chloride	0.0156	0.010	mg/Kg wet	0.0200		77.8	70-130				
4-Methyl-2-pentanone (MIBK)	0.171	0.020	mg/Kg wet	0.200		85.7	40-160				†
Naphthalene	0.0168	0.010	mg/Kg wet	0.0200		83.9	70-130				
n-Propylbenzene	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130				
Styrene	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130				
1,1,1,2-Tetrachloroethane	0.0231	0.0020	mg/Kg wet	0.0200		116	70-130				
1,1,2,2-Tetrachloroethane	0.0208	0.0010	mg/Kg wet	0.0200		104	70-130				
Tetrachloroethylene	0.0230	0.0020	mg/Kg wet	0.0200		115	70-130				
Tetrahydrofuran	0.0167	0.010	mg/Kg wet	0.0200		83.3	70-130				
Toluene	0.0189	0.0020	mg/Kg wet	0.0200		94.5	70-130				
1,2,3-Trichlorobenzene	0.0180	0.0040	mg/Kg wet	0.0200		89.9	70-130				
1,2,4-Trichlorobenzene	0.0179	0.0040	mg/Kg wet	0.0200		89.4	70-130				
1,1,1-Trichloroethane	0.0199	0.0020	mg/Kg wet	0.0200		99.3	70-130				
1,1,2-Trichloroethane	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130				
Trichloroethylene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130				
Trichlorofluoromethane (Freon 11)	0.0164	0.010	mg/Kg wet	0.0200		82.2	70-130				
1,2,3-Trichloropropane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130				
1,2,4-Trimethylbenzene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130				
1,3,5-Trimethylbenzene	0.0233	0.0020	mg/Kg wet	0.0200		117	70-130				
Vinyl Chloride	0.0142	0.010	mg/Kg wet	0.0200		70.8	70-130				
m+p Xylene	0.0429	0.0040	mg/Kg wet	0.0400		107	70-130				
o-Xylene	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130				
Surrogate: 1,2-Dichloroethane-d4	*0.0453*		mg/Kg wet	0.0500		90.6	70-130				
Surrogate: Toluene-d8	*0.0483*		mg/Kg wet	0.0500		96.7	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0515*		mg/Kg wet	0.0500		103	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B143235 - SW-846 5035											
LCS Dup (B143235-BSD1)				Prepared & Analyzed: 03/01/16							
Acetone	0.207	0.10	mg/Kg wet	0.200		104	40-160	8.94	20		†
tert-Amyl Methyl Ether (TAME)	0.0186	0.0010	mg/Kg wet	0.0200		92.9	70-130	2.13	20		
Benzene	0.0189	0.0020	mg/Kg wet	0.0200		94.3	70-130	0.529	20		
Bromobenzene	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130	2.10	20		
Bromochloromethane	0.0193	0.0020	mg/Kg wet	0.0200		96.4	70-130	0.104	20		
Bromodichloromethane	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130	2.67	20		
Bromoform	0.0197	0.010	mg/Kg wet	0.0200		98.7	70-130	2.80	20		
Bromomethane	0.0100	0.010	mg/Kg wet	0.0200		50.2	40-160	12.3	20	L-14	†
2-Butanone (MEK)	0.177	0.040	mg/Kg wet	0.200		88.7	40-160	8.38	20		†
n-Butylbenzene	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130	0.569	20		
sec-Butylbenzene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130	3.65	20		
tert-Butylbenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	0.288	20		
tert-Butyl Ethyl Ether (TBEE)	0.0190	0.0010	mg/Kg wet	0.0200		94.9	70-130	2.19	20		
Carbon Disulfide	0.0159	0.0060	mg/Kg wet	0.0200		79.6	70-130	0.501	20		
Carbon Tetrachloride	0.0200	0.0020	mg/Kg wet	0.0200		99.9	70-130	1.39	20		
Chlorobenzene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	1.95	20		
Chlorodibromomethane	0.0193	0.0010	mg/Kg wet	0.0200		96.5	70-130	5.35	20		
Chloroethane	0.0164	0.010	mg/Kg wet	0.0200		82.0	70-130	4.18	20		
Chloroform	0.0186	0.0040	mg/Kg wet	0.0200		92.9	70-130	2.66	20		
Chloromethane	0.0119	0.010	mg/Kg wet	0.0200		59.7	40-160	2.54	20	L-14	†
2-Chlorotoluene	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130	3.53	20		
4-Chlorotoluene	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130	1.74	20		
1,2-Dibromo-3-chloropropane (DBCP)	0.0154	0.0040	mg/Kg wet	0.0200		77.0	70-130	4.69	20		
1,2-Dibromoethane (EDB)	0.0202	0.0010	mg/Kg wet	0.0200		101	70-130	1.08	20		
Dibromomethane	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130	0.290	20		
1,2-Dichlorobenzene	0.0199	0.0020	mg/Kg wet	0.0200		99.3	70-130	1.99	20		
1,3-Dichlorobenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.7	70-130	2.40	20		
1,4-Dichlorobenzene	0.0194	0.0020	mg/Kg wet	0.0200		97.0	70-130	2.75	20		
Dichlorodifluoromethane (Freon 12)	0.00926	0.010	mg/Kg wet	0.0200		46.3	40-160	2.18	20	L-14	†
1,1-Dichloroethane	0.0188	0.0020	mg/Kg wet	0.0200		93.8	70-130	2.53	20		
1,2-Dichloroethane	0.0192	0.0020	mg/Kg wet	0.0200		96.0	70-130	3.61	20		
1,1-Dichloroethylene	0.0163	0.0040	mg/Kg wet	0.0200		81.4	70-130	1.46	20		
cis-1,2-Dichloroethylene	0.0172	0.0020	mg/Kg wet	0.0200		86.0	70-130	5.43	20		
trans-1,2-Dichloroethylene	0.0179	0.0020	mg/Kg wet	0.0200		89.4	70-130	0.780	20		
1,2-Dichloropropane	0.0195	0.0020	mg/Kg wet	0.0200		97.4	70-130	0.308	20		
1,3-Dichloropropane	0.0190	0.0010	mg/Kg wet	0.0200		95.1	70-130	1.59	20		
2,2-Dichloropropane	0.0188	0.0020	mg/Kg wet	0.0200		94.0	70-130	1.06	20		
1,1-Dichloropropene	0.0197	0.0020	mg/Kg wet	0.0200		98.5	70-130	2.11	20		
cis-1,3-Dichloropropene	0.0185	0.0010	mg/Kg wet	0.0200		92.7	70-130	1.30	20		
trans-1,3-Dichloropropene	0.0181	0.0040	mg/Kg wet	0.0200		90.4	70-130	1.86	20		
Diethyl Ether	0.0181	0.010	mg/Kg wet	0.0200		90.3	70-130	1.79	20		
Diisopropyl Ether (DIPE)	0.0168	0.0010	mg/Kg wet	0.0200		84.1	70-130	1.06	20		
1,4-Dioxane	0.169	0.10	mg/Kg wet	0.200		84.7	40-160	6.98	20	V-16	†
Ethylbenzene	0.0217	0.0020	mg/Kg wet	0.0200		108	70-130	2.37	20		
Hexachlorobutadiene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	2.40	20		
2-Hexanone (MBK)	0.177	0.020	mg/Kg wet	0.200		88.5	40-160	5.56	20		†
Isopropylbenzene (Cumene)	0.0225	0.0020	mg/Kg wet	0.0200		112	70-130	2.72	20		
p-Isopropyltoluene (p-Cymene)	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	0.461	20		
Methyl tert-Butyl Ether (MTBE)	0.0192	0.0040	mg/Kg wet	0.0200		96.2	70-130	0.104	20		
Methylene Chloride	0.0155	0.010	mg/Kg wet	0.0200		77.4	70-130	0.515	20		
4-Methyl-2-pentanone (MIBK)	0.168	0.020	mg/Kg wet	0.200		83.9	40-160	2.12	20		†
Naphthalene	0.0156	0.010	mg/Kg wet	0.0200		77.8	70-130	7.54	20		

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QUALITY CONTROL

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143235 - SW-846 5035										
LCS Dup (B143235-BSD1)				Prepared & Analyzed: 03/01/16						
n-Propylbenzene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	3.54	20	
Styrene	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130	2.08	20	
1,1,1,2-Tetrachloroethane	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130	2.01	20	
1,1,2,2-Tetrachloroethane	0.0203	0.0010	mg/Kg wet	0.0200		101	70-130	2.53	20	
Tetrachloroethylene	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130	1.49	20	
Tetrahydrofuran	0.0175	0.010	mg/Kg wet	0.0200		87.7	70-130	5.15	20	
Toluene	0.0188	0.0020	mg/Kg wet	0.0200		93.8	70-130	0.743	20	
1,2,3-Trichlorobenzene	0.0175	0.0040	mg/Kg wet	0.0200		87.6	70-130	2.59	20	
1,2,4-Trichlorobenzene	0.0177	0.0040	mg/Kg wet	0.0200		88.5	70-130	1.01	20	
1,1,1-Trichloroethane	0.0190	0.0020	mg/Kg wet	0.0200		95.0	70-130	4.43	20	
1,1,2-Trichloroethane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	2.13	20	
Trichloroethylene	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130	0.893	20	
Trichlorofluoromethane (Freon 11)	0.0166	0.010	mg/Kg wet	0.0200		83.1	70-130	1.09	20	
1,2,3-Trichloropropane	0.0194	0.0020	mg/Kg wet	0.0200		97.2	70-130	4.72	20	
1,2,4-Trimethylbenzene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130	2.46	20	
1,3,5-Trimethylbenzene	0.0230	0.0020	mg/Kg wet	0.0200		115	70-130	1.29	20	
Vinyl Chloride	0.0143	0.010	mg/Kg wet	0.0200		71.4	70-130	0.844	20	
m+p Xylene	0.0426	0.0040	mg/Kg wet	0.0400		106	70-130	0.889	20	
o-Xylene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	3.56	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0449*		mg/Kg wet	0.0500		89.7	70-130			
Surrogate: Toluene-d8	*0.0496*		mg/Kg wet	0.0500		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0514*		mg/Kg wet	0.0500		103	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143193 - SW-846 3546										
Blank (B143193-BLK1)				Prepared: 02/29/16 Analyzed: 03/01/16						
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Acetophenone	ND	0.34	mg/Kg wet							
Aniline	ND	0.34	mg/Kg wet							V-05
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Bis(2-chloroethoxy)methane	ND	0.34	mg/Kg wet							
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg wet							
Bis(2-chloroisopropyl)ether	ND	0.34	mg/Kg wet							
Bis(2-Ethylhexyl)phthalate	ND	0.34	mg/Kg wet							
4-Bromophenylphenylether	ND	0.34	mg/Kg wet							
Butylbenzylphthalate	ND	0.34	mg/Kg wet							
4-Chloroaniline	ND	0.66	mg/Kg wet							
2-Chloronaphthalene	ND	0.34	mg/Kg wet							
2-Chlorophenol	ND	0.34	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Dibenzofuran	ND	0.34	mg/Kg wet							
Di-n-butylphthalate	ND	0.34	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.34	mg/Kg wet							
3,3-Dichlorobenzidine	ND	0.17	mg/Kg wet							V-20
2,4-Dichlorophenol	ND	0.34	mg/Kg wet							
Diethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dimethylphenol	ND	0.34	mg/Kg wet							
Dimethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dinitrophenol	ND	0.66	mg/Kg wet							
2,4-Dinitrotoluene	ND	0.34	mg/Kg wet							
2,6-Dinitrotoluene	ND	0.34	mg/Kg wet							
Di-n-octylphthalate	ND	0.34	mg/Kg wet							
1,2-Diphenylhydrazine (as Azobenzene)	ND	0.34	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Hexachlorobenzene	ND	0.34	mg/Kg wet							
Hexachlorobutadiene	ND	0.34	mg/Kg wet							
Hexachloroethane	ND	0.34	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
Isophorone	ND	0.34	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylphenol	ND	0.34	mg/Kg wet							
3/4-Methylphenol	ND	0.34	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Nitrobenzene	ND	0.34	mg/Kg wet							
2-Nitrophenol	ND	0.34	mg/Kg wet							
4-Nitrophenol	ND	0.66	mg/Kg wet							
Pentachlorophenol	ND	0.34	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							

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QUALITY CONTROL

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143193 - SW-846 3546										
Blank (B143193-BLK1)				Prepared: 02/29/16 Analyzed: 03/01/16						
Phenol	ND	0.34	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
Pyridine	ND	0.34	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.34	mg/Kg wet							
2,4,5-Trichlorophenol	ND	0.34	mg/Kg wet							
2,4,6-Trichlorophenol	ND	0.34	mg/Kg wet							
Surrogate: 2-Fluorophenol	*5.71*		mg/Kg wet	6.67		85.7	30-130			
Surrogate: Phenol-d6	*5.98*		mg/Kg wet	6.67		89.7	30-130			
Surrogate: Nitrobenzene-d5	*2.89*		mg/Kg wet	3.33		86.8	30-130			
Surrogate: 2-Fluorobiphenyl	*3.02*		mg/Kg wet	3.33		90.5	30-130			
Surrogate: 2,4,6-Tribromophenol	*5.90*		mg/Kg wet	6.67		88.5	30-130			
Surrogate: p-Terphenyl-d14	*3.33*		mg/Kg wet	3.33		99.8	30-130			
LCS (B143193-BS1)				Prepared: 02/29/16 Analyzed: 03/01/16						
Acenaphthene	1.51	0.17	mg/Kg wet	1.67		90.6	40-140			
Acenaphthylene	1.54	0.17	mg/Kg wet	1.67		92.1	40-140			
Acetophenone	1.37	0.34	mg/Kg wet	1.67		82.3	40-140			
Aniline	0.713	0.34	mg/Kg wet	1.67		42.8	40-140			V-05
Anthracene	1.55	0.17	mg/Kg wet	1.67		92.9	40-140			
Benzo(a)anthracene	1.57	0.17	mg/Kg wet	1.67		94.0	40-140			
Benzo(a)pyrene	1.61	0.17	mg/Kg wet	1.67		96.8	40-140			
Benzo(b)fluoranthene	1.60	0.17	mg/Kg wet	1.67		96.2	40-140			
Benzo(g,h,i)perylene	1.31	0.17	mg/Kg wet	1.67		78.6	40-140			
Benzo(k)fluoranthene	1.62	0.17	mg/Kg wet	1.67		97.4	40-140			
Bis(2-chloroethoxy)methane	1.51	0.34	mg/Kg wet	1.67		90.4	40-140			
Bis(2-chloroethyl)ether	1.44	0.34	mg/Kg wet	1.67		86.7	40-140			
Bis(2-chloroisopropyl)ether	1.50	0.34	mg/Kg wet	1.67		90.0	40-140			
Bis(2-Ethylhexyl)phthalate	1.66	0.34	mg/Kg wet	1.67		99.4	40-140			
4-Bromophenylphenylether	1.54	0.34	mg/Kg wet	1.67		92.6	40-140			
Butylbenzylphthalate	1.68	0.34	mg/Kg wet	1.67		101	40-140			
4-Chloroaniline	0.976	0.66	mg/Kg wet	1.67		58.5	15-140			†
2-Chloronaphthalene	1.46	0.34	mg/Kg wet	1.67		87.5	40-140			
2-Chlorophenol	1.39	0.34	mg/Kg wet	1.67		83.5	30-130			
Chrysene	1.52	0.17	mg/Kg wet	1.67		91.4	40-140			
Dibenz(a,h)anthracene	1.34	0.17	mg/Kg wet	1.67		80.1	40-140			
Dibenzofuran	1.58	0.34	mg/Kg wet	1.67		94.6	40-140			
Di-n-butylphthalate	1.44	0.34	mg/Kg wet	1.67		86.4	40-140			
1,2-Dichlorobenzene	1.32	0.34	mg/Kg wet	1.67		79.1	40-140			
1,3-Dichlorobenzene	1.25	0.34	mg/Kg wet	1.67		74.8	40-140			
1,4-Dichlorobenzene	1.28	0.34	mg/Kg wet	1.67		77.0	40-140			
3,3-Dichlorobenzidine	0.854	0.17	mg/Kg wet	1.67		51.2	40-140			V-20
2,4-Dichlorophenol	1.56	0.34	mg/Kg wet	1.67		93.3	30-130			
Diethylphthalate	1.52	0.34	mg/Kg wet	1.67		91.0	40-140			
2,4-Dimethylphenol	1.53	0.34	mg/Kg wet	1.67		91.9	30-130			
Dimethylphthalate	1.57	0.34	mg/Kg wet	1.67		93.9	40-140			
2,4-Dinitrophenol	0.425	0.66	mg/Kg wet	1.67		25.5	15-140			†
2,4-Dinitrotoluene	1.66	0.34	mg/Kg wet	1.67		99.8	40-140			
2,6-Dinitrotoluene	1.67	0.34	mg/Kg wet	1.67		100	40-140			
Di-n-octylphthalate	1.83	0.34	mg/Kg wet	1.67		110	40-140			
1,2-Diphenylhydrazine (as Azobenzene)	1.58	0.34	mg/Kg wet	1.67		94.9	40-140			
Fluoranthene	1.46	0.17	mg/Kg wet	1.67		87.4	40-140			
Fluorene	1.59	0.17	mg/Kg wet	1.67		95.2	40-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143193 - SW-846 3546										
LCS (B143193-BS1)				Prepared: 02/29/16 Analyzed: 03/01/16						
Hexachlorobenzene	1.56	0.34	mg/Kg wet	1.67		93.9	40-140			
Hexachlorobutadiene	1.47	0.34	mg/Kg wet	1.67		88.5	40-140			
Hexachloroethane	1.28	0.34	mg/Kg wet	1.67		76.6	40-140			
Indeno(1,2,3-cd)pyrene	1.31	0.17	mg/Kg wet	1.67		78.6	40-140			
Isophorone	1.60	0.34	mg/Kg wet	1.67		95.8	40-140			
2-Methylnaphthalene	1.50	0.17	mg/Kg wet	1.67		89.9	40-140			
2-Methylphenol	1.38	0.34	mg/Kg wet	1.67		82.7	30-130			
3/4-Methylphenol	1.46	0.34	mg/Kg wet	1.67		87.8	30-130			
Naphthalene	1.43	0.17	mg/Kg wet	1.67		86.1	40-140			
Nitrobenzene	1.55	0.34	mg/Kg wet	1.67		92.7	40-140			
2-Nitrophenol	1.43	0.34	mg/Kg wet	1.67		85.8	30-130			
4-Nitrophenol	2.04	0.66	mg/Kg wet	1.67		123	15-140			†
Pentachlorophenol	1.08	0.34	mg/Kg wet	1.67		64.6	30-130			
Phenanthrene	1.58	0.17	mg/Kg wet	1.67		95.1	40-140			
Phenol	1.57	0.34	mg/Kg wet	1.67		94.0	15-140			†
Pyrene	1.56	0.17	mg/Kg wet	1.67		93.9	40-140			
Pyridine	0.965	0.34	mg/Kg wet	1.67		57.9	30-140			†
1,2,4-Trichlorobenzene	1.43	0.34	mg/Kg wet	1.67		85.7	40-140			
2,4,5-Trichlorophenol	1.53	0.34	mg/Kg wet	1.67		92.0	30-130			
2,4,6-Trichlorophenol	1.59	0.34	mg/Kg wet	1.67		95.2	30-130			
Surrogate: 2-Fluorophenol	*6.11*		mg/Kg wet	6.67		91.7	30-130			
Surrogate: Phenol-d6	*6.41*		mg/Kg wet	6.67		96.2	30-130			
Surrogate: Nitrobenzene-d5	*3.22*		mg/Kg wet	3.33		96.5	30-130			
Surrogate: 2-Fluorobiphenyl	*3.32*		mg/Kg wet	3.33		99.7	30-130			
Surrogate: 2,4,6-Tribromophenol	*6.96*		mg/Kg wet	6.67		104	30-130			
Surrogate: p-Terphenyl-d14	*3.41*		mg/Kg wet	3.33		102	30-130			
LCS Dup (B143193-BSD1)				Prepared: 02/29/16 Analyzed: 03/01/16						
Acenaphthene	1.58	0.17	mg/Kg wet	1.67		94.5	40-140	4.24	30	
Acenaphthylene	1.57	0.17	mg/Kg wet	1.67		94.2	40-140	2.17	30	
Acetophenone	1.44	0.34	mg/Kg wet	1.67		86.4	40-140	4.93	30	
Aniline	0.742	0.34	mg/Kg wet	1.67		44.5	40-140	4.08	30	V-05
Anthracene	1.56	0.17	mg/Kg wet	1.67		93.6	40-140	0.708	30	
Benzo(a)anthracene	1.58	0.17	mg/Kg wet	1.67		95.0	40-140	1.12	30	
Benzo(a)pyrene	1.65	0.17	mg/Kg wet	1.67		99.1	40-140	2.33	30	
Benzo(b)fluoranthene	1.68	0.17	mg/Kg wet	1.67		101	40-140	4.67	30	
Benzo(g,h,i)perylene	1.35	0.17	mg/Kg wet	1.67		81.2	40-140	3.30	30	
Benzo(k)fluoranthene	1.64	0.17	mg/Kg wet	1.67		98.4	40-140	1.00	30	
Bis(2-chloroethoxy)methane	1.53	0.34	mg/Kg wet	1.67		91.6	40-140	1.30	30	
Bis(2-chloroethyl)ether	1.49	0.34	mg/Kg wet	1.67		89.6	40-140	3.36	30	
Bis(2-chloroisopropyl)ether	1.60	0.34	mg/Kg wet	1.67		95.8	40-140	6.31	30	
Bis(2-Ethylhexyl)phthalate	1.62	0.34	mg/Kg wet	1.67		97.0	40-140	2.46	30	
4-Bromophenylphenylether	1.52	0.34	mg/Kg wet	1.67		91.3	40-140	1.50	30	
Butylbenzylphthalate	1.69	0.34	mg/Kg wet	1.67		102	40-140	0.950	30	
4-Chloroaniline	0.981	0.66	mg/Kg wet	1.67		58.9	15-140	0.579	30	†
2-Chloronaphthalene	1.49	0.34	mg/Kg wet	1.67		89.2	40-140	1.97	30	
2-Chlorophenol	1.45	0.34	mg/Kg wet	1.67		86.8	30-130	3.87	30	
Chrysene	1.53	0.17	mg/Kg wet	1.67		92.0	40-140	0.676	30	
Dibenz(a,h)anthracene	1.38	0.17	mg/Kg wet	1.67		83.1	40-140	3.63	30	
Dibenzofuran	1.60	0.34	mg/Kg wet	1.67		96.1	40-140	1.57	30	
Di-n-butylphthalate	1.55	0.34	mg/Kg wet	1.67		92.8	40-140	7.23	30	
1,2-Dichlorobenzene	1.35	0.34	mg/Kg wet	1.67		80.8	40-140	2.15	30	

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B143193 - SW-846 3546											
LCS Dup (B143193-BSD1)				Prepared: 02/29/16 Analyzed: 03/01/16							
1,3-Dichlorobenzene	1.31	0.34	mg/Kg wet	1.67		78.5	40-140	4.83	30		
1,4-Dichlorobenzene	1.32	0.34	mg/Kg wet	1.67		79.1	40-140	2.74	30		
3,3-Dichlorobenzidine	0.870	0.17	mg/Kg wet	1.67		52.2	40-140	1.90	30	V-20	
2,4-Dichlorophenol	1.57	0.34	mg/Kg wet	1.67		93.9	30-130	0.684	30		
Diethylphthalate	1.57	0.34	mg/Kg wet	1.67		94.3	40-140	3.54	30		
2,4-Dimethylphenol	1.54	0.34	mg/Kg wet	1.67		92.5	30-130	0.629	30		
Dimethylphthalate	1.60	0.34	mg/Kg wet	1.67		95.7	40-140	1.88	30		
2,4-Dinitrophenol	0.375	0.66	mg/Kg wet	1.67		22.5	15-140	12.5	30		†
2,4-Dinitrotoluene	1.67	0.34	mg/Kg wet	1.67		100	40-140	0.420	30		
2,6-Dinitrotoluene	1.72	0.34	mg/Kg wet	1.67		103	40-140	3.30	30		
Di-n-octylphthalate	1.88	0.34	mg/Kg wet	1.67		113	40-140	2.66	30		
1,2-Diphenylhydrazine (as Azobenzene)	1.58	0.34	mg/Kg wet	1.67		94.6	40-140	0.296	30		
Fluoranthene	1.60	0.17	mg/Kg wet	1.67		96.0	40-140	9.36	30		
Fluorene	1.63	0.17	mg/Kg wet	1.67		97.5	40-140	2.43	30		
Hexachlorobenzene	1.56	0.34	mg/Kg wet	1.67		93.9	40-140	0.0213	30		
Hexachlorobutadiene	1.50	0.34	mg/Kg wet	1.67		90.2	40-140	1.97	30		
Hexachloroethane	1.34	0.34	mg/Kg wet	1.67		80.5	40-140	4.92	30		
Indeno(1,2,3-cd)pyrene	1.37	0.17	mg/Kg wet	1.67		82.2	40-140	4.50	30		
Isophorone	1.65	0.34	mg/Kg wet	1.67		98.9	40-140	3.16	30		
2-Methylnaphthalene	1.52	0.17	mg/Kg wet	1.67		91.4	40-140	1.66	30		
2-Methylphenol	1.43	0.34	mg/Kg wet	1.67		85.6	30-130	3.52	30		
3/4-Methylphenol	1.55	0.34	mg/Kg wet	1.67		93.0	30-130	5.82	30		
Naphthalene	1.44	0.17	mg/Kg wet	1.67		86.6	40-140	0.625	30		
Nitrobenzene	1.55	0.34	mg/Kg wet	1.67		93.1	40-140	0.409	30		
2-Nitrophenol	1.46	0.34	mg/Kg wet	1.67		87.4	30-130	1.87	30		
4-Nitrophenol	2.02	0.66	mg/Kg wet	1.67		121	15-140	1.41	30		†
Pentachlorophenol	0.945	0.34	mg/Kg wet	1.67		56.7	30-130	13.0	30		
Phenanthrene	1.57	0.17	mg/Kg wet	1.67		94.5	40-140	0.633	30		
Phenol	1.61	0.34	mg/Kg wet	1.67		96.7	15-140	2.89	30		†
Pyrene	1.71	0.17	mg/Kg wet	1.67		103	40-140	9.11	30		
Pyridine	0.996	0.34	mg/Kg wet	1.67		59.8	30-140	3.23	30		†
1,2,4-Trichlorobenzene	1.44	0.34	mg/Kg wet	1.67		86.6	40-140	1.07	30		
2,4,5-Trichlorophenol	1.52	0.34	mg/Kg wet	1.67		91.2	30-130	0.851	30		
2,4,6-Trichlorophenol	1.62	0.34	mg/Kg wet	1.67		96.9	30-130	1.79	30		
Surrogate: 2-Fluorophenol	*6.26*		mg/Kg wet	6.67		93.8	30-130				
Surrogate: Phenol-d6	*6.57*		mg/Kg wet	6.67		98.6	30-130				
Surrogate: Nitrobenzene-d5	*3.20*		mg/Kg wet	3.33		96.1	30-130				
Surrogate: 2-Fluorobiphenyl	*3.27*		mg/Kg wet	3.33		98.1	30-130				
Surrogate: 2,4,6-Tribromophenol	*6.97*		mg/Kg wet	6.67		105	30-130				
Surrogate: p-Terphenyl-d14	*3.66*		mg/Kg wet	3.33		110	30-130				

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143191 - SW-846 3546										
Blank (B143191-BLK1)				Prepared: 02/29/16 Analyzed: 03/03/16						
Aldrin	ND	0.0050	mg/Kg wet							
Aldrin [2C]	ND	0.0050	mg/Kg wet							
alpha-BHC	ND	0.0050	mg/Kg wet							
alpha-BHC [2C]	ND	0.0050	mg/Kg wet							
beta-BHC	ND	0.0050	mg/Kg wet							
beta-BHC [2C]	ND	0.0050	mg/Kg wet							
delta-BHC	ND	0.0050	mg/Kg wet							
delta-BHC [2C]	ND	0.0050	mg/Kg wet							
gamma-BHC (Lindane)	ND	0.0020	mg/Kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0020	mg/Kg wet							
Chlordane	ND	0.020	mg/Kg wet							
Chlordane [2C]	ND	0.020	mg/Kg wet							V-05
4,4'-DDD	ND	0.0040	mg/Kg wet							
4,4'-DDD [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDE	ND	0.0040	mg/Kg wet							
4,4'-DDE [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDT	ND	0.0040	mg/Kg wet							
4,4'-DDT [2C]	ND	0.0040	mg/Kg wet							
Dieldrin	ND	0.0040	mg/Kg wet							
Dieldrin [2C]	ND	0.0040	mg/Kg wet							
Endosulfan I	ND	0.0050	mg/Kg wet							
Endosulfan I [2C]	ND	0.0050	mg/Kg wet							
Endosulfan II	ND	0.0080	mg/Kg wet							
Endosulfan II [2C]	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate [2C]	ND	0.0080	mg/Kg wet							
Endrin	ND	0.0080	mg/Kg wet							
Endrin [2C]	ND	0.0080	mg/Kg wet							
Endrin Aldehyde	ND	0.0080	mg/Kg wet							
Endrin Aldehyde [2C]	ND	0.0080	mg/Kg wet							
Endrin Ketone	ND	0.0080	mg/Kg wet							
Endrin Ketone [2C]	ND	0.0080	mg/Kg wet							
Heptachlor	ND	0.0050	mg/Kg wet							
Heptachlor [2C]	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide [2C]	ND	0.0050	mg/Kg wet							
Hexachlorobenzene	ND	0.0060	mg/Kg wet							
Hexachlorobenzene [2C]	ND	0.0060	mg/Kg wet							
Methoxychlor	ND	0.050	mg/Kg wet							
Methoxychlor [2C]	ND	0.050	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.201*		mg/Kg wet	0.200		100	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.162*		mg/Kg wet	0.200		80.9	30-150			
Surrogate: Tetrachloro-m-xylene	*0.194*		mg/Kg wet	0.200		96.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.6	30-150			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143191 - SW-846 3546										
LCS (B143191-BS1)				Prepared: 02/29/16 Analyzed: 03/03/16						
Aldrin	0.10	0.0050	mg/Kg wet	0.100		101	40-140			
Aldrin [2C]	0.088	0.0050	mg/Kg wet	0.100		88.2	40-140			
alpha-BHC	0.10	0.0050	mg/Kg wet	0.100		99.7	40-140			
alpha-BHC [2C]	0.095	0.0050	mg/Kg wet	0.100		95.1	40-140			
beta-BHC	0.097	0.0050	mg/Kg wet	0.100		96.8	40-140			
beta-BHC [2C]	0.092	0.0050	mg/Kg wet	0.100		92.0	40-140			
delta-BHC	0.097	0.0050	mg/Kg wet	0.100		96.9	40-140			
delta-BHC [2C]	0.088	0.0050	mg/Kg wet	0.100		87.7	40-140			
gamma-BHC (Lindane)	0.11	0.0020	mg/Kg wet	0.100		105	40-140			
gamma-BHC (Lindane) [2C]	0.094	0.0020	mg/Kg wet	0.100		93.8	40-140			
4,4'-DDD	0.10	0.0040	mg/Kg wet	0.100		104	40-140			
4,4'-DDD [2C]	0.090	0.0040	mg/Kg wet	0.100		89.7	40-140			
4,4'-DDE	0.10	0.0040	mg/Kg wet	0.100		104	40-140			
4,4'-DDE [2C]	0.089	0.0040	mg/Kg wet	0.100		89.0	40-140			
4,4'-DDT	0.10	0.0040	mg/Kg wet	0.100		103	40-140			
4,4'-DDT [2C]	0.088	0.0040	mg/Kg wet	0.100		88.3	40-140			
Dieldrin	0.10	0.0040	mg/Kg wet	0.100		102	40-140			
Dieldrin [2C]	0.082	0.0040	mg/Kg wet	0.100		82.2	40-140			
Endosulfan I	0.097	0.0050	mg/Kg wet	0.100		96.6	40-140			
Endosulfan I [2C]	0.089	0.0050	mg/Kg wet	0.100		89.1	40-140			
Endosulfan II	0.099	0.0080	mg/Kg wet	0.100		99.2	40-140			
Endosulfan II [2C]	0.090	0.0080	mg/Kg wet	0.100		89.6	40-140			
Endosulfan Sulfate	0.099	0.0080	mg/Kg wet	0.100		99.2	40-140			
Endosulfan Sulfate [2C]	0.088	0.0080	mg/Kg wet	0.100		87.8	40-140			
Endrin	0.098	0.0080	mg/Kg wet	0.100		97.8	40-140			
Endrin [2C]	0.089	0.0080	mg/Kg wet	0.100		89.2	40-140			
Endrin Ketone	0.11	0.0080	mg/Kg wet	0.100		106	40-140			
Endrin Ketone [2C]	0.093	0.0080	mg/Kg wet	0.100		93.2	40-140			
Heptachlor	0.098	0.0050	mg/Kg wet	0.100		98.4	40-140			
Heptachlor [2C]	0.094	0.0050	mg/Kg wet	0.100		94.4	40-140			
Heptachlor Epoxide	0.098	0.0050	mg/Kg wet	0.100		97.9	40-140			
Heptachlor Epoxide [2C]	0.089	0.0050	mg/Kg wet	0.100		88.6	40-140			
Hexachlorobenzene	0.090	0.0060	mg/Kg wet	0.100		89.8	40-140			
Hexachlorobenzene [2C]	0.085	0.0060	mg/Kg wet	0.100		85.0	40-140			
Methoxychlor	0.10	0.050	mg/Kg wet	0.100		99.6	40-140			
Methoxychlor [2C]	0.088	0.050	mg/Kg wet	0.100		87.6	40-140			
Surrogate: Decachlorobiphenyl	*0.189*		mg/Kg wet	0.200		94.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.152*		mg/Kg wet	0.200		75.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.180*		mg/Kg wet	0.200		90.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.166*		mg/Kg wet	0.200		83.0	30-150			
LCS Dup (B143191-BSD1)				Prepared: 02/29/16 Analyzed: 03/03/16						
Aldrin	0.10	0.0050	mg/Kg wet	0.100		99.5	40-140	1.22	30	
Aldrin [2C]	0.088	0.0050	mg/Kg wet	0.100		88.5	40-140	0.349	30	
alpha-BHC	0.097	0.0050	mg/Kg wet	0.100		97.5	40-140	2.24	30	
alpha-BHC [2C]	0.095	0.0050	mg/Kg wet	0.100		94.6	40-140	0.556	30	
beta-BHC	0.097	0.0050	mg/Kg wet	0.100		97.4	40-140	0.543	30	
beta-BHC [2C]	0.092	0.0050	mg/Kg wet	0.100		92.2	40-140	0.140	30	
delta-BHC	0.10	0.0050	mg/Kg wet	0.100		100	40-140	3.51	30	
delta-BHC [2C]	0.091	0.0050	mg/Kg wet	0.100		91.5	40-140	4.24	30	
gamma-BHC (Lindane)	0.10	0.0020	mg/Kg wet	0.100		103	40-140	1.87	30	
gamma-BHC (Lindane) [2C]	0.094	0.0020	mg/Kg wet	0.100		94.0	40-140	0.194	30	

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143191 - SW-846 3546										
LCS Dup (B143191-BSD1)				Prepared: 02/29/16 Analyzed: 03/03/16						
4,4'-DDD	0.11	0.0040	mg/Kg wet	0.100		105	40-140	1.07	30	
4,4'-DDD [2C]	0.092	0.0040	mg/Kg wet	0.100		91.6	40-140	2.15	30	
4,4'-DDE	0.10	0.0040	mg/Kg wet	0.100		104	40-140	0.452	30	
4,4'-DDE [2C]	0.091	0.0040	mg/Kg wet	0.100		90.5	40-140	1.70	30	
4,4'-DDT	0.10	0.0040	mg/Kg wet	0.100		105	40-140	1.60	30	
4,4'-DDT [2C]	0.090	0.0040	mg/Kg wet	0.100		90.1	40-140	2.11	30	
Dieldrin	0.10	0.0040	mg/Kg wet	0.100		102	40-140	0.134	30	
Dieldrin [2C]	0.083	0.0040	mg/Kg wet	0.100		83.1	40-140	1.03	30	
Endosulfan I	0.096	0.0050	mg/Kg wet	0.100		96.5	40-140	0.0663	30	
Endosulfan I [2C]	0.090	0.0050	mg/Kg wet	0.100		90.2	40-140	1.23	30	
Endosulfan II	0.10	0.0080	mg/Kg wet	0.100		100	40-140	0.851	30	
Endosulfan II [2C]	0.091	0.0080	mg/Kg wet	0.100		91.3	40-140	1.84	30	
Endosulfan Sulfate	0.10	0.0080	mg/Kg wet	0.100		101	40-140	1.33	30	
Endosulfan Sulfate [2C]	0.090	0.0080	mg/Kg wet	0.100		89.8	40-140	2.22	30	
Endrin	0.099	0.0080	mg/Kg wet	0.100		98.6	40-140	0.740	30	
Endrin [2C]	0.091	0.0080	mg/Kg wet	0.100		91.0	40-140	2.03	30	
Endrin Ketone	0.11	0.0080	mg/Kg wet	0.100		107	40-140	1.45	30	
Endrin Ketone [2C]	0.095	0.0080	mg/Kg wet	0.100		95.1	40-140	2.01	30	
Heptachlor	0.098	0.0050	mg/Kg wet	0.100		97.5	40-140	0.954	30	
Heptachlor [2C]	0.094	0.0050	mg/Kg wet	0.100		94.2	40-140	0.216	30	
Heptachlor Epoxide	0.097	0.0050	mg/Kg wet	0.100		97.2	40-140	0.788	30	
Heptachlor Epoxide [2C]	0.089	0.0050	mg/Kg wet	0.100		89.3	40-140	0.799	30	
Hexachlorobenzene	0.089	0.0060	mg/Kg wet	0.100		89.1	40-140	0.730	30	
Hexachlorobenzene [2C]	0.086	0.0060	mg/Kg wet	0.100		85.8	40-140	0.845	30	
Methoxychlor	0.10	0.050	mg/Kg wet	0.100		101	40-140	1.54	30	
Methoxychlor [2C]	0.090	0.050	mg/Kg wet	0.100		89.7	40-140	2.41	30	
Surrogate: Decachlorobiphenyl	*0.192*		mg/Kg wet	0.200		96.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.153*		mg/Kg wet	0.200		76.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.174*		mg/Kg wet	0.200		87.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.165*		mg/Kg wet	0.200		82.3	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143192 - SW-846 3546										
Blank (B143192-BLK1)				Prepared: 02/29/16 Analyzed: 03/02/16						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.189*		mg/Kg wet	0.200		94.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.190*		mg/Kg wet	0.200		94.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.188*		mg/Kg wet	0.200		93.9	30-150			
LCS (B143192-BS1)				Prepared: 02/29/16 Analyzed: 03/02/16						
Aroclor-1016	0.18	0.020	mg/Kg wet	0.200		91.1	40-140			
Aroclor-1016 [2C]	0.20	0.020	mg/Kg wet	0.200		98.8	40-140			
Aroclor-1260	0.18	0.020	mg/Kg wet	0.200		90.0	40-140			
Aroclor-1260 [2C]	0.19	0.020	mg/Kg wet	0.200		92.7	40-140			
Surrogate: Decachlorobiphenyl	*0.177*		mg/Kg wet	0.200		88.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.180*		mg/Kg wet	0.200		89.9	30-150			
Surrogate: Tetrachloro-m-xylene	*0.178*		mg/Kg wet	0.200		88.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.177*		mg/Kg wet	0.200		88.5	30-150			
LCS Dup (B143192-BSD1)				Prepared: 02/29/16 Analyzed: 03/02/16						
Aroclor-1016	0.19	0.020	mg/Kg wet	0.200		97.5	40-140	6.83	30	
Aroclor-1016 [2C]	0.21	0.020	mg/Kg wet	0.200		106	40-140	6.69	30	
Aroclor-1260	0.19	0.020	mg/Kg wet	0.200		96.7	40-140	7.25	30	
Aroclor-1260 [2C]	0.20	0.020	mg/Kg wet	0.200		99.3	40-140	6.93	30	
Surrogate: Decachlorobiphenyl	*0.190*		mg/Kg wet	0.200		95.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.191*		mg/Kg wet	0.200		95.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.189*		mg/Kg wet	0.200		94.6	30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B143386 - SW-846 8151											
Blank (B143386-BLK1)				Prepared: 03/02/16 Analyzed: 03/03/16							
2,4-D	ND	24	µg/kg wet								
2,4-D [2C]	ND	24	µg/kg wet								
2,4-DB	ND	24	µg/kg wet								
2,4-DB [2C]	ND	24	µg/kg wet								
2,4,5-TP (Silvex)	ND	2.4	µg/kg wet								
2,4,5-TP (Silvex) [2C]	ND	2.4	µg/kg wet								
2,4,5-T	ND	2.4	µg/kg wet								
2,4,5-T [2C]	ND	2.4	µg/kg wet								
Dalapon	ND	60	µg/kg wet								
Dalapon [2C]	ND	60	µg/kg wet								
Dicamba	ND	2.4	µg/kg wet								
Dicamba [2C]	ND	2.4	µg/kg wet								
Dichloroprop	ND	24	µg/kg wet								
Dichloroprop [2C]	ND	24	µg/kg wet								
Dinoseb	ND	12	µg/kg wet								V-05
Dinoseb [2C]	ND	12	µg/kg wet								
MCPA	ND	2400	µg/kg wet								
MCPA [2C]	ND	2400	µg/kg wet								
MCPP	ND	2400	µg/kg wet								
MCPP [2C]	ND	2400	µg/kg wet								
Surrogate: 2,4-Dichlorophenylacetic acid	*65.0*		µg/kg wet	95.2		68.3		30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*65.0*		µg/kg wet	95.2		68.3		30-150			
LCS (B143386-BS1)				Prepared: 03/02/16 Analyzed: 03/03/16							
2,4-D	79.7	25	µg/kg wet	124		64.1		40-140			
2,4-D [2C]	76.0	25	µg/kg wet	124		61.2		40-140			
2,4-DB	81.0	25	µg/kg wet	124		65.2		40-140			
2,4-DB [2C]	84.9	25	µg/kg wet	124		68.4		40-140			
2,4,5-TP (Silvex)	8.05	2.5	µg/kg wet	12.4		64.8		40-140			
2,4,5-TP (Silvex) [2C]	8.75	2.5	µg/kg wet	12.4		70.4		40-140			
2,4,5-T	7.55	2.5	µg/kg wet	12.4		60.8		40-140			
2,4,5-T [2C]	8.41	2.5	µg/kg wet	12.4		67.7		40-140			
Dalapon	121	62	µg/kg wet	311		**39.0**	*	40-140			L-07
Dalapon [2C]	130	62	µg/kg wet	311		41.8		40-140			V-06
Dicamba	8.48	2.5	µg/kg wet	12.4		68.3		40-140			
Dicamba [2C]	8.87	2.5	µg/kg wet	12.4		71.4		40-140			
Dichloroprop	101	25	µg/kg wet	124		81.1		40-140			
Dichloroprop [2C]	106	25	µg/kg wet	124		85.3		40-140			
Dinoseb	10.9	12	µg/kg wet	62.1		17.6		0-42.4			V-05
Dinoseb [2C]	13.7	12	µg/kg wet	62.1		22.0		0-41.1			
MCPA	9320	2500	µg/kg wet	12400		75.0		40-140			
MCPA [2C]	8240	2500	µg/kg wet	12400		66.3		40-140			
MCPP	7830	2500	µg/kg wet	12400		63.0		40-140			
MCPP [2C]	8000	2500	µg/kg wet	12400		64.4		40-140			
Surrogate: 2,4-Dichlorophenylacetic acid	*72.5*		µg/kg wet	99.4		73.0		30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*71.9*		µg/kg wet	99.4		72.4		30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143386 - SW-846 8151										
LCS Dup (B143386-BSD1)				Prepared: 03/02/16 Analyzed: 03/03/16						
2,4-D	91.9	25	µg/kg wet	124		73.9	40-140	14.2	30	
2,4-D [2C]	87.7	25	µg/kg wet	124		70.5	40-140	14.3	30	
2,4-DB	90.6	25	µg/kg wet	124		72.8	40-140	11.1	30	
2,4-DB [2C]	95.6	25	µg/kg wet	124		76.9	40-140	11.8	30	
2,4,5-TP (Silvex)	9.14	2.5	µg/kg wet	12.4		73.5	40-140	12.7	30	
2,4,5-TP (Silvex) [2C]	9.87	2.5	µg/kg wet	12.4		79.4	40-140	12.0	30	
2,4,5-T	8.78	2.5	µg/kg wet	12.4		70.6	40-140	15.0	30	
2,4,5-T [2C]	9.73	2.5	µg/kg wet	12.4		78.3	40-140	14.6	30	
Dalapon	150	62	µg/kg wet	311		48.3	40-140	21.4	30	
Dalapon [2C]	163	62	µg/kg wet	311		52.3	40-140	22.4	30	V-06
Dicamba	9.77	2.5	µg/kg wet	12.4		78.5	40-140	14.1	30	
Dicamba [2C]	10.3	2.5	µg/kg wet	12.4		83.1	40-140	15.2	30	
Dichloroprop	115	25	µg/kg wet	124		92.2	40-140	12.8	30	
Dichloroprop [2C]	120	25	µg/kg wet	124		96.3	40-140	12.1	30	
Dinoseb	12.0	12	µg/kg wet	62.2		19.3	0-42.4	9.53	30	V-05
Dinoseb [2C]	15.1	12	µg/kg wet	62.2		24.3	0-41.1	9.86	30	
MCPA	9640	2500	µg/kg wet	12400		77.5	40-140	3.32	30	
MCPA [2C]	9870	2500	µg/kg wet	12400		79.3	40-140	17.9	30	
MCPP	9050	2500	µg/kg wet	12400		72.8	40-140	14.5	30	
MCPP [2C]	9270	2500	µg/kg wet	12400		74.5	40-140	14.7	30	
Surrogate: 2,4-Dichlorophenylacetic acid	*83.0*		µg/kg wet	99.5		83.4	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*84.6*		µg/kg wet	99.5		85.0	30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143282 - SW-846 3546										
Blank (B143282-BLK1)				Prepared: 03/01/16 Analyzed: 03/02/16						
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: o-Terphenyl	*2.80*		mg/Kg wet	3.33		83.9	40-140			
LCS (B143282-BS1)				Prepared: 03/01/16 Analyzed: 03/02/16						
TPH (C9-C36)	24.2	8.3	mg/Kg wet	33.3		72.7	40-140			
Surrogate: o-Terphenyl	*2.71*		mg/Kg wet	3.33		81.3	40-140			
LCS Dup (B143282-BSD1)				Prepared: 03/01/16 Analyzed: 03/02/16						
TPH (C9-C36)	24.6	8.3	mg/Kg wet	33.3		73.8	40-140	1.52	30	
Surrogate: o-Terphenyl	*2.74*		mg/Kg wet	3.33		82.2	40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143246 - SW-846 3050B										
Blank (B143246-BLK1)				Prepared: 03/01/16 Analyzed: 03/02/16						
Antimony	ND	2.5	mg/Kg wet							
Arsenic	ND	2.5	mg/Kg wet							
Barium	ND	2.5	mg/Kg wet							
Beryllium	ND	0.25	mg/Kg wet							
Cadmium	ND	0.25	mg/Kg wet							
Chromium	ND	0.50	mg/Kg wet							
Lead	ND	0.75	mg/Kg wet							
Nickel	ND	0.50	mg/Kg wet							
Selenium	ND	5.0	mg/Kg wet							
Silver	ND	0.50	mg/Kg wet							
Thallium	ND	2.5	mg/Kg wet							
Vanadium	ND	1.0	mg/Kg wet							
Zinc	ND	1.0	mg/Kg wet							
LCS (B143246-BS1)				Prepared: 03/01/16 Analyzed: 03/02/16						
Antimony	96.6	5.0	mg/Kg wet	105		92.0	0-210.3			
Arsenic	99.0	5.0	mg/Kg wet	98.5		100	77.8-122.1			
Barium	305	5.0	mg/Kg wet	308		99.1	82-117.4			
Beryllium	68.9	0.50	mg/Kg wet	66.0		104	82.3-117.7			
Cadmium	144	0.50	mg/Kg wet	146		99.0	81.9-118.2			
Chromium	184	0.99	mg/Kg wet	182		101	78.7-120.6			
Lead	123	1.5	mg/Kg wet	130		94.6	82.4-117.8			
Nickel	145	0.99	mg/Kg wet	149		97.1	82.2-117.8			
Selenium	153	9.9	mg/Kg wet	154		99.4	77.1-122.3			
Silver	36.7	0.99	mg/Kg wet	40.9		89.8	74.3-125.4			
Thallium	172	5.0	mg/Kg wet	175		98.1	78.2-121.6			
Vanadium	93.2	2.0	mg/Kg wet	96.7		96.4	64.8-135.2			
Zinc	193	2.0	mg/Kg wet	191		101	79.7-120.8			
LCS Dup (B143246-BSD1)				Prepared: 03/01/16 Analyzed: 03/02/16						
Antimony	101	5.0	mg/Kg wet	105		96.2	0-210.3	4.48	30	
Arsenic	95.0	5.0	mg/Kg wet	98.5		96.5	77.8-122.1	4.08	30	
Barium	301	5.0	mg/Kg wet	308		97.9	82-117.4	1.26	30	
Beryllium	67.1	0.50	mg/Kg wet	66.0		102	82.3-117.7	2.66	30	
Cadmium	142	0.50	mg/Kg wet	146		96.9	81.9-118.2	2.05	30	
Chromium	178	1.0	mg/Kg wet	182		97.6	78.7-120.6	3.49	30	
Lead	119	1.5	mg/Kg wet	130		91.8	82.4-117.8	3.01	30	
Nickel	142	1.0	mg/Kg wet	149		95.2	82.2-117.8	1.98	30	
Selenium	152	10	mg/Kg wet	154		98.6	77.1-122.3	0.770	30	
Silver	35.9	1.0	mg/Kg wet	40.9		87.7	74.3-125.4	2.35	30	
Thallium	171	5.0	mg/Kg wet	175		97.9	78.2-121.6	0.205	30	
Vanadium	91.9	2.0	mg/Kg wet	96.7		95.1	64.8-135.2	1.38	30	
Zinc	189	2.0	mg/Kg wet	191		99.2	79.7-120.8	1.96	30	

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143246 - SW-846 3050B										
MRL Check (B143246-MRL1)				Prepared: 03/01/16 Analyzed: 03/02/16						
Lead	0.671	0.71	mg/Kg wet	0.707		94.9	80-120			
Batch B143249 - SW-846 7471										
Blank (B143249-BLK1)				Prepared: 03/01/16 Analyzed: 03/04/16						
Mercury	ND	0.025	mg/Kg wet							
LCS (B143249-BS1)				Prepared: 03/01/16 Analyzed: 03/07/16						
Mercury	7.10	0.78	mg/Kg wet	7.10		100	73.7-126.3			
LCS Dup (B143249-BSD1)				Prepared: 03/01/16 Analyzed: 03/07/16						
Mercury	7.29	0.79	mg/Kg wet	7.10		103	73.7-126.3	2.68	30	

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143211 - SW-846 9045C										
LCS (B143211-BS1)				Prepared & Analyzed: 03/01/16						
pH	6.05		pH Units	6.00		101	98.6-102			
Batch B143230 - SW-846 9014										
Blank (B143230-BLK1)				Prepared & Analyzed: 03/01/16						
Reactive Cyanide	ND	0.40	mg/Kg							
LCS (B143230-BS1)				Prepared & Analyzed: 03/01/16						
Reactive Cyanide	11	0.40	mg/Kg	10.0		106	86.4-107			
Batch B143231 - SW-846 9030A										
Blank (B143231-BLK1)				Prepared & Analyzed: 03/01/16						
Reactive Sulfide	ND	2.0	mg/Kg							
LCS (B143231-BS1)				Prepared & Analyzed: 03/01/16						
Reactive Sulfide	14	2.0	mg/Kg	14.8		97.3	42.9-132			
Batch B143346 - SM21-22 2510B Modified										
Blank (B143346-BLK1)				Prepared & Analyzed: 03/02/16						
Specific conductance	ND	2.0	µmhos/cm							
LCS (B143346-BS1)				Prepared & Analyzed: 03/02/16						
Specific conductance	230		µmhos/cm	234		98.1	88.6-105			
Duplicate (B143346-DUP1)		**Source: 16B1140-01**		Prepared & Analyzed: 03/02/16						
Specific conductance	34	2.0	µmhos/cm		35			2.60	19.6	

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QUALITY CONTROL

TCLP - Metals Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143342 - SW-846 3010A										
Blank (B143342-BLK1)				Prepared: 03/02/16 Analyzed: 03/06/16						
Cadmium	ND	0.0040	mg/L							
Chromium	ND	0.010	mg/L							
Lead	ND	0.010	mg/L							
LCS (B143342-BS1)				Prepared: 03/02/16 Analyzed: 03/06/16						
Cadmium	0.504	0.0040	mg/L	0.500		101	80-120			
Chromium	0.486	0.010	mg/L	0.500		97.3	80-120			
Lead	0.468	0.010	mg/L	0.500		93.7	80-120			
LCS Dup (B143342-BSD1)				Prepared: 03/02/16 Analyzed: 03/06/16						
Cadmium	0.511	0.0040	mg/L	0.500		102	80-120	1.50	20	
Chromium	0.494	0.010	mg/L	0.500		98.9	80-120	1.64	20	
Lead	0.477	0.010	mg/L	0.500		95.4	80-120	1.87	20	

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BREAKDOWN REPORT

Lab Sample ID: **S010860-PEM1** **Analyzed:** **03/03/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	0.30
Endrin [1]	3.80

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	0.53
Endrin [2]	5.05

BREAKDOWN REPORT

Lab Sample ID: **S010860-PEM2** **Analyzed:** **03/03/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	0.32
Endrin [1]	4.76

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	0.59
Endrin [2]	6.08

BREAKDOWN REPORT

Lab Sample ID: **S010860-PEM3** **Analyzed:** **03/04/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	0.31
Endrin [1]	4.84

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BREAKDOWN REPORT

Lab Sample ID: **S010860-PEM3** **Analyzed:** **03/04/2016**

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	0.82
Endrin [2]	6.09

BREAKDOWN REPORT

Lab Sample ID: **S010860-PEM4** **Analyzed:** **03/04/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	0.30
Endrin [1]	4.48

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	0.80
Endrin [2]	5.60

BREAKDOWN REPORT

Lab Sample ID: **S010860-PEM5** **Analyzed:** **03/04/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	0.53
Endrin [1]	3.92

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	0.94
Endrin [2]	4.99

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

SP-1

Lab Sample ID: 16B1140-01

Date(s) Analyzed: 03/03/2016 03/03/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	0.00	0.00	62	
	2	0.00	0.00	0.00	63	1.3
Heptachlor Epoxide	1	6.68	0.00	0.00	0.29	
	2	6.54	0.00	0.00	1.3	127.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B143191-BS1 Date(s) Analyzed: 03/03/2016 03/03/2016

Instrument ID (1): ECD2 Instrument ID (2): ECD2

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	7.38	0.00	0.00	0.10	
	2	7.36	0.00	0.00	0.090	14
4,4'-DDE	1	6.92	0.00	0.00	0.10	
	2	6.92	0.00	0.00	0.089	16
4,4'-DDT	1	7.59	0.00	0.00	0.10	
	2	7.60	0.00	0.00	0.088	16
Aldrin	1	6.25	0.00	0.00	0.10	
	2	6.14	0.00	0.00	0.088	14
alpha-BHC	1	5.52	0.00	0.00	0.10	
	2	5.43	0.00	0.00	0.095	5
beta-BHC	1	5.78	0.00	0.00	0.097	
	2	5.70	0.00	0.00	0.092	5
delta-BHC	1	5.90	0.00	0.00	0.097	
	2	5.89	0.00	0.00	0.088	10
Dieldrin	1	7.15	0.00	0.00	0.10	
	2	7.03	0.00	0.00	0.082	22
Endosulfan I	1	6.97	0.00	0.00	0.097	
	2	6.82	0.00	0.00	0.089	8
Endosulfan II	1	7.50	0.00	0.00	0.099	
	2	7.42	0.00	0.00	0.090	10
Endosulfan Sulfate	1	8.15	0.00	0.00	0.099	
	2	7.91	0.00	0.00	0.088	12
Endrin	1	7.32	0.00	0.00	0.098	
	2	7.26	0.00	0.00	0.089	9
Endrin Ketone	1	8.34	0.00	0.00	0.11	
	2	8.29	0.00	0.00	0.093	13
gamma-BHC (Lindane)	1	5.73	0.00	0.00	0.11	
	2	5.65	0.00	0.00	0.094	11
Heptachlor	1	6.04	0.00	0.00	0.098	
	2	5.93	0.00	0.00	0.094	5
Heptachlor Epoxide	1	6.68	0.00	0.00	0.098	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B143191-BS1 Date(s) Analyzed: 03/03/2016 03/03/2016

Instrument ID (1): ECD2 Instrument ID (2): ECD2

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.54	0.00	0.00	0.089	10
Hexachlorobenzene	1	5.41	0.00	0.00	0.090	
	2	5.34	0.00	0.00	0.085	5
Methoxychlor	1	7.97	0.00	0.00	0.10	
	2	8.14	0.00	0.00	0.088	12

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B143191-BSD1 Date(s) Analyzed: 03/03/2016 03/03/2016

Instrument ID (1): ECD2 Instrument ID (2): ECD2

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	7.38	0.00	0.00	0.11	
	2	7.35	0.00	0.00	0.092	13
4,4'-DDE	1	6.92	0.00	0.00	0.10	
	2	6.92	0.00	0.00	0.091	13
4,4'-DDT	1	7.59	0.00	0.00	0.10	
	2	7.60	0.00	0.00	0.090	15
Aldrin	1	6.25	0.00	0.00	0.10	
	2	6.14	0.00	0.00	0.088	12
alpha-BHC	1	5.52	0.00	0.00	0.097	
	2	5.43	0.00	0.00	0.095	3
beta-BHC	1	5.78	0.00	0.00	0.097	
	2	5.70	0.00	0.00	0.092	6
delta-BHC	1	5.90	0.00	0.00	0.10	
	2	5.89	0.00	0.00	0.091	9
Dieldrin	1	7.15	0.00	0.00	0.10	
	2	7.03	0.00	0.00	0.083	21
Endosulfan I	1	6.97	0.00	0.00	0.096	
	2	6.82	0.00	0.00	0.090	7
Endosulfan II	1	7.50	0.00	0.00	0.10	
	2	7.42	0.00	0.00	0.091	9
Endosulfan Sulfate	1	8.15	0.00	0.00	0.10	
	2	7.91	0.00	0.00	0.090	12
Endrin	1	7.32	0.00	0.00	0.099	
	2	7.26	0.00	0.00	0.091	8
Endrin Ketone	1	8.34	0.00	0.00	0.11	
	2	8.28	0.00	0.00	0.095	12
gamma-BHC (Lindane)	1	5.73	0.00	0.00	0.10	
	2	5.65	0.00	0.00	0.094	9
Heptachlor	1	6.04	0.00	0.00	0.098	
	2	5.93	0.00	0.00	0.094	4
Heptachlor Epoxide	1	6.68	0.00	0.00	0.097	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B143191-BSD1 Date(s) Analyzed: 03/03/2016 03/03/2016

Instrument ID (1): ECD2 Instrument ID (2): ECD2

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.54	0.00	0.00	0.089	9
Hexachlorobenzene	1	5.41	0.00	0.00	0.089	
	2	5.34	0.00	0.00	0.086	4
Methoxychlor	1	7.97	0.00	0.00	0.10	
	2	8.14	0.00	0.00	0.090	12

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B143192-BS1

Date(s) Analyzed: 03/02/2016 03/02/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.18	
	2	0.00	0.00	0.00	0.20	9
Aroclor-1260	1	0.00	0.00	0.00	0.18	
	2	0.00	0.00	0.00	0.19	5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B143192-BSD1 Date(s) Analyzed: 03/02/2016 03/02/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.19	
	2	0.00	0.00	0.00	0.21	7
Aroclor-1260	1	0.00	0.00	0.00	0.19	
	2	0.00	0.00	0.00	0.20	4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS

Lab Sample ID: B143386-BS1

Date(s) Analyzed: 03/03/2016 03/03/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	15.11	0.00	0.00	7.55	
	2	14.76	0.00	0.00	8.41	11
2,4,5-TP (Silvex)	1	14.50	0.00	0.00	8.05	
	2	13.93	0.00	0.00	8.75	8
2,4-D	1	12.72	0.00	0.00	79.7	
	2	12.27	0.00	0.00	76.0	5
2,4-DB	1	16.29	0.00	0.00	81.0	
	2	15.85	0.00	0.00	84.9	5
Dalapon	1	4.19	0.00	0.00	121	
	2	3.67	0.00	0.00	130	7
Dicamba	1	10.70	0.00	0.00	8.48	
	2	10.20	0.00	0.00	8.87	5
Dichloroprop	1	12.23	0.00	0.00	101	
	2	11.63	0.00	0.00	106	5
Dinoseb	1	17.33	0.00	0.00	10.9	
	2	16.47	0.00	0.00	13.7	23
MCPA	1	11.49	0.00	0.00	9320	
	2	10.99	0.00	0.00	8240	12
MCPP	1	11.17	0.00	0.00	7830	
	2	10.53	0.00	0.00	8000	2

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS Dup

Lab Sample ID: B143386-BSD1 Date(s) Analyzed: 03/03/2016 03/03/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	15.10	0.00	0.00	8.78	
	2	14.76	0.00	0.00	9.73	10
2,4,5-TP (Silvex)	1	14.50	0.00	0.00	9.14	
	2	13.93	0.00	0.00	9.87	8
2,4-D	1	12.72	0.00	0.00	91.9	
	2	12.27	0.00	0.00	87.7	5
2,4-DB	1	16.29	0.00	0.00	90.6	
	2	15.85	0.00	0.00	95.6	5
Dalapon	1	4.19	0.00	0.00	150	
	2	3.68	0.00	0.00	163	8
Dicamba	1	10.70	0.00	0.00	9.77	
	2	10.20	0.00	0.00	10.3	5
Dichloroprop	1	12.23	0.00	0.00	115	
	2	11.63	0.00	0.00	120	4
Dinoseb	1	17.33	0.00	0.00	12.0	
	2	16.47	0.00	0.00	15.1	23
MCPA	1	11.49	0.00	0.00	9640	
	2	10.99	0.00	0.00	9870	2
MCPP	1	11.17	0.00	0.00	9050	
	2	10.53	0.00	0.00	9270	2

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
DL-03	Elevated reporting limit due to matrix.
DL-04	Elevated reporting limit due to high concentration of an interfering analyte(s).
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
P-02	Sample RPD between primary and confirmatory analysis exceeded 40%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.
RL-05	Elevated reporting limit due to high concentration of target compounds. MA CAM reporting limit not met.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.
S-07	One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 1030 in Soil	
Ignitability	NY,NH,CT,NC,ME,VA
SW-846 6010C-D in Soil	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
SW-846 6010C-D in Water	
Cadmium	NY,CT,ME,NC,NH,VA
Chromium	NY,CT,ME,NC,NH,VA
Lead	NY,CT,ME,NC,NH,VA
SW-846 7471B in Soil	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8081B in Soil	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Soil	
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,NC,ME,VA
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1221	CT,NH,NY,NC,ME,VA
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1232	CT,NH,NY,NC,ME,VA
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1242	CT,NH,NY,NC,ME,VA
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1248	CT,NH,NY,NC,ME,VA
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1254	CT,NH,NY,NC,ME,VA
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1260	CT,NH,NY,NC,ME,VA
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1262	NH,NY,NC,ME,VA
Aroclor-1262 [2C]	NH,NY,NC,ME,VA
Aroclor-1268	NH,NY,NC,ME,VA
Aroclor-1268 [2C]	NH,NY,NC,ME,VA
SW-846 8151A in Soil	
2,4-D	NY,ME,NC,NH,VA,CT
2,4-D [2C]	NY,ME,NC,NH,VA,CT
2,4-DB	NY,ME,NC,NH,VA,CT
2,4-DB [2C]	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex)	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex) [2C]	NY,ME,NC,NH,VA,CT
2,4,5-T	NY,ME,NC,NH,VA,CT
2,4,5-T [2C]	NY,ME,NC,NH,VA,CT
Dalapon	NY,ME,NC,NH,VA,CT
Dalapon [2C]	NY,ME,NC,NH,VA,CT
Dicamba	NY,ME,NC,NH,VA,CT

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8151A in Soil	
Dicamba [2C]	NY,ME,NC,NH,VA,CT
Dichloroprop	NY,ME,NC,NH,VA,CT
Dichloroprop [2C]	NY,ME,NC,NH,VA,CT
Dinoseb	NY,ME,NC,NH,VA,CT
Dinoseb [2C]	NY,ME,NC,NH,VA,CT
MCPA	NY,ME,NC,NH,VA,CT
MCPA [2C]	NY,ME,NC,NH,VA,CT
MCPP	NY,ME,NC,NH,VA,CT
MCPP [2C]	NY,ME,NC,NH,VA,CT
SW-846 8260C in Soil	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Soil	
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME
SW-846 8270D in Soil	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Acetophenone	NY,NH
Aniline	NY,NH
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D in Soil	
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	NY,NH
1,3-Dichlorobenzene	NY,NH
1,4-Dichlorobenzene	NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
1,2-Diphenylhydrazine (as Azobenzene)	NY,NH
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

16B1140

CHAIN OF CUSTODY RECORD

con-test ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Rev 04.05.12

Company Name: GEC
Address: 60 Brooks Drive
Braintree, MA 02184
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone: 781-356-9140
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@goldman
Format: ☑ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection: Beginning Date/Time	Collection: Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	Ignitability/Flamability	Corrosivity/Conducivity	VOCs/~~TCLP BENZENE~~	TPH	SVOCs	MA 14 Metals/TCLP LEAD	Reactive Sulfide/Cyanide	PCBs	Pest & Herbicides		
01	SP-1	2/29/16	10:30	X		S	U	✔	✔		✔	✔	✔	✔	✔	✔		
02	SP-1	↓	10:30		X	S	U			✔								

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:
*20X Rule: Run TCLP on compounds exceeding unless specified immediately.

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature) [signature]	2/29/16 13:30	Date/Time:
Received by: (signature) [signature]	2/29/16	Date/Time: 14:50
Relinquished by: (signature) [signature]	2/29/16	Date/Time: 1645
Received by: (signature) [signature]	5.2 2/29/16	Date/Time: 1645

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other 5 Day

RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
◉ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

AIHA LAP, LLC ACCREDITED LABORATORY
nelac
NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: ANTEA GROUP **RECEIVED BY**: VP **DATE**: 2/29/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 5.1

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

7) Location where samples are stored: 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	3
250 mL Amber (8oz amber)			4 oz amber/clear jar	
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below	3		Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

40 mL vials:	# HCl		# Methanol	1
Doc# 277	# Bisulfate	2	# DI Water	
Rev. 4 August 2013	# Thiosulfate		Unpreserved	

Time and Date Frozen:

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Date/Time:

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** VP **Date/Time: 2/29/16 1645**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16B1140
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16B1140-01 thru 16B1140-02

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B (X)	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B (X)	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C (X)	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Tod Kopyscinski Position: Laboratory Director

Printed Name: Tod E. Kopyscinski Date: 03/08/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 11, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C0365

Enclosed are results of analyses for samples received by the laboratory on March 9, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/11/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C0365

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SP-1	16C0365-01	Soil		SM 2540G	
				SW-846 1311	
				SW-846 8081B	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Tod E. Kopyscinski
Laboratory Director

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0365

Date Received: 3/9/2016

Field Sample #: SP-1
Sampled: 2/29/2016 10:30

Sample ID: 16C0365-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.2		% Wt	1		SM 2540G	2/29/16	3/9/16 18:08	MJR

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0365
Date Received: 3/9/2016
Field Sample #: SP-1
Sampled: 2/29/2016 10:30
Sample ID: 16C0365-01
Sample Matrix: Soil

TCLP - Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Heptachlor [1]	ND	0.050	µg/L	1		SW-846 8081B	3/10/16	3/10/16 22:41	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	82.3	30-150		3/10/16 22:41
Decachlorobiphenyl [2]	85.9	30-150		3/10/16 22:41
Tetrachloro-m-xylene [1]	88.5	30-150		3/10/16 22:41
Tetrachloro-m-xylene [2]	93.4	30-150		3/10/16 22:41

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Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C0365-01 [SP-1]	B143185	02/29/16

Prep Method: SW-846 3510C-SW-846 8081B **Leachates were extracted on 3/9/2016 per SW-846 1311 in Batch B143878**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16C0365-01 [SP-1]	B143962	500	5.00	03/10/16

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QUALITY CONTROL

TCLP - Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143962 - SW-846 3510C										
Blank (B143962-BLK1)				Prepared & Analyzed: 03/10/16						
Heptachlor	ND	0.050	µg/L							
Heptachlor [2C]	ND	0.050	µg/L							
Surrogate: Decachlorobiphenyl	*1.74*		µg/L	2.00		87.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.99*		µg/L	2.00		99.6	30-150			
Surrogate: Tetrachloro-m-xylene	*1.81*		µg/L	2.00		90.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.93*		µg/L	2.00		96.5	30-150			
LCS (B143962-BS1)				Prepared & Analyzed: 03/10/16						
Heptachlor	0.92	0.050	µg/L	1.00		92.2	40-140			
Heptachlor [2C]	0.96	0.050	µg/L	1.00		95.5	40-140			
Surrogate: Decachlorobiphenyl	*1.98*		µg/L	2.00		99.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.98*		µg/L	2.00		98.9	30-150			
Surrogate: Tetrachloro-m-xylene	*2.64*		µg/L	2.00		132	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*2.14*		µg/L	2.00		107	30-150			

con-test® ANALYTICAL LABORATORY

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BREAKDOWN REPORT

Lab Sample ID: **S010917-PEM1** **Analyzed:** **03/10/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	2.30
Endrin [1]	3.94

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	2.37
Endrin [2]	3.85

BREAKDOWN REPORT

Lab Sample ID: **S010917-PEM2** **Analyzed:** **03/11/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	2.56
Endrin [1]	3.64

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	2.72
Endrin [2]	3.43

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B143962-BS1 Date(s) Analyzed: 03/10/2016 03/10/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Heptachlor	1	5.65	0.00	0.00	0.92	
	2	5.65	0.00	0.00	0.96	4

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level

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

No results have been blank subtracted unless specified in the case narrative section.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Soil	
Heptachlor	CT,NY,ME,NC,NH,VA
Heptachlor [2C]	CT,NY,ME,NC,NH,VA
SW-846 8081B in Water	
Heptachlor	CT,ME,NC,NH,NY,VA
Heptachlor [2C]	CT,ME,NC,NH,NY,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

16C0365

CHAIN OF CUSTODY RECORD

con-test ANALYTICAL LABORATORY

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Email: info@contestlabs.com
www.contestlabs.com

39 Spruce Street
East longmeadow, MA 01028

Rev 04.05.12

Company Name: GEC
Address: 60 Brooks Drive
Braintree, MA 02184
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone: 781-356-9140
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@goldman
Format: ☒ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

8081 TCLP ON 2-DAY TAT
on Sample 1
KKM 3-9-16

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection: Beginning Date/Time	Collection: Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	Ignitability/Flamability	Corrosivity/Conducivity	VOCs/ZENE	TPH	SVOCs	MA 14 M	Reactiv	PCBs	Pest		
01	SP-1	2/29/16	10:30	X		S	U	✔	✔		✔	✔	✔	✔	✔	✔		
02	SP-1	↓	10:30		X	S	U			✔								

ANALYSIS REQUESTED

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:
*20X Rule: Run TCLP on compounds exceeding unless specified immediately.

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 2/29/16 13:30	
Received by: (signature) [signature] 2/29/16	14:50
Relinquished by: (signature) [signature] 2/29/16	1645
Received by: (signature) [signature] 5.2 2/29/16	1645

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other 5 Day

RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
◉ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

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nelac

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
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Sample Receipt Checklist

CLIENT NAME: GEC VP ~~ANTEA GROUP~~ **RECEIVED BY:** VP **DATE:** 2/29/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 5.1

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

7) Location where samples are stored: 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	3
250 mL Amber (8oz amber)			4 oz amber/clear jar	
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below	3		Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

40 mL vials:	# HCl		# Methanol	1	**Time and Date Frozen:**
Doc# 277	# Bisulfate	2	# DI Water		
Rev. 4 August 2013	# Thiosulfate		Unpreserved		

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** VP **Date/Time:** **Date/Time: 2/29/16 1645**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C0365
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C0365-01

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Tod Kopyscinski Position: Laboratory Director

Printed Name: Tod E. Kopyscinski Date: 03/11/16

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March 11, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C0400

Enclosed are results of analyses for samples received by the laboratory on March 9, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/11/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C0400

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GT-1	16C0400-01	Water	sample from inside of abandoned USTs	SW-846 8082A	
GT-2	16C0400-02	Water	sample from inside of abandoned USTs	SW-846 8082A	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Tod E. Kopyscinski
Laboratory Director

con-test® ANALYTICAL LABORATORY
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Project Location: Lowell
Sample Description: sample from inside of abandoned UST:
Work Order: 16C0400
Date Received: 3/9/2016
Field Sample #: GT-1
Sampled: 3/7/2016 11:55
Sample ID: 16C0400-01
Sample Matrix: Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:01	KAL
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:01	KAL
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:01	KAL
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:01	KAL
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:01	KAL
Aroclor-1254 [1]	1.2	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:01	KAL
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:01	KAL
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:01	KAL
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:01	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	71.6	30-150		3/11/16 11:01
Decachlorobiphenyl [2]	73.3	30-150		3/11/16 11:01
Tetrachloro-m-xylene [1]	79.9	30-150		3/11/16 11:01
Tetrachloro-m-xylene [2]	77.4	30-150		3/11/16 11:01

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Project Location: Lowell
Sample Description: sample from inside of abandoned UST:
Work Order: 16C0400
Date Received: 3/9/2016
Field Sample #: GT-2
Sampled: 3/7/2016 12:55
Sample ID: 16C0400-02
Sample Matrix: Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:14	KAL
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:14	KAL
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:14	KAL
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:14	KAL
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:14	KAL
Aroclor-1254 [1]	1.5	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:14	KAL
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:14	KAL
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:14	KAL
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	3/10/16	3/11/16 11:14	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	72.6	30-150		3/11/16 11:14
Decachlorobiphenyl [2]	74.9	30-150		3/11/16 11:14
Tetrachloro-m-xylene [1]	85.5	30-150		3/11/16 11:14
Tetrachloro-m-xylene [2]	82.3	30-150		3/11/16 11:14

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Sample Extraction Data

Prep Method: SW-846 3510C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16C0400-01 [GT-1]	B143905	1000	10.0	03/10/16
16C0400-02 [GT-2]	B143905	1000	10.0	03/10/16

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143905 - SW-846 3510C										
Blank (B143905-BLK1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	*1.52*		µg/L	2.00		76.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.54*		µg/L	2.00		77.0	30-150			
Surrogate: Tetrachloro-m-xylene	*1.69*		µg/L	2.00		84.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.61*		µg/L	2.00		80.4	30-150			
LCS (B143905-BS1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aroclor-1016	0.52	0.20	µg/L	0.500		103	40-140			
Aroclor-1016 [2C]	0.54	0.20	µg/L	0.500		108	40-140			
Aroclor-1260	0.49	0.20	µg/L	0.500		97.2	40-140			
Aroclor-1260 [2C]	0.47	0.20	µg/L	0.500		94.2	40-140			
Surrogate: Decachlorobiphenyl	*1.61*		µg/L	2.00		80.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.63*		µg/L	2.00		81.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.66*		µg/L	2.00		82.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.59*		µg/L	2.00		79.3	30-150			
LCS Dup (B143905-BSD1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aroclor-1016	0.51	0.20	µg/L	0.500		103	40-140	0.514	20	
Aroclor-1016 [2C]	0.51	0.20	µg/L	0.500		103	40-140	5.26	20	
Aroclor-1260	0.48	0.20	µg/L	0.500		95.6	40-140	1.70	20	
Aroclor-1260 [2C]	0.48	0.20	µg/L	0.500		95.7	40-140	1.51	20	
Surrogate: Decachlorobiphenyl	*1.57*		µg/L	2.00		78.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.60*		µg/L	2.00		80.2	30-150			
Surrogate: Tetrachloro-m-xylene	*1.73*		µg/L	2.00		86.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.65*		µg/L	2.00		82.5	30-150			

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

GT-1

Lab Sample ID: 16C0400-01

Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	0.00	0.00	1.2	
	2	0.00	0.00	0.00	1.1	6.2

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

GT-2

Lab Sample ID: 16C0400-02

Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	0.00	0.00	1.5	
	2	0.00	0.00	0.00	1.4	4.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B143905-BS1

Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.52	
	2	0.00	0.00	0.00	0.54	4
Aroclor-1260	1	0.00	0.00	0.00	0.49	
	2	0.00	0.00	0.00	0.47	3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B143905-BSD1 Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.51	
	2	0.00	0.00	0.00	0.51	1
Aroclor-1260	1	0.00	0.00	0.00	0.48	
	2	0.00	0.00	0.00	0.48	0

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level

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

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Water	
Aroclor-1016	CT,NH,NY,NC,ME,VA
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1221	CT,NH,NY,NC,ME,VA
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1232	CT,NH,NY,NC,ME,VA
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1242	CT,NH,NY,NC,ME,VA
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1248	CT,NH,NY,NC,ME,VA
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1254	CT,NH,NY,NC,ME,VA
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1260	CT,NH,NY,NC,ME,VA
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1262	NH,NY,NC,ME,VA
Aroclor-1262 [2C]	NH,NY,NC,ME,VA
Aroclor-1268	NH,NY,NC,ME,VA
Aroclor-1268 [2C]	NH,NY,NC,ME,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

160400

CHAIN OF CUSTODY RECORD

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Rev 04.05.12

Company Name: GEC
Telephone: 356-9140
Address: 60 Brooks
Project #
Client PO#: 1785-5060
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@golder
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	624	1664	7470	# of Containers	** Preservation	***Container Code
01	GT-1	3/7/16	11:55		X	W	U	X	X	X	6	4	1
02	GT-2	3/7/16	12:55		X	W		X	X	X	6	4	1

ANALYSIS REQUESTED

Comments: sample from inside of Abandoned USTs

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Relinquished by: (signature)	3/7/16 18:00	Date/Time:
Received by: (signature)	3-9-16	Date/Time: 1550
Relinquished by: (signature)	3-9-16	Date/Time: 1935
Received by: (signature)	3/9/16	Date/Time: 1935

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other _____
RUSH †
☐ †24-Hr ☒ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY**: VP **DATE**: 3/9/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6°C)? **Yes** X **No** ____ **N/A** ____

Temperature °C by Temp blank ____ Temperature °C by Temp gun 4.6

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** X **No** ____

Who was notified ____ Date ____ Time ____

7) Location where samples are stored: 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber	4		16 oz amber	
500 mL Amber			8 oz amber/clear jar	
250 mL Amber (8oz amber)			4 oz amber/clear jar	
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below			Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

40 mL vials:				Time and Date Frozen:
	# HCl	____	# Methanol ____	
	# Bisulfate	____	# DI Water ____	
	# Thiosulfate	____	Unpreserved ____	

Page 2 of 2

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** VP **Date/Time: 3/9/16 1935**

con-test® ANALYTICAL LABORATORY
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March 11, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C0420

Enclosed are results of analyses for samples received by the laboratory on March 9, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/11/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C0420

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
NSW-GT-1	16C0420-01	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
ESW-GT-1	16C0420-02	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
SSW-GT-1	16C0420-03	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
BTM-GT-1	16C0420-04	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
NSW-GT-2	16C0420-05	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
WSW-GT-2	16C0420-06	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/11/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C0420

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SSW-GT-2	16C0420-07	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
BTM-GT-2	16C0420-08	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	

con-test® ANALYTICAL LABORATORY

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

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MADEP-EPH-04-1.1

Qualifications:

MS-07A

Matrix spike and spike duplicate recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possiblity of matrix effects that lead to low bias or non-homogeneous sample aliquot cannot be eliminated.

Analyte & Samples(s) Qualified:

n-Nonane

B143900-MS1, B143900-MSD1

MS-22

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.

Analyte & Samples(s) Qualified:

Naphthalene

B143900-MSD1

SW-846 6010C/D

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Lead

B143921-BSD1

SW-846 8081B

Qualifications:

DL-03

Elevated reporting limit due to matrix.

Analyte & Samples(s) Qualified:

16C0420-01[NSW-GT-1], 16C0420-05[NSW-GT-2], 16C0420-07[SSW-GT-2], 16C0420-08[BTM-GT-2]

P-02

Sample RPD between primary and confirmatory analysis exceeded 40%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.

Analyte & Samples(s) Qualified:

Dieldrin

16C0420-01[NSW-GT-1]

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1260

B143898-MS1, B143898-MSD1

Aroclor-1260 [2C]

B143898-MS1, B143898-MSD1

MS-22

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.

Analyte & Samples(s) Qualified:

Aroclor-1016 [2C]

B143898-MSD1

O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

16C0420-02[ESW-GT-1], 16C0420-03[SSW-GT-1], 16C0420-04[BTM-GT-1], 16C0420-08[BTM-GT-2]

con-test® ANALYTICAL LABORATORY

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S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl
16C0420-01[NSW-GT-1]

Decachlorobiphenyl [2C]
16C0420-01[NSW-GT-1]

Tetrachloro-m-xylene
16C0420-01[NSW-GT-1]

Tetrachloro-m-xylene [2C]
16C0420-01[NSW-GT-1]

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Tod E. Kopyscinski
Laboratory Director

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: NSW-GT-1
Sampled: 3/8/2016 15:10
Sample ID: 16C0420-01
Sample Matrix: Soil
Sample Flags: DL-03

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
alpha-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
beta-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
delta-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
gamma-BHC (Lindane) [1]	ND	0.045	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
Chlordane [1]	ND	0.45	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
4,4'-DDD [1]	ND	0.090	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
4,4'-DDE [1]	ND	0.090	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
4,4'-DDT [1]	ND	0.090	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
Dieldrin [1]	0.11	0.090	mg/Kg dry	20	P-02	SW-846 8081B	3/9/16	3/11/16 4:39	JMB
Endosulfan I [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
Endosulfan II [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
Endosulfan sulfate [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
Endrin [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
Endrin ketone [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
Heptachlor [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
Heptachlor epoxide [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
Hexachlorobenzene [1]	ND	0.14	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB
Methoxychlor [1]	ND	1.1	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 4:39	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	69.0	30-150		3/11/16 4:39
Decachlorobiphenyl [2]	67.7	30-150		3/11/16 4:39
Tetrachloro-m-xylene [1]	75.2	30-150		3/11/16 4:39
Tetrachloro-m-xylene [2]	76.6	30-150		3/11/16 4:39

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: NSW-GT-1
Sampled: 3/8/2016 15:10
Sample ID: 16C0420-01
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/9/16	3/11/16 11:58	KAL
Aroclor-1221 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/9/16	3/11/16 11:58	KAL
Aroclor-1232 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/9/16	3/11/16 11:58	KAL
Aroclor-1242 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/9/16	3/11/16 11:58	KAL
Aroclor-1248 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/9/16	3/11/16 11:58	KAL
Aroclor-1254 [1]	6.3	1.1	mg/Kg dry	50		SW-846 8082A	3/9/16	3/11/16 11:58	KAL
Aroclor-1260 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/9/16	3/11/16 11:58	KAL
Aroclor-1262 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/9/16	3/11/16 11:58	KAL
Aroclor-1268 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/9/16	3/11/16 11:58	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/11/16 11:58
Decachlorobiphenyl [2]	*	30-150	S-01	3/11/16 11:58
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/11/16 11:58
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/11/16 11:58

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: NSW-GT-1
Sampled: 3/8/2016 15:10
Sample ID: 16C0420-01
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	34	23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
C19-C36 Aliphatics	140	23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Unadjusted C11-C22 Aromatics	560	23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
C11-C22 Aromatics	420	23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Acenaphthene	1.7	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Acenaphthylene	ND	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Anthracene	4.7	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Benzo(a)anthracene	10	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Benzo(a)pyrene	9.3	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Benzo(b)fluoranthene	13	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Benzo(g,h,i)perylene	4.9	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Benzo(k)fluoranthene	4.8	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Chrysene	12	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Dibenz(a,h)anthracene	1.5	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Fluoranthene	27	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Fluorene	2.1	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Indeno(1,2,3-cd)pyrene	5.2	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
2-Methylnaphthalene	0.48	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Naphthalene	0.70	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Phenanthrene	19	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS
Pyrene	25	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:38	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	58.5	40-140		3/10/16 11:38
o-Terphenyl (OTP)	76.2	40-140		3/10/16 11:38
2-Bromonaphthalene	84.0	40-140		3/10/16 11:38
2-Fluorobiphenyl	85.9	40-140		3/10/16 11:38

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: NSW-GT-1
Sampled: 3/8/2016 15:10
Sample ID: 16C0420-01
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.6	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:10	AME
Arsenic	9.8	2.6	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:10	AME
Barium	72	2.6	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:10	AME
Beryllium	ND	0.26	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:10	AME
Cadmium	0.81	0.26	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:10	AME
Chromium	26	0.53	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:10	AME
Lead	230	0.79	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:10	AME
Mercury	1.3	0.14	mg/Kg dry	5		SW-846 7471B	3/10/16	3/11/16 15:45	JMP
Nickel	22	0.53	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:10	AME
Selenium	ND	5.3	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:10	AME
Silver	ND	0.53	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:10	AME
Thallium	ND	2.6	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:10	AME
Vanadium	100	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:10	AME
Zinc	140	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:10	AME

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Project Location: Lowell
Sample Description:
Work Order: 16C0420

Date Received: 3/9/2016

Field Sample #: NSW-GT-1
Sampled: 3/8/2016 15:10

Sample ID: 16C0420-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.0		% Wt	1		SM 2540G	3/9/16	3/10/16 8:20	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: ESW-GT-1
Sampled: 3/8/2016 15:15
Sample ID: 16C0420-02
Sample Matrix: Soil

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
alpha-BHC [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
beta-BHC [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
delta-BHC [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
gamma-BHC (Lindane) [1]	ND	0.0022	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
Chlordane [1]	ND	0.022	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
4,4'-DDD [1]	ND	0.0045	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
4,4'-DDE [1]	ND	0.0045	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
4,4'-DDT [1]	ND	0.0045	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
Dieldrin [1]	ND	0.0045	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
Endosulfan I [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
Endosulfan II [1]	ND	0.0089	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
Endosulfan sulfate [1]	ND	0.0089	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
Endrin [1]	ND	0.0089	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
Endrin ketone [1]	ND	0.0089	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
Heptachlor [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
Heptachlor epoxide [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
Hexachlorobenzene [1]	ND	0.0067	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB
Methoxychlor [1]	ND	0.056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:02	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.9	30-150		3/11/16 5:02
Decachlorobiphenyl [2]	87.6	30-150		3/11/16 5:02
Tetrachloro-m-xylene [1]	84.0	30-150		3/11/16 5:02
Tetrachloro-m-xylene [2]	92.2	30-150		3/11/16 5:02

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: ESW-GT-1
Sampled: 3/8/2016 15:15
Sample ID: 16C0420-02
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:09	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:09	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:09	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:09	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:09	KAL
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:09	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:09	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:09	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:09	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.2	30-150		3/10/16 23:09
Decachlorobiphenyl [2]	87.2	30-150		3/10/16 23:09
Tetrachloro-m-xylene [1]	91.7	30-150		3/10/16 23:09
Tetrachloro-m-xylene [2]	98.5	30-150		3/10/16 23:09

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: ESW-GT-1
Sampled: 3/8/2016 15:15
Sample ID: 16C0420-02
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	13	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
C19-C36 Aliphatics	29	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Unadjusted C11-C22 Aromatics	41	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
C11-C22 Aromatics	41	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Chrysene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Fluoranthene	0.14	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Phenanthrene	0.30	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS
Pyrene	0.13	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 11:59	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	62.1	40-140		3/10/16 11:59
o-Terphenyl (OTP)	82.5	40-140		3/10/16 11:59
2-Bromonaphthalene	91.9	40-140		3/10/16 11:59
2-Fluorobiphenyl	92.4	40-140		3/10/16 11:59

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: ESW-GT-1
Sampled: 3/8/2016 15:15
Sample ID: 16C0420-02
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:14	AME
Arsenic	14	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:14	AME
Barium	43	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:14	AME
Beryllium	ND	0.28	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:14	AME
Cadmium	1.0	0.28	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:14	AME
Chromium	14	0.56	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:14	AME
Lead	290	0.83	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:14	AME
Mercury	0.63	0.13	mg/Kg dry	5		SW-846 7471B	3/10/16	3/11/16 15:46	JMP
Nickel	23	0.56	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:14	AME
Selenium	ND	5.6	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:14	AME
Silver	ND	0.56	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:14	AME
Thallium	ND	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:14	AME
Vanadium	36	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:14	AME
Zinc	210	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:14	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420

Date Received: 3/9/2016

Field Sample #: ESW-GT-1
Sampled: 3/8/2016 15:15

Sample ID: 16C0420-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.1		% Wt	1		SM 2540G	3/9/16	3/10/16 8:20	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: SSW-GT-1
Sampled: 3/8/2016 15:18
Sample ID: 16C0420-03
Sample Matrix: Soil

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
alpha-BHC [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
beta-BHC [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
delta-BHC [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
gamma-BHC (Lindane) [1]	ND	0.0022	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
Chlordane [1]	ND	0.022	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
4,4'-DDD [1]	ND	0.0045	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
4,4'-DDE [1]	ND	0.0045	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
4,4'-DDT [1]	ND	0.0045	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
Dieldrin [1]	ND	0.0045	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
Endosulfan I [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
Endosulfan II [1]	ND	0.0089	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
Endosulfan sulfate [1]	ND	0.0089	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
Endrin [1]	ND	0.0089	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
Endrin ketone [1]	ND	0.0089	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
Heptachlor [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
Heptachlor epoxide [1]	ND	0.0056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
Hexachlorobenzene [1]	ND	0.0067	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB
Methoxychlor [1]	ND	0.056	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:26	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	79.7	30-150		3/11/16 5:26
Decachlorobiphenyl [2]	83.9	30-150		3/11/16 5:26
Tetrachloro-m-xylene [1]	82.3	30-150		3/11/16 5:26
Tetrachloro-m-xylene [2]	85.1	30-150		3/11/16 5:26

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: SSW-GT-1
Sampled: 3/8/2016 15:18
Sample ID: 16C0420-03
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:27	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:27	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:27	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:27	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:27	KAL
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:27	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:27	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:27	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:27	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	83.5	30-150		3/10/16 23:27
Decachlorobiphenyl [2]	85.3	30-150		3/10/16 23:27
Tetrachloro-m-xylene [1]	88.6	30-150		3/10/16 23:27
Tetrachloro-m-xylene [2]	96.0	30-150		3/10/16 23:27

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: SSW-GT-1
Sampled: 3/8/2016 15:18
Sample ID: 16C0420-03
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
C19-C36 Aliphatics	17	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Unadjusted C11-C22 Aromatics	33	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
C11-C22 Aromatics	31	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Benzo(a)pyrene	0.24	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Benzo(b)fluoranthene	0.31	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Benzo(g,h,i)perylene	0.33	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Chrysene	0.17	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Fluoranthene	0.19	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Indeno(1,2,3-cd)pyrene	0.25	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Phenanthrene	0.24	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS
Pyrene	0.19	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:41	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	54.8	40-140		3/10/16 12:41
o-Terphenyl (OTP)	68.4	40-140		3/10/16 12:41
2-Bromonaphthalene	95.4	40-140		3/10/16 12:41
2-Fluorobiphenyl	95.2	40-140		3/10/16 12:41

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: SSW-GT-1
Sampled: 3/8/2016 15:18
Sample ID: 16C0420-03
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:19	AME
Arsenic	3.1	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:19	AME
Barium	27	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:19	AME
Beryllium	ND	0.28	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:19	AME
Cadmium	ND	0.28	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:19	AME
Chromium	12	0.56	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:19	AME
Lead	58	0.84	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:19	AME
Mercury	0.10	0.027	mg/Kg dry	1		SW-846 7471B	3/10/16	3/11/16 15:25	JMP
Nickel	9.0	0.56	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:19	AME
Selenium	ND	5.6	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:19	AME
Silver	ND	0.56	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:19	AME
Thallium	ND	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:19	AME
Vanadium	14	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:19	AME
Zinc	42	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:19	AME

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: SSW-GT-1
Sampled: 3/8/2016 15:18
Sample ID: 16C0420-03
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.5		% Wt	1		SM 2540G	3/9/16	3/10/16 8:20	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: BTM-GT-1
Sampled: 3/8/2016 15:05
Sample ID: 16C0420-04
Sample Matrix: Soil

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.0058	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
alpha-BHC [1]	ND	0.0058	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
beta-BHC [1]	ND	0.0058	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
delta-BHC [1]	ND	0.0058	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
gamma-BHC (Lindane) [1]	ND	0.0023	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
Chlordane [1]	ND	0.023	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
4,4'-DDD [1]	ND	0.0046	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
4,4'-DDE [1]	ND	0.0046	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
4,4'-DDT [1]	ND	0.0046	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
Dieldrin [1]	ND	0.0046	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
Endosulfan I [1]	ND	0.0058	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
Endosulfan II [1]	ND	0.0092	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
Endosulfan sulfate [1]	ND	0.0092	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
Endrin [1]	ND	0.0092	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
Endrin ketone [1]	ND	0.0092	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
Heptachlor [1]	ND	0.0058	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
Heptachlor epoxide [1]	ND	0.0058	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
Hexachlorobenzene [1]	ND	0.0069	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB
Methoxychlor [1]	ND	0.058	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 5:50	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.6	30-150		3/11/16 5:50
Decachlorobiphenyl [2]	91.8	30-150		3/11/16 5:50
Tetrachloro-m-xylene [1]	89.2	30-150		3/11/16 5:50
Tetrachloro-m-xylene [2]	90.1	30-150		3/11/16 5:50

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: BTM-GT-1
Sampled: 3/8/2016 15:05
Sample ID: 16C0420-04
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:45	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:45	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:45	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:45	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:45	KAL
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:45	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:45	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:45	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/10/16 23:45	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	90.0	30-150		3/10/16 23:45
Decachlorobiphenyl [2]	93.6	30-150		3/10/16 23:45
Tetrachloro-m-xylene [1]	94.6	30-150		3/10/16 23:45
Tetrachloro-m-xylene [2]	102	30-150		3/10/16 23:45

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: BTM-GT-1
Sampled: 3/8/2016 15:05
Sample ID: 16C0420-04
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
C19-C36 Aliphatics	ND	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Unadjusted C11-C22 Aromatics	27	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
C11-C22 Aromatics	25	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Acenaphthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Acenaphthylene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Benzo(a)anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Benzo(a)pyrene	0.27	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Benzo(b)fluoranthene	0.32	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Benzo(g,h,i)perylene	0.38	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Benzo(k)fluoranthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Chrysene	0.15	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Dibenz(a,h)anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Fluoranthene	0.15	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Fluorene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Indeno(1,2,3-cd)pyrene	0.36	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
2-Methylnaphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Naphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Phenanthrene	0.34	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS
Pyrene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 12:20	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	49.9	40-140		3/10/16 12:20
o-Terphenyl (OTP)	57.3	40-140		3/10/16 12:20
2-Bromonaphthalene	78.6	40-140		3/10/16 12:20
2-Fluorobiphenyl	79.3	40-140		3/10/16 12:20

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: BTM-GT-1
Sampled: 3/8/2016 15:05
Sample ID: 16C0420-04
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.9	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:25	AME
Arsenic	7.4	2.9	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:25	AME
Barium	34	2.9	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:25	AME
Beryllium	ND	0.29	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:25	AME
Cadmium	0.36	0.29	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:25	AME
Chromium	11	0.59	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:25	AME
Lead	100	0.88	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:25	AME
Mercury	0.14	0.027	mg/Kg dry	1		SW-846 7471B	3/10/16	3/11/16 15:27	JMP
Nickel	11	0.59	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:25	AME
Selenium	ND	5.9	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:25	AME
Silver	ND	0.59	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:25	AME
Thallium	ND	2.9	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:25	AME
Vanadium	27	1.2	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:25	AME
Zinc	37	1.2	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:25	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420

Date Received: 3/9/2016

Field Sample #: BTM-GT-1
Sampled: 3/8/2016 15:05

Sample ID: 16C0420-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.8		% Wt	1		SM 2540G	3/9/16	3/10/16 8:20	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: NSW-GT-2
Sampled: 3/8/2016 14:00
Sample ID: 16C0420-05
Sample Matrix: Soil
Sample Flags: DL-03

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
alpha-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
beta-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
delta-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
gamma-BHC (Lindane) [1]	ND	0.044	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
Chlordane [1]	ND	0.44	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
4,4'-DDD [1]	ND	0.088	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
4,4'-DDE [1]	ND	0.088	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
4,4'-DDT [1]	ND	0.088	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
Dieldrin [1]	ND	0.088	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
Endosulfan I [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
Endosulfan II [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
Endosulfan sulfate [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
Endrin [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
Endrin ketone [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
Heptachlor [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
Heptachlor epoxide [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
Hexachlorobenzene [1]	ND	0.13	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB
Methoxychlor [1]	ND	1.1	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 6:14	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	76.4	30-150		3/11/16 6:14
Decachlorobiphenyl [2]	74.8	30-150		3/11/16 6:14
Tetrachloro-m-xylene [1]	85.9	30-150		3/11/16 6:14
Tetrachloro-m-xylene [2]	88.1	30-150		3/11/16 6:14

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: NSW-GT-2
Sampled: 3/8/2016 14:00
Sample ID: 16C0420-05
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:03	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:03	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:03	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:03	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:03	KAL
Aroclor-1254 [1]	1.2	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:03	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:03	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:03	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:03	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.7	30-150		3/11/16 0:03
Decachlorobiphenyl [2]	91.1	30-150		3/11/16 0:03
Tetrachloro-m-xylene [1]	94.7	30-150		3/11/16 0:03
Tetrachloro-m-xylene [2]	95.1	30-150		3/11/16 0:03

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: NSW-GT-2
Sampled: 3/8/2016 14:00
Sample ID: 16C0420-05
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
C19-C36 Aliphatics	77	22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Unadjusted C11-C22 Aromatics	140	22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
C11-C22 Aromatics	120	22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Acenaphthene	0.37	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Acenaphthylene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Anthracene	0.73	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Benzo(a)anthracene	1.7	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Benzo(a)pyrene	0.69	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Benzo(b)fluoranthene	2.0	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Benzo(g,h,i)perylene	0.96	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Benzo(k)fluoranthene	0.73	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Chrysene	1.8	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Dibenz(a,h)anthracene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Fluoranthene	3.7	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Fluorene	0.37	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Indeno(1,2,3-cd)pyrene	0.93	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
2-Methylnaphthalene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Naphthalene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Phenanthrene	3.0	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS
Pyrene	3.4	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:02	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	49.5	40-140		3/10/16 13:02
o-Terphenyl (OTP)	55.9	40-140		3/10/16 13:02
2-Bromonaphthalene	77.9	40-140		3/10/16 13:02
2-Fluorobiphenyl	79.9	40-140		3/10/16 13:02

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: NSW-GT-2
Sampled: 3/8/2016 14:00
Sample ID: 16C0420-05
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:29	AME
Arsenic	6.0	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:29	AME
Barium	42	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:29	AME
Beryllium	ND	0.28	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:29	AME
Cadmium	0.61	0.28	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:29	AME
Chromium	19	0.56	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:29	AME
Lead	64	0.83	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:29	AME
Mercury	0.25	0.028	mg/Kg dry	1		SW-846 7471B	3/10/16	3/11/16 15:28	JMP
Nickel	14	0.56	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:29	AME
Selenium	ND	5.6	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:29	AME
Silver	ND	0.56	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:29	AME
Thallium	ND	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:29	AME
Vanadium	32	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:29	AME
Zinc	89	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:29	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420

Date Received: 3/9/2016

Field Sample #: NSW-GT-2
Sampled: 3/8/2016 14:00

Sample ID: 16C0420-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.1		% Wt	1		SM 2540G	3/9/16	3/10/16 8:20	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: WSW-GT-2
Sampled: 3/8/2016 14:15
Sample ID: 16C0420-06
Sample Matrix: Soil

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.0055	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
alpha-BHC [1]	ND	0.0055	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
beta-BHC [1]	ND	0.0055	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
delta-BHC [1]	ND	0.0055	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
gamma-BHC (Lindane) [1]	ND	0.0022	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
Chlordane [1]	0.045	0.022	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
4,4'-DDD [1]	ND	0.0044	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
4,4'-DDE [1]	ND	0.0044	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
4,4'-DDT [1]	ND	0.0044	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
Dieldrin [1]	ND	0.0044	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
Endosulfan I [1]	ND	0.0055	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
Endosulfan II [1]	ND	0.0088	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
Endosulfan sulfate [1]	ND	0.0088	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
Endrin [1]	ND	0.0088	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
Endrin ketone [1]	ND	0.0088	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
Heptachlor [1]	ND	0.0055	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
Heptachlor epoxide [1]	ND	0.0055	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
Hexachlorobenzene [1]	ND	0.0066	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB
Methoxychlor [1]	ND	0.055	mg/Kg dry	1		SW-846 8081B	3/9/16	3/11/16 6:37	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	87.9	30-150		3/11/16 6:37
Decachlorobiphenyl [2]	85.7	30-150		3/11/16 6:37
Tetrachloro-m-xylene [1]	86.9	30-150		3/11/16 6:37
Tetrachloro-m-xylene [2]	87.7	30-150		3/11/16 6:37

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: WSW-GT-2
Sampled: 3/8/2016 14:15
Sample ID: 16C0420-06
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:21	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:21	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:21	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:21	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:21	KAL
Aroclor-1254 [2]	0.16	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:21	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:21	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:21	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:21	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.5	30-150		3/11/16 0:21
Decachlorobiphenyl [2]	91.9	30-150		3/11/16 0:21
Tetrachloro-m-xylene [1]	95.6	30-150		3/11/16 0:21
Tetrachloro-m-xylene [2]	101	30-150		3/11/16 0:21

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: WSW-GT-2
Sampled: 3/8/2016 14:15
Sample ID: 16C0420-06
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Unadjusted C11-C22 Aromatics	40	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
C11-C22 Aromatics	33	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Anthracene	0.18	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Benzo(a)anthracene	0.50	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Benzo(a)pyrene	0.52	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Benzo(b)fluoranthene	0.67	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Benzo(g,h,i)perylene	0.41	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Benzo(k)fluoranthene	0.26	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Chrysene	0.59	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Fluoranthene	1.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Indeno(1,2,3-cd)pyrene	0.36	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Phenanthrene	0.74	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS
Pyrene	1.0	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 13:23	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	46.4	40-140		3/10/16 13:23
o-Terphenyl (OTP)	51.8	40-140		3/10/16 13:23
2-Bromonaphthalene	79.0	40-140		3/10/16 13:23
2-Fluorobiphenyl	77.4	40-140		3/10/16 13:23

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: WSW-GT-2
Sampled: 3/8/2016 14:15
Sample ID: 16C0420-06
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:33	AME
Arsenic	4.4	2.7	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:33	AME
Barium	28	2.7	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:33	AME
Beryllium	ND	0.27	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:33	AME
Cadmium	0.33	0.27	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:33	AME
Chromium	11	0.55	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:33	AME
Lead	40	0.82	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:33	AME
Mercury	0.099	0.026	mg/Kg dry	1		SW-846 7471B	3/10/16	3/11/16 15:30	JMP
Nickel	8.8	0.55	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:33	AME
Selenium	ND	5.5	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:33	AME
Silver	ND	0.55	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:33	AME
Thallium	ND	2.7	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:33	AME
Vanadium	15	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:33	AME
Zinc	35	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 14:33	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420

Date Received: 3/9/2016

Field Sample #: WSW-GT-2
Sampled: 3/8/2016 14:15

Sample ID: 16C0420-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.9		% Wt	1		SM 2540G	3/9/16	3/10/16 8:20	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: SSW-GT-2
Sampled: 3/8/2016 14:06
Sample ID: 16C0420-07
Sample Matrix: Soil
Sample Flags: DL-03

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
alpha-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
beta-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
delta-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
gamma-BHC (Lindane) [1]	ND	0.043	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
Chlordane [1]	ND	0.43	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
4,4'-DDD [1]	ND	0.087	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
4,4'-DDE [1]	ND	0.087	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
4,4'-DDT [1]	ND	0.087	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
Dieldrin [1]	ND	0.087	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
Endosulfan I [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
Endosulfan II [1]	ND	0.17	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
Endosulfan sulfate [1]	ND	0.17	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
Endrin [1]	ND	0.17	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
Endrin ketone [1]	ND	0.17	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
Heptachlor [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
Heptachlor epoxide [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
Hexachlorobenzene [1]	ND	0.13	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB
Methoxychlor [1]	ND	1.1	mg/Kg dry	20		SW-846 8081B	3/9/16	3/11/16 7:01	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	71.1	30-150		3/11/16 7:01
Decachlorobiphenyl [2]	73.6	30-150		3/11/16 7:01
Tetrachloro-m-xylene [1]	85.9	30-150		3/11/16 7:01
Tetrachloro-m-xylene [2]	90.2	30-150		3/11/16 7:01

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: SSW-GT-2
Sampled: 3/8/2016 14:06
Sample ID: 16C0420-07
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:40	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:40	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:40	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:40	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:40	KAL
Aroclor-1254 [1]	0.35	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:40	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:40	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:40	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:40	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	75.9	30-150		3/11/16 0:40
Decachlorobiphenyl [2]	73.5	30-150		3/11/16 0:40
Tetrachloro-m-xylene [1]	91.2	30-150		3/11/16 0:40
Tetrachloro-m-xylene [2]	97.8	30-150		3/11/16 0:40

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: SSW-GT-2
Sampled: 3/8/2016 14:06
Sample ID: 16C0420-07
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	37	22	mg/Kg dry	1		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
C19-C36 Aliphatics	200	22	mg/Kg dry	1		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Unadjusted C11-C22 Aromatics	220	43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
C11-C22 Aromatics	210	43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Acenaphthene	ND	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Acenaphthylene	ND	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Anthracene	ND	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Benzo(a)anthracene	0.78	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Benzo(a)pyrene	0.94	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Benzo(b)fluoranthene	1.1	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Benzo(g,h,i)perylene	0.77	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Benzo(k)fluoranthene	0.44	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Chrysene	1.0	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Dibenz(a,h)anthracene	ND	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Fluoranthene	1.6	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Fluorene	ND	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Indeno(1,2,3-cd)pyrene	0.56	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
2-Methylnaphthalene	ND	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Naphthalene	ND	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Phenanthrene	1.2	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS
Pyrene	1.6	0.43	mg/Kg dry	2		MADEP-EPH-04-1.1	3/10/16	3/11/16 9:33	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	56.4	40-140		3/11/16 9:33
o-Terphenyl (OTP)	73.0	40-140		3/11/16 9:33
2-Bromonaphthalene	90.5	40-140		3/11/16 9:33
2-Fluorobiphenyl	85.5	40-140		3/11/16 9:33

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: SSW-GT-2
Sampled: 3/8/2016 14:06
Sample ID: 16C0420-07
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:20	AME
Arsenic	5.7	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:20	AME
Barium	31	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:20	AME
Beryllium	ND	0.28	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:20	AME
Cadmium	0.60	0.28	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:20	AME
Chromium	18	0.55	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:20	AME
Lead	59	0.83	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:20	AME
Mercury	0.51	0.13	mg/Kg dry	5		SW-846 7471B	3/10/16	3/11/16 15:48	JMP
Nickel	18	0.55	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:20	AME
Selenium	ND	5.5	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:20	AME
Silver	ND	0.55	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:20	AME
Thallium	ND	2.8	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:20	AME
Vanadium	50	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:20	AME
Zinc	79	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:20	AME

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: SSW-GT-2
Sampled: 3/8/2016 14:06
Sample ID: 16C0420-07
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.6		% Wt	1		SM 2540G	3/9/16	3/10/16 8:20	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: BTM-GT-2
Sampled: 3/8/2016 14:03
Sample ID: 16C0420-08
Sample Matrix: Soil
Sample Flags: DL-03

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.055	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
alpha-BHC [1]	ND	0.055	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
beta-BHC [1]	ND	0.055	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
delta-BHC [1]	ND	0.055	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
gamma-BHC (Lindane) [1]	ND	0.022	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
Chlordane [1]	ND	0.22	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
4,4'-DDD [1]	ND	0.044	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
4,4'-DDE [1]	ND	0.044	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
4,4'-DDT [1]	ND	0.044	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
Dieldrin [1]	ND	0.044	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
Endosulfan I [1]	ND	0.055	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
Endosulfan II [1]	ND	0.088	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
Endosulfan sulfate [1]	ND	0.088	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
Endrin [1]	ND	0.088	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
Endrin ketone [1]	ND	0.088	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
Heptachlor [1]	ND	0.055	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
Heptachlor epoxide [1]	ND	0.055	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
Hexachlorobenzene [1]	ND	0.066	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB
Methoxychlor [1]	ND	0.55	mg/Kg dry	10		SW-846 8081B	3/9/16	3/11/16 7:25	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	82.4	30-150		3/11/16 7:25
Decachlorobiphenyl [2]	87.9	30-150		3/11/16 7:25
Tetrachloro-m-xylene [1]	93.9	30-150		3/11/16 7:25
Tetrachloro-m-xylene [2]	98.2	30-150		3/11/16 7:25

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: BTM-GT-2
Sampled: 3/8/2016 14:03
Sample ID: 16C0420-08
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:58	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:58	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:58	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:58	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:58	KAL
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:58	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:58	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:58	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/9/16	3/11/16 0:58	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.7	30-150		3/11/16 0:58
Decachlorobiphenyl [2]	86.3	30-150		3/11/16 0:58
Tetrachloro-m-xylene [1]	96.0	30-150		3/11/16 0:58
Tetrachloro-m-xylene [2]	101	30-150		3/11/16 0:58

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: BTM-GT-2
Sampled: 3/8/2016 14:03
Sample ID: 16C0420-08
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
C19-C36 Aliphatics	31	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Unadjusted C11-C22 Aromatics	45	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
C11-C22 Aromatics	45	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Benzo(a)pyrene	0.11	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Benzo(b)fluoranthene	0.15	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Chrysene	0.11	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Fluoranthene	0.17	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS
Pyrene	0.18	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/9/16	3/10/16 14:06	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	47.7	40-140		3/10/16 14:06
o-Terphenyl (OTP)	55.1	40-140		3/10/16 14:06
2-Bromonaphthalene	80.4	40-140		3/10/16 14:06
2-Fluorobiphenyl	80.2	40-140		3/10/16 14:06

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0420
Date Received: 3/9/2016
Field Sample #: BTM-GT-2
Sampled: 3/8/2016 14:03
Sample ID: 16C0420-08
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:25	AME
Arsenic	ND	2.7	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:25	AME
Barium	27	2.7	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:25	AME
Beryllium	ND	0.27	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:25	AME
Cadmium	0.34	0.27	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:25	AME
Chromium	10	0.54	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:25	AME
Lead	41	0.81	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:25	AME
Mercury	0.095	0.026	mg/Kg dry	1		SW-846 7471B	3/10/16	3/11/16 15:33	JMP
Nickel	8.9	0.54	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:25	AME
Selenium	ND	5.4	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:25	AME
Silver	ND	0.54	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:25	AME
Thallium	ND	2.7	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:25	AME
Vanadium	14	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:25	AME
Zinc	43	1.1	mg/Kg dry	1		SW-846 6010C/D	3/10/16	3/11/16 15:25	AME

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Project Location: Lowell
Sample Description:
Work Order: 16C0420

Date Received: 3/9/2016

Field Sample #: BTM-GT-2
Sampled: 3/8/2016 14:03

Sample ID: 16C0420-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.3		% Wt	1		SM 2540G	3/9/16	3/10/16 8:20	MRL

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Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0420-01 [NSW-GT-1]	B143900	20.1	2.00	03/09/16
16C0420-02 [ESW-GT-1]	B143900	20.2	2.00	03/09/16
16C0420-03 [SSW-GT-1]	B143900	20.0	2.00	03/09/16
16C0420-04 [BTM-GT-1]	B143900	20.0	2.00	03/09/16
16C0420-05 [NSW-GT-2]	B143900	20.2	2.00	03/09/16
16C0420-06 [WSW-GT-2]	B143900	20.1	2.00	03/09/16
16C0420-08 [BTM-GT-2]	B143900	20.2	2.00	03/09/16

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0420-07RE1 [SSW-GT-2]	B143912	10.2	2.00	03/10/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C0420-01 [NSW-GT-1]	B143895	03/09/16
16C0420-02 [ESW-GT-1]	B143895	03/09/16
16C0420-03 [SSW-GT-1]	B143895	03/09/16
16C0420-04 [BTM-GT-1]	B143895	03/09/16
16C0420-05 [NSW-GT-2]	B143895	03/09/16
16C0420-06 [WSW-GT-2]	B143895	03/09/16
16C0420-07 [SSW-GT-2]	B143895	03/09/16
16C0420-08 [BTM-GT-2]	B143895	03/09/16

Prep Method: SW-846 3050B-SW-846 6010C/D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0420-01 [NSW-GT-1]	B143921	1.07	50.0	03/10/16
16C0420-02 [ESW-GT-1]	B143921	1.02	50.0	03/10/16
16C0420-03 [SSW-GT-1]	B143921	1.00	50.0	03/10/16
16C0420-04 [BTM-GT-1]	B143921	0.996	50.0	03/10/16
16C0420-05 [NSW-GT-2]	B143921	1.01	50.0	03/10/16
16C0420-06 [WSW-GT-2]	B143921	1.02	50.0	03/10/16
16C0420-07 [SSW-GT-2]	B143921	1.00	50.0	03/10/16
16C0420-08 [BTM-GT-2]	B143921	1.02	50.0	03/10/16

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0420-01RE1 [NSW-GT-1]	B143935	0.619	50.0	03/10/16
16C0420-02RE1 [ESW-GT-1]	B143935	0.638	50.0	03/10/16
16C0420-03RE1 [SSW-GT-1]	B143935	0.617	50.0	03/10/16
16C0420-04RE1 [BTM-GT-1]	B143935	0.640	50.0	03/10/16
16C0420-05RE1 [NSW-GT-2]	B143935	0.610	50.0	03/10/16
16C0420-06RE1 [WSW-GT-2]	B143935	0.641	50.0	03/10/16
16C0420-07RE1 [SSW-GT-2]	B143935	0.627	50.0	03/10/16
16C0420-08RE1 [BTM-GT-2]	B143935	0.634	50.0	03/10/16

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3546-SW-846 8081B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0420-01 [NSW-GT-1]	B143899	10.1	10.0	03/09/16
16C0420-02 [ESW-GT-1]	B143899	10.2	10.0	03/09/16
16C0420-03 [SSW-GT-1]	B143899	10.0	10.0	03/09/16
16C0420-04 [BTM-GT-1]	B143899	10.1	10.0	03/09/16
16C0420-05 [NSW-GT-2]	B143899	10.2	10.0	03/09/16
16C0420-06 [WSW-GT-2]	B143899	10.2	10.0	03/09/16
16C0420-07 [SSW-GT-2]	B143899	10.2	10.0	03/09/16
16C0420-08 [BTM-GT-2]	B143899	10.1	10.0	03/09/16

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0420-01 [NSW-GT-1]	B143898	10.1	10.0	03/09/16
16C0420-02 [ESW-GT-1]	B143898	10.1	10.0	03/09/16
16C0420-03 [SSW-GT-1]	B143898	10.0	10.0	03/09/16
16C0420-04 [BTM-GT-1]	B143898	10.2	10.0	03/09/16
16C0420-05 [NSW-GT-2]	B143898	10.2	10.0	03/09/16
16C0420-06 [WSW-GT-2]	B143898	10.2	10.0	03/09/16
16C0420-07 [SSW-GT-2]	B143898	10.0	10.0	03/09/16
16C0420-08 [BTM-GT-2]	B143898	10.3	10.0	03/09/16

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143899 - SW-846 3546										
Blank (B143899-BLK1)				Prepared: 03/09/16 Analyzed: 03/10/16						
Aldrin	ND	0.0050	mg/Kg wet							
Aldrin [2C]	ND	0.0050	mg/Kg wet							
alpha-BHC	ND	0.0050	mg/Kg wet							
alpha-BHC [2C]	ND	0.0050	mg/Kg wet							
beta-BHC	ND	0.0050	mg/Kg wet							
beta-BHC [2C]	ND	0.0050	mg/Kg wet							
delta-BHC	ND	0.0050	mg/Kg wet							
delta-BHC [2C]	ND	0.0050	mg/Kg wet							
gamma-BHC (Lindane)	ND	0.0020	mg/Kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0020	mg/Kg wet							
Chlordane	ND	0.020	mg/Kg wet							
Chlordane [2C]	ND	0.020	mg/Kg wet							
4,4'-DDD	ND	0.0040	mg/Kg wet							
4,4'-DDD [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDE	ND	0.0040	mg/Kg wet							
4,4'-DDE [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDT	ND	0.0040	mg/Kg wet							
4,4'-DDT [2C]	ND	0.0040	mg/Kg wet							
Dieldrin	ND	0.0040	mg/Kg wet							
Dieldrin [2C]	ND	0.0040	mg/Kg wet							
Endosulfan I	ND	0.0050	mg/Kg wet							
Endosulfan I [2C]	ND	0.0050	mg/Kg wet							
Endosulfan II	ND	0.0080	mg/Kg wet							
Endosulfan II [2C]	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate [2C]	ND	0.0080	mg/Kg wet							
Endrin	ND	0.0080	mg/Kg wet							
Endrin [2C]	ND	0.0080	mg/Kg wet							
Endrin Aldehyde	ND	0.0080	mg/Kg wet							
Endrin Aldehyde [2C]	ND	0.0080	mg/Kg wet							
Endrin Ketone	ND	0.0080	mg/Kg wet							
Endrin Ketone [2C]	ND	0.0080	mg/Kg wet							
Heptachlor	ND	0.0050	mg/Kg wet							
Heptachlor [2C]	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide [2C]	ND	0.0050	mg/Kg wet							
Hexachlorobenzene	ND	0.0060	mg/Kg wet							
Hexachlorobenzene [2C]	ND	0.0060	mg/Kg wet							
Methoxychlor	ND	0.050	mg/Kg wet							
Methoxychlor [2C]	ND	0.050	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.206*		mg/Kg wet	0.200		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.209*		mg/Kg wet	0.200		104	30-150			
Surrogate: Tetrachloro-m-xylene	*0.197*		mg/Kg wet	0.200		98.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.210*		mg/Kg wet	0.200		105	30-150			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143899 - SW-846 3546										
LCS (B143899-BS1)				Prepared: 03/09/16 Analyzed: 03/10/16						
Aldrin	0.11	0.0050	mg/Kg wet	0.100		109	40-140			
Aldrin [2C]	0.12	0.0050	mg/Kg wet	0.100		120	40-140			
alpha-BHC	0.11	0.0050	mg/Kg wet	0.100		109	40-140			
alpha-BHC [2C]	0.12	0.0050	mg/Kg wet	0.100		118	40-140			
beta-BHC	0.11	0.0050	mg/Kg wet	0.100		106	40-140			
beta-BHC [2C]	0.12	0.0050	mg/Kg wet	0.100		118	40-140			
delta-BHC	0.11	0.0050	mg/Kg wet	0.100		109	40-140			
delta-BHC [2C]	0.12	0.0050	mg/Kg wet	0.100		118	40-140			
gamma-BHC (Lindane)	0.11	0.0020	mg/Kg wet	0.100		111	40-140			
gamma-BHC (Lindane) [2C]	0.12	0.0020	mg/Kg wet	0.100		124	40-140			
4,4'-DDD	0.12	0.0040	mg/Kg wet	0.100		119	40-140			
4,4'-DDD [2C]	0.12	0.0040	mg/Kg wet	0.100		124	40-140			
4,4'-DDE	0.12	0.0040	mg/Kg wet	0.100		118	40-140			
4,4'-DDE [2C]	0.13	0.0040	mg/Kg wet	0.100		125	40-140			
4,4'-DDT	0.11	0.0040	mg/Kg wet	0.100		114	40-140			
4,4'-DDT [2C]	0.12	0.0040	mg/Kg wet	0.100		119	40-140			
Dieldrin	0.11	0.0040	mg/Kg wet	0.100		112	40-140			
Dieldrin [2C]	0.12	0.0040	mg/Kg wet	0.100		120	40-140			
Endosulfan I	0.11	0.0050	mg/Kg wet	0.100		111	40-140			
Endosulfan I [2C]	0.12	0.0050	mg/Kg wet	0.100		116	40-140			
Endosulfan II	0.11	0.0080	mg/Kg wet	0.100		113	40-140			
Endosulfan II [2C]	0.12	0.0080	mg/Kg wet	0.100		117	40-140			
Endosulfan Sulfate	0.11	0.0080	mg/Kg wet	0.100		113	40-140			
Endosulfan Sulfate [2C]	0.12	0.0080	mg/Kg wet	0.100		115	40-140			
Endrin	0.12	0.0080	mg/Kg wet	0.100		117	40-140			
Endrin [2C]	0.12	0.0080	mg/Kg wet	0.100		122	40-140			
Endrin Ketone	0.12	0.0080	mg/Kg wet	0.100		120	40-140			
Endrin Ketone [2C]	0.12	0.0080	mg/Kg wet	0.100		120	40-140			
Heptachlor	0.11	0.0050	mg/Kg wet	0.100		106	40-140			
Heptachlor [2C]	0.12	0.0050	mg/Kg wet	0.100		118	40-140			
Heptachlor Epoxide	0.11	0.0050	mg/Kg wet	0.100		109	40-140			
Heptachlor Epoxide [2C]	0.11	0.0050	mg/Kg wet	0.100		113	40-140			
Hexachlorobenzene	0.095	0.0060	mg/Kg wet	0.100		94.6	40-140			
Hexachlorobenzene [2C]	0.10	0.0060	mg/Kg wet	0.100		102	40-140			
Methoxychlor	0.11	0.050	mg/Kg wet	0.100		113	40-140			
Methoxychlor [2C]	0.12	0.050	mg/Kg wet	0.100		118	40-140			
Surrogate: Decachlorobiphenyl	*0.211*		mg/Kg wet	0.200		105	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.214*		mg/Kg wet	0.200		107	30-150			
Surrogate: Tetrachloro-m-xylene	*0.190*		mg/Kg wet	0.200		95.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.211*		mg/Kg wet	0.200		105	30-150			
LCS Dup (B143899-BSD1)				Prepared: 03/09/16 Analyzed: 03/10/16						
Aldrin	0.10	0.0050	mg/Kg wet	0.100		102	40-140	6.93	30	
Aldrin [2C]	0.11	0.0050	mg/Kg wet	0.100		112	40-140	6.96	30	
alpha-BHC	0.10	0.0050	mg/Kg wet	0.100		101	40-140	6.96	30	
alpha-BHC [2C]	0.11	0.0050	mg/Kg wet	0.100		110	40-140	7.01	30	
beta-BHC	0.099	0.0050	mg/Kg wet	0.100		99.1	40-140	6.29	30	
beta-BHC [2C]	0.11	0.0050	mg/Kg wet	0.100		110	40-140	6.70	30	
delta-BHC	0.10	0.0050	mg/Kg wet	0.100		102	40-140	6.67	30	
delta-BHC [2C]	0.11	0.0050	mg/Kg wet	0.100		110	40-140	7.35	30	
gamma-BHC (Lindane)	0.10	0.0020	mg/Kg wet	0.100		104	40-140	6.86	30	
gamma-BHC (Lindane) [2C]	0.11	0.0020	mg/Kg wet	0.100		115	40-140	7.31	30	

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143899 - SW-846 3546										
LCS Dup (B143899-BSD1)				Prepared: 03/09/16 Analyzed: 03/10/16						
4,4'-DDD	0.11	0.0040	mg/Kg wet	0.100		110	40-140	7.54	30	
4,4'-DDD [2C]	0.12	0.0040	mg/Kg wet	0.100		117	40-140	6.25	30	
4,4'-DDE	0.11	0.0040	mg/Kg wet	0.100		110	40-140	6.30	30	
4,4'-DDE [2C]	0.12	0.0040	mg/Kg wet	0.100		117	40-140	6.62	30	
4,4'-DDT	0.11	0.0040	mg/Kg wet	0.100		108	40-140	5.86	30	
4,4'-DDT [2C]	0.11	0.0040	mg/Kg wet	0.100		111	40-140	7.03	30	
Dieldrin	0.11	0.0040	mg/Kg wet	0.100		105	40-140	6.25	30	
Dieldrin [2C]	0.11	0.0040	mg/Kg wet	0.100		112	40-140	6.91	30	
Endosulfan I	0.10	0.0050	mg/Kg wet	0.100		103	40-140	7.26	30	
Endosulfan I [2C]	0.11	0.0050	mg/Kg wet	0.100		108	40-140	6.92	30	
Endosulfan II	0.11	0.0080	mg/Kg wet	0.100		106	40-140	6.85	30	
Endosulfan II [2C]	0.11	0.0080	mg/Kg wet	0.100		109	40-140	6.73	30	
Endosulfan Sulfate	0.11	0.0080	mg/Kg wet	0.100		107	40-140	6.04	30	
Endosulfan Sulfate [2C]	0.11	0.0080	mg/Kg wet	0.100		108	40-140	6.49	30	
Endrin	0.11	0.0080	mg/Kg wet	0.100		110	40-140	6.25	30	
Endrin [2C]	0.11	0.0080	mg/Kg wet	0.100		115	40-140	6.23	30	
Endrin Ketone	0.11	0.0080	mg/Kg wet	0.100		112	40-140	7.13	30	
Endrin Ketone [2C]	0.11	0.0080	mg/Kg wet	0.100		112	40-140	6.90	30	
Heptachlor	0.099	0.0050	mg/Kg wet	0.100		99.4	40-140	6.91	30	
Heptachlor [2C]	0.11	0.0050	mg/Kg wet	0.100		110	40-140	6.79	30	
Heptachlor Epoxide	0.10	0.0050	mg/Kg wet	0.100		102	40-140	7.08	30	
Heptachlor Epoxide [2C]	0.11	0.0050	mg/Kg wet	0.100		106	40-140	7.23	30	
Hexachlorobenzene	0.087	0.0060	mg/Kg wet	0.100		87.3	40-140	7.95	30	
Hexachlorobenzene [2C]	0.094	0.0060	mg/Kg wet	0.100		93.7	40-140	8.25	30	
Methoxychlor	0.11	0.050	mg/Kg wet	0.100		108	40-140	5.28	30	
Methoxychlor [2C]	0.11	0.050	mg/Kg wet	0.100		112	40-140	5.29	30	
Surrogate: Decachlorobiphenyl	*0.190*		mg/Kg wet	0.200		94.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.196*		mg/Kg wet	0.200		97.9	30-150			
Surrogate: Tetrachloro-m-xylene	*0.170*		mg/Kg wet	0.200		85.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.189*		mg/Kg wet	0.200		94.3	30-150			
Matrix Spike (B143899-MS1)		**Source: 16C0420-02**		Prepared: 03/09/16 Analyzed: 03/11/16						
Aldrin	0.11	0.0057	mg/Kg dry	0.114	ND	93.3	30-150			
Aldrin [2C]	0.11	0.0057	mg/Kg dry	0.114	ND	101	30-150			
alpha-BHC	0.10	0.0057	mg/Kg dry	0.114	ND	89.0	30-150			
alpha-BHC [2C]	0.11	0.0057	mg/Kg dry	0.114	ND	94.4	30-150			
beta-BHC	0.097	0.0057	mg/Kg dry	0.114	ND	85.1	30-150			
beta-BHC [2C]	0.10	0.0057	mg/Kg dry	0.114	ND	88.7	30-150			
delta-BHC	0.098	0.0057	mg/Kg dry	0.114	ND	86.1	30-150			
delta-BHC [2C]	0.11	0.0057	mg/Kg dry	0.114	ND	93.5	30-150			
gamma-BHC (Lindane)	0.10	0.0023	mg/Kg dry	0.114	ND	87.9	30-150			
gamma-BHC (Lindane) [2C]	0.11	0.0023	mg/Kg dry	0.114	ND	98.6	30-150			
4,4'-DDD	0.11	0.0045	mg/Kg dry	0.114	ND	93.3	30-150			
4,4'-DDD [2C]	0.11	0.0045	mg/Kg dry	0.114	ND	94.4	30-150			
4,4'-DDE	0.11	0.0045	mg/Kg dry	0.114	ND	95.6	30-150			
4,4'-DDE [2C]	0.11	0.0045	mg/Kg dry	0.114	ND	101	30-150			
4,4'-DDT	0.11	0.0045	mg/Kg dry	0.114	ND	94.8	30-150			
4,4'-DDT [2C]	0.11	0.0045	mg/Kg dry	0.114	ND	94.0	30-150			
Dieldrin	0.11	0.0045	mg/Kg dry	0.114	ND	92.5	30-150			
Dieldrin [2C]	0.11	0.0045	mg/Kg dry	0.114	ND	99.1	30-150			
Endosulfan I	0.10	0.0057	mg/Kg dry	0.114	ND	90.6	30-150			
Endosulfan I [2C]	0.11	0.0057	mg/Kg dry	0.114	ND	94.8	30-150			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143899 - SW-846 3546										
Matrix Spike (B143899-MS1)		**Source: 16C0420-02**		Prepared: 03/09/16 Analyzed: 03/11/16						
Endosulfan II	0.099	0.0091	mg/Kg dry	0.114	ND	87.3	30-150			
Endosulfan II [2C]	0.11	0.0091	mg/Kg dry	0.114	ND	92.8	30-150			
Endosulfan Sulfate	0.094	0.0091	mg/Kg dry	0.114	ND	82.9	30-150			
Endosulfan Sulfate [2C]	0.092	0.0091	mg/Kg dry	0.114	ND	81.4	30-150			
Endrin	0.11	0.0091	mg/Kg dry	0.114	ND	101	30-150			
Endrin [2C]	0.12	0.0091	mg/Kg dry	0.114	ND	102	30-150			
Endrin Ketone	0.10	0.0091	mg/Kg dry	0.114	ND	91.4	30-150			
Endrin Ketone [2C]	0.10	0.0091	mg/Kg dry	0.114	ND	91.2	30-150			
Heptachlor	0.10	0.0057	mg/Kg dry	0.114	ND	92.1	30-150			
Heptachlor [2C]	0.12	0.0057	mg/Kg dry	0.114	ND	102	30-150			
Heptachlor Epoxide	0.10	0.0057	mg/Kg dry	0.114	ND	89.0	30-150			
Heptachlor Epoxide [2C]	0.11	0.0057	mg/Kg dry	0.114	ND	94.9	30-150			
Hexachlorobenzene	0.091	0.0068	mg/Kg dry	0.114	ND	80.4	30-150			
Hexachlorobenzene [2C]	0.097	0.0068	mg/Kg dry	0.114	ND	85.8	30-150			
Methoxychlor	0.11	0.057	mg/Kg dry	0.114	ND	92.7	30-150			
Methoxychlor [2C]	0.11	0.057	mg/Kg dry	0.114	ND	93.7	30-150			
Surrogate: Decachlorobiphenyl	*0.201*		mg/Kg dry	0.227		88.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.215*		mg/Kg dry	0.227		94.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.188*		mg/Kg dry	0.227		82.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.200*		mg/Kg dry	0.227		88.1	30-150			
Matrix Spike Dup (B143899-MSD1)		**Source: 16C0420-02**		Prepared: 03/09/16 Analyzed: 03/11/16						
Aldrin	0.11	0.0056	mg/Kg dry	0.111	ND	98.8	30-150	3.78	30	
Aldrin [2C]	0.12	0.0056	mg/Kg dry	0.111	ND	106	30-150	2.47	30	
alpha-BHC	0.11	0.0056	mg/Kg dry	0.111	ND	95.6	30-150	5.17	30	
alpha-BHC [2C]	0.11	0.0056	mg/Kg dry	0.111	ND	98.4	30-150	2.18	30	
beta-BHC	0.10	0.0056	mg/Kg dry	0.111	ND	91.5	30-150	5.28	30	
beta-BHC [2C]	0.10	0.0056	mg/Kg dry	0.111	ND	94.0	30-150	3.90	30	
delta-BHC	0.10	0.0056	mg/Kg dry	0.111	ND	92.4	30-150	5.13	30	
delta-BHC [2C]	0.11	0.0056	mg/Kg dry	0.111	ND	98.4	30-150	3.09	30	
gamma-BHC (Lindane)	0.11	0.0022	mg/Kg dry	0.111	ND	94.8	30-150	5.53	30	
gamma-BHC (Lindane) [2C]	0.12	0.0022	mg/Kg dry	0.111	ND	104	30-150	3.33	30	
4,4'-DDD	0.11	0.0045	mg/Kg dry	0.111	ND	98.9	30-150	3.88	30	
4,4'-DDD [2C]	0.11	0.0045	mg/Kg dry	0.111	ND	102	30-150	5.30	30	
4,4'-DDE	0.11	0.0045	mg/Kg dry	0.111	ND	100	30-150	2.96	30	
4,4'-DDE [2C]	0.12	0.0045	mg/Kg dry	0.111	ND	106	30-150	2.49	30	
4,4'-DDT	0.11	0.0045	mg/Kg dry	0.111	ND	100	30-150	3.67	30	
4,4'-DDT [2C]	0.11	0.0045	mg/Kg dry	0.111	ND	99.5	30-150	3.71	30	
Dieldrin	0.11	0.0045	mg/Kg dry	0.111	ND	98.0	30-150	3.75	30	
Dieldrin [2C]	0.12	0.0045	mg/Kg dry	0.111	ND	104	30-150	3.14	30	
Endosulfan I	0.11	0.0056	mg/Kg dry	0.111	ND	96.2	30-150	4.06	30	
Endosulfan I [2C]	0.11	0.0056	mg/Kg dry	0.111	ND	99.9	30-150	3.26	30	
Endosulfan II	0.10	0.0089	mg/Kg dry	0.111	ND	92.7	30-150	4.04	30	
Endosulfan II [2C]	0.11	0.0089	mg/Kg dry	0.111	ND	98.4	30-150	3.88	30	
Endosulfan Sulfate	0.096	0.0089	mg/Kg dry	0.111	ND	86.2	30-150	2.02	30	
Endosulfan Sulfate [2C]	0.094	0.0089	mg/Kg dry	0.111	ND	84.4	30-150	1.67	30	
Endrin	0.12	0.0089	mg/Kg dry	0.111	ND	107	30-150	3.72	30	
Endrin [2C]	0.12	0.0089	mg/Kg dry	0.111	ND	107	30-150	3.21	30	
Endrin Ketone	0.11	0.0089	mg/Kg dry	0.111	ND	95.7	30-150	2.64	30	
Endrin Ketone [2C]	0.11	0.0089	mg/Kg dry	0.111	ND	96.2	30-150	3.35	30	
Heptachlor	0.11	0.0056	mg/Kg dry	0.111	ND	97.3	30-150	3.51	30	
Heptachlor [2C]	0.12	0.0056	mg/Kg dry	0.111	ND	106	30-150	1.21	30	

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143899 - SW-846 3546										
Matrix Spike Dup (B143899-MSD1)		**Source: 16C0420-02**		Prepared: 03/09/16 Analyzed: 03/11/16						
Heptachlor Epoxide	0.11	0.0056	mg/Kg dry	0.111	ND	95.5	30-150	5.06	30	
Heptachlor Epoxide [2C]	0.11	0.0056	mg/Kg dry	0.111	ND	101	30-150	4.26	30	
Hexachlorobenzene	0.096	0.0067	mg/Kg dry	0.111	ND	86.1	30-150	4.86	30	
Hexachlorobenzene [2C]	0.098	0.0067	mg/Kg dry	0.111	ND	88.3	30-150	0.847	30	
Methoxychlor	0.11	0.056	mg/Kg dry	0.111	ND	99.9	30-150	5.43	30	
Methoxychlor [2C]	0.11	0.056	mg/Kg dry	0.111	ND	100	30-150	4.69	30	
Surrogate: Decachlorobiphenyl	*0.212*		mg/Kg dry	0.223		95.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.220*		mg/Kg dry	0.223		98.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.195*		mg/Kg dry	0.223		87.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.201*		mg/Kg dry	0.223		90.2	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143898 - SW-846 3540C										
Blank (B143898-BLK1)				Prepared: 03/09/16 Analyzed: 03/10/16						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.186*		mg/Kg wet	0.200		92.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.175*		mg/Kg wet	0.200		87.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.180*		mg/Kg wet	0.200		89.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.170*		mg/Kg wet	0.200		85.0	30-150			
LCS (B143898-BS1)				Prepared: 03/09/16 Analyzed: 03/10/16						
Aroclor-1016	0.21	0.020	mg/Kg wet	0.200		104	40-140			
Aroclor-1016 [2C]	0.21	0.020	mg/Kg wet	0.200		105	40-140			
Aroclor-1260	0.20	0.020	mg/Kg wet	0.200		101	40-140			
Aroclor-1260 [2C]	0.19	0.020	mg/Kg wet	0.200		95.8	40-140			
Surrogate: Decachlorobiphenyl	*0.208*		mg/Kg wet	0.200		104	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.194*		mg/Kg wet	0.200		96.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.203*		mg/Kg wet	0.200		101	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.191*		mg/Kg wet	0.200		95.6	30-150			
LCS Dup (B143898-BSD1)				Prepared: 03/09/16 Analyzed: 03/10/16						
Aroclor-1016	0.21	0.020	mg/Kg wet	0.200		104	40-140	0.573	30	
Aroclor-1016 [2C]	0.21	0.020	mg/Kg wet	0.200		104	40-140	1.08	30	
Aroclor-1260	0.20	0.020	mg/Kg wet	0.200		102	40-140	1.08	30	
Aroclor-1260 [2C]	0.19	0.020	mg/Kg wet	0.200		96.1	40-140	0.294	30	
Surrogate: Decachlorobiphenyl	*0.206*		mg/Kg wet	0.200		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.198*		mg/Kg wet	0.200		98.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.1	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B143898 - SW-846 3540C											
Matrix Spike (B143898-MS1)		**Source: 16C0420-01**		Prepared: 03/09/16 Analyzed: 03/11/16							
Aroclor-1016	0.29	0.11	mg/Kg dry	0.223	ND	130		40-140			
Aroclor-1016 [2C]	0.30	0.11	mg/Kg dry	0.223	ND	135		40-140			
Aroclor-1260	2.2	0.11	mg/Kg dry	0.223	ND	**981**	*	40-140			MS-21
Aroclor-1260 [2C]	2.0	0.11	mg/Kg dry	0.223	ND	**882**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.192*		mg/Kg dry	0.223		86.4		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.213*		mg/Kg dry	0.223		95.6		30-150			
Surrogate: Tetrachloro-m-xylene	*0.199*		mg/Kg dry	0.223		89.5		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.193*		mg/Kg dry	0.223		86.5		30-150			
Matrix Spike Dup (B143898-MSD1)		**Source: 16C0420-01**		Prepared: 03/09/16 Analyzed: 03/11/16							
Aroclor-1016	0.29	0.11	mg/Kg dry	0.223	ND	131		40-140		50	
Aroclor-1016 [2C]	0.31	0.11	mg/Kg dry	0.223	ND	**141**	*	40-140		50	MS-22
Aroclor-1260	2.2	0.11	mg/Kg dry	0.223	ND	**1000**	*	40-140	2.36	50	MS-21
Aroclor-1260 [2C]	2.0	0.11	mg/Kg dry	0.223	ND	**894**	*	40-140	1.32	50	MS-21
Surrogate: Decachlorobiphenyl	*0.198*		mg/Kg dry	0.223		88.7		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.221*		mg/Kg dry	0.223		99.3		30-150			
Surrogate: Tetrachloro-m-xylene	*0.199*		mg/Kg dry	0.223		89.3		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.193*		mg/Kg dry	0.223		86.4		30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143900 - SW-846 3546										
Blank (B143900-BLK1)				Prepared: 03/09/16 Analyzed: 03/10/16						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*3.64*		mg/Kg wet	4.99		72.9	40-140			
Surrogate: o-Terphenyl (OTP)	*3.78*		mg/Kg wet	5.00		75.6	40-140			
Surrogate: 2-Bromonaphthalene	*4.26*		mg/Kg wet	5.00		85.2	40-140			
Surrogate: 2-Fluorobiphenyl	*4.31*		mg/Kg wet	5.00		86.2	40-140			
LCS (B143900-BS1)				Prepared: 03/09/16 Analyzed: 03/10/16						
Acenaphthene	3.82	0.10	mg/Kg wet	5.00		76.4	40-140			
Acenaphthylene	3.72	0.10	mg/Kg wet	5.00		74.4	40-140			
Anthracene	4.25	0.10	mg/Kg wet	5.00		85.0	40-140			
Benzo(a)anthracene	4.11	0.10	mg/Kg wet	5.00		82.2	40-140			
Benzo(a)pyrene	4.00	0.10	mg/Kg wet	5.00		80.1	40-140			
Benzo(b)fluoranthene	4.03	0.10	mg/Kg wet	5.00		80.6	40-140			
Benzo(g,h,i)perylene	3.85	0.10	mg/Kg wet	5.00		77.0	40-140			
Benzo(k)fluoranthene	3.97	0.10	mg/Kg wet	5.00		79.5	40-140			
Chrysene	4.13	0.10	mg/Kg wet	5.00		82.6	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143900 - SW-846 3546										
LCS (B143900-BS1)				Prepared: 03/09/16 Analyzed: 03/10/16						
Dibenz(a,h)anthracene	4.08	0.10	mg/Kg wet	5.00		81.7	40-140			
Fluoranthene	4.23	0.10	mg/Kg wet	5.00		84.6	40-140			
Fluorene	3.97	0.10	mg/Kg wet	5.00		79.4	40-140			
Indeno(1,2,3-cd)pyrene	3.86	0.10	mg/Kg wet	5.00		77.2	40-140			
2-Methylnaphthalene	3.37	0.10	mg/Kg wet	5.00		67.5	40-140			
Naphthalene	3.19	0.10	mg/Kg wet	5.00		63.8	40-140			
Phenanthrene	4.19	0.10	mg/Kg wet	5.00		83.8	40-140			
Pyrene	4.24	0.10	mg/Kg wet	5.00		84.7	40-140			
n-Decane	2.69	0.10	mg/Kg wet	5.00		53.8	40-140			
n-Docosane	4.29	0.10	mg/Kg wet	5.00		85.8	40-140			
n-Dodecane	3.31	0.10	mg/Kg wet	5.00		66.1	40-140			
n-Eicosane	4.27	0.10	mg/Kg wet	5.00		85.4	40-140			
n-Hexacosane	3.99	0.10	mg/Kg wet	5.00		79.8	40-140			
n-Hexadecane	4.12	0.10	mg/Kg wet	5.00		82.4	40-140			
n-Hexatriacontane	4.15	0.10	mg/Kg wet	5.00		83.1	40-140			
n-Nonadecane	4.18	0.10	mg/Kg wet	5.00		83.5	40-140			
n-Nonane	1.92	0.10	mg/Kg wet	5.00		38.4	30-140			
n-Octacosane	3.99	0.10	mg/Kg wet	5.00		79.8	40-140			
n-Octadecane	4.17	0.10	mg/Kg wet	5.00		83.4	40-140			
n-Tetracosane	4.37	0.10	mg/Kg wet	5.00		87.4	40-140			
n-Tetradecane	3.78	0.10	mg/Kg wet	5.00		75.7	40-140			
n-Triacontane	3.97	0.10	mg/Kg wet	5.00		79.5	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.66*		mg/Kg wet	4.99		73.4	40-140			
Surrogate: o-Terphenyl (OTP)	*3.84*		mg/Kg wet	5.00		76.7	40-140			
Surrogate: 2-Bromonaphthalene	*4.35*		mg/Kg wet	5.00		86.9	40-140			
Surrogate: 2-Fluorobiphenyl	*4.42*		mg/Kg wet	5.00		88.4	40-140			
LCS Dup (B143900-BSD1)				Prepared: 03/09/16 Analyzed: 03/10/16						
Acenaphthene	3.96	0.10	mg/Kg wet	5.00		79.2	40-140	3.56	25	
Acenaphthylene	3.85	0.10	mg/Kg wet	5.00		76.9	40-140	3.40	25	
Anthracene	4.34	0.10	mg/Kg wet	5.00		86.9	40-140	2.23	25	
Benzo(a)anthracene	4.18	0.10	mg/Kg wet	5.00		83.7	40-140	1.72	25	
Benzo(a)pyrene	4.08	0.10	mg/Kg wet	5.00		81.6	40-140	1.87	25	
Benzo(b)fluoranthene	4.08	0.10	mg/Kg wet	5.00		81.6	40-140	1.20	25	
Benzo(g,h,i)perylene	3.91	0.10	mg/Kg wet	5.00		78.2	40-140	1.58	25	
Benzo(k)fluoranthene	4.06	0.10	mg/Kg wet	5.00		81.2	40-140	2.15	25	
Chrysene	4.21	0.10	mg/Kg wet	5.00		84.2	40-140	1.93	25	
Dibenz(a,h)anthracene	4.16	0.10	mg/Kg wet	5.00		83.3	40-140	1.93	25	
Fluoranthene	4.31	0.10	mg/Kg wet	5.00		86.1	40-140	1.77	25	
Fluorene	4.09	0.10	mg/Kg wet	5.00		81.8	40-140	2.96	25	
Indeno(1,2,3-cd)pyrene	3.93	0.10	mg/Kg wet	5.00		78.6	40-140	1.88	25	
2-Methylnaphthalene	3.52	0.10	mg/Kg wet	5.00		70.4	40-140	4.28	25	
Naphthalene	3.31	0.10	mg/Kg wet	5.00		66.2	40-140	3.67	25	
Phenanthrene	4.29	0.10	mg/Kg wet	5.00		85.9	40-140	2.39	25	
Pyrene	4.31	0.10	mg/Kg wet	5.00		86.2	40-140	1.74	25	
n-Decane	2.80	0.10	mg/Kg wet	5.00		56.0	40-140	3.98	25	
n-Docosane	4.40	0.10	mg/Kg wet	5.00		87.9	40-140	2.49	25	
n-Dodecane	3.48	0.10	mg/Kg wet	5.00		69.7	40-140	5.26	25	
n-Eicosane	4.25	0.10	mg/Kg wet	5.00		85.0	40-140	0.533	25	
n-Hexacosane	4.08	0.10	mg/Kg wet	5.00		81.5	40-140	2.15	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B143900 - SW-846 3546											
LCS Dup (B143900-BSD1)				Prepared: 03/09/16 Analyzed: 03/10/16							
n-Hexadecane	4.26	0.10	mg/Kg wet	5.00		85.1		40-140	3.17	25	
n-Hexatriacontane	4.25	0.10	mg/Kg wet	5.00		85.1		40-140	2.41	25	
n-Nonadecane	4.27	0.10	mg/Kg wet	5.00		85.5		40-140	2.31	25	
n-Nonane	1.97	0.10	mg/Kg wet	5.00		39.5		30-140	2.90	25	
n-Octacosane	4.08	0.10	mg/Kg wet	5.00		81.6		40-140	2.21	25	
n-Octadecane	4.29	0.10	mg/Kg wet	5.00		85.7		40-140	2.79	25	
n-Tetracosane	4.47	0.10	mg/Kg wet	5.00		89.4		40-140	2.29	25	
n-Tetradecane	3.94	0.10	mg/Kg wet	5.00		78.8		40-140	3.99	25	
n-Triacontane	4.06	0.10	mg/Kg wet	5.00		81.2		40-140	2.15	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
Surrogate: Chlorooctadecane (COD)	*3.62*		mg/Kg wet	4.99		72.5		40-140			
Surrogate: o-Terphenyl (OTP)	*3.86*		mg/Kg wet	5.00		77.3		40-140			
Surrogate: 2-Bromonaphthalene	*4.44*		mg/Kg wet	5.00		88.9		40-140			
Surrogate: 2-Fluorobiphenyl	*4.53*		mg/Kg wet	5.00		90.6		40-140			
Matrix Spike (B143900-MS1)		**Source: 16C0420-03**		Prepared: 03/09/16 Analyzed: 03/10/16							
C9-C18 Aliphatics	24.9	11	mg/Kg dry	33.5	10.1	44.2		40-140			
C19-C36 Aliphatics	41.0	11	mg/Kg dry	44.7	16.9	53.9		40-140			
Unadjusted C11-C22 Aromatics	89.4	11	mg/Kg dry	95.0	32.6	59.8		40-140			
Acenaphthene	3.45	0.11	mg/Kg dry	5.59	0.00	61.7		40-140			
Acenaphthylene	3.33	0.11	mg/Kg dry	5.59	0.00	59.6		40-140			
Anthracene	4.18	0.11	mg/Kg dry	5.59	0.00	74.8		40-140			
Benzo(a)anthracene	3.55	0.11	mg/Kg dry	5.59	0.111	61.6		40-140			
Benzo(a)pyrene	3.35	0.11	mg/Kg dry	5.59	0.242	55.6		40-140			
Benzo(b)fluoranthene	3.43	0.11	mg/Kg dry	5.59	0.309	55.9		40-140			
Benzo(g,h,i)perylene	2.95	0.11	mg/Kg dry	5.59	0.330	46.9		40-140			
Benzo(k)fluoranthene	3.38	0.11	mg/Kg dry	5.59	0.110	58.6		40-140			
Chrysene	3.61	0.11	mg/Kg dry	5.59	0.172	61.6		40-140			
Dibenz(a,h)anthracene	3.15	0.11	mg/Kg dry	5.59	0.00	56.4		40-140			
Fluoranthene	3.75	0.11	mg/Kg dry	5.59	0.191	63.6		40-140			
Fluorene	3.59	0.11	mg/Kg dry	5.59	0.00	64.3		40-140			
Indeno(1,2,3-cd)pyrene	2.96	0.11	mg/Kg dry	5.59	0.249	48.6		40-140			
2-Methylnaphthalene	2.86	0.11	mg/Kg dry	5.59	0.00	51.2		40-140			
Naphthalene	2.41	0.11	mg/Kg dry	5.59	0.00	43.1		40-140			
Phenanthrene	3.84	0.11	mg/Kg dry	5.59	0.242	64.4		40-140			
Pyrene	3.75	0.11	mg/Kg dry	5.59	0.189	63.8		40-140			
n-Nonane	0.944	0.11	mg/Kg dry	5.59	0.144	**14.3**	*	30-140			MS-07A
Surrogate: Chlorooctadecane (COD)	*2.82*		mg/Kg dry	5.58		50.5		40-140			
Surrogate: o-Terphenyl (OTP)	*3.62*		mg/Kg dry	5.59		64.8		40-140			
Surrogate: 2-Bromonaphthalene	*4.91*		mg/Kg dry	5.59		88.0		40-140			
Surrogate: 2-Fluorobiphenyl	*4.96*		mg/Kg dry	5.59		88.7		40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B143900 - SW-846 3546											
Matrix Spike Dup (B143900-MSD1)		**Source: 16C0420-03**		Prepared: 03/09/16 Analyzed: 03/10/16							
C9-C18 Aliphatics	23.6	11	mg/Kg dry	33.2	10.1	40.7		40-140	5.41	50	
C19-C36 Aliphatics	41.2	11	mg/Kg dry	44.3	16.9	54.8		40-140	0.388	50	
Unadjusted C11-C22 Aromatics	78.8	11	mg/Kg dry	94.0	32.6	49.1		40-140	12.6	50	
Acenaphthene	2.94	0.11	mg/Kg dry	5.53	0.00	53.2		40-140	15.7	50	
Acenaphthylene	2.88	0.11	mg/Kg dry	5.53	0.00	52.1		40-140	14.4	50	
Anthracene	3.56	0.11	mg/Kg dry	5.53	0.00	64.3		40-140	16.2	50	
Benzo(a)anthracene	3.11	0.11	mg/Kg dry	5.53	0.111	54.3		40-140	13.2	50	
Benzo(a)pyrene	3.00	0.11	mg/Kg dry	5.53	0.242	49.8		40-140	11.0	50	
Benzo(b)fluoranthene	3.08	0.11	mg/Kg dry	5.53	0.309	50.1		40-140	10.8	50	
Benzo(g,h,i)perylene	2.70	0.11	mg/Kg dry	5.53	0.330	42.8		40-140	8.85	50	
Benzo(k)fluoranthene	3.00	0.11	mg/Kg dry	5.53	0.110	52.2		40-140	12.1	50	
Chrysene	3.17	0.11	mg/Kg dry	5.53	0.172	54.2		40-140	13.1	50	
Dibenz(a,h)anthracene	2.83	0.11	mg/Kg dry	5.53	0.00	51.2		40-140	10.7	50	
Fluoranthene	3.27	0.11	mg/Kg dry	5.53	0.191	55.6		40-140	13.7	50	
Fluorene	3.05	0.11	mg/Kg dry	5.53	0.00	55.1		40-140	16.2	50	
Indeno(1,2,3-cd)pyrene	2.71	0.11	mg/Kg dry	5.53	0.249	44.5		40-140	8.95	50	
2-Methylnaphthalene	2.49	0.11	mg/Kg dry	5.53	0.00	45.1		40-140	13.7	50	
Naphthalene	2.17	0.11	mg/Kg dry	5.53	0.00	**39.3**	*	40-140	10.1	50	MS-22
Phenanthrene	3.31	0.11	mg/Kg dry	5.53	0.242	55.5		40-140	14.7	50	
Pyrene	3.27	0.11	mg/Kg dry	5.53	0.189	55.8		40-140	13.7	50	
n-Nonane	0.832	0.11	mg/Kg dry	5.53	0.144	**12.4**	*	30-140	12.6	50	MS-07A
Surrogate: Chlorooctadecane (COD)	*2.69*		mg/Kg dry	5.52		48.7		40-140			
Surrogate: o-Terphenyl (OTP)	*3.07*		mg/Kg dry	5.53		55.6		40-140			
Surrogate: 2-Bromonaphthalene	*4.57*		mg/Kg dry	5.53		82.7		40-140			
Surrogate: 2-Fluorobiphenyl	*4.65*		mg/Kg dry	5.53		84.0		40-140			
Batch B143912 - SW-846 3546											
Blank (B143912-BLK1)				Prepared: 03/10/16 Analyzed: 03/11/16							
C9-C18 Aliphatics	ND	10	mg/Kg wet								
C19-C36 Aliphatics	ND	10	mg/Kg wet								
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet								
C11-C22 Aromatics	ND	10	mg/Kg wet								
Acenaphthene	ND	0.10	mg/Kg wet								
Acenaphthylene	ND	0.10	mg/Kg wet								
Anthracene	ND	0.10	mg/Kg wet								
Benzo(a)anthracene	ND	0.10	mg/Kg wet								
Benzo(a)pyrene	ND	0.10	mg/Kg wet								
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet								
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet								
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet								
Chrysene	ND	0.10	mg/Kg wet								
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet								
Fluoranthene	ND	0.10	mg/Kg wet								
Fluorene	ND	0.10	mg/Kg wet								
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet								
2-Methylnaphthalene	ND	0.10	mg/Kg wet								
Naphthalene	ND	0.10	mg/Kg wet								
Phenanthrene	ND	0.10	mg/Kg wet								
Pyrene	ND	0.10	mg/Kg wet								
n-Decane	ND	0.10	mg/Kg wet								
n-Docosane	ND	0.10	mg/Kg wet								
n-Dodecane	ND	0.10	mg/Kg wet								

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143912 - SW-846 3546										
Blank (B143912-BLK1)				Prepared: 03/10/16 Analyzed: 03/11/16						
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*2.95*		mg/Kg wet	4.99		59.1	40-140			
Surrogate: o-Terphenyl (OTP)	*3.01*		mg/Kg wet	5.00		60.1	40-140			
Surrogate: 2-Bromonaphthalene	*3.93*		mg/Kg wet	5.00		78.6	40-140			
Surrogate: 2-Fluorobiphenyl	*3.96*		mg/Kg wet	5.00		79.2	40-140			
LCS (B143912-BS1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Acenaphthene	3.40	0.10	mg/Kg wet	5.00		68.0	40-140			
Acenaphthylene	3.27	0.10	mg/Kg wet	5.00		65.4	40-140			
Anthracene	3.92	0.10	mg/Kg wet	5.00		78.4	40-140			
Benzo(a)anthracene	3.85	0.10	mg/Kg wet	5.00		77.0	40-140			
Benzo(a)pyrene	3.75	0.10	mg/Kg wet	5.00		75.0	40-140			
Benzo(b)fluoranthene	3.77	0.10	mg/Kg wet	5.00		75.4	40-140			
Benzo(g,h,i)perylene	3.64	0.10	mg/Kg wet	5.00		72.7	40-140			
Benzo(k)fluoranthene	3.72	0.10	mg/Kg wet	5.00		74.5	40-140			
Chrysene	3.88	0.10	mg/Kg wet	5.00		77.6	40-140			
Dibenz(a,h)anthracene	3.85	0.10	mg/Kg wet	5.00		77.1	40-140			
Fluoranthene	3.95	0.10	mg/Kg wet	5.00		78.9	40-140			
Fluorene	3.57	0.10	mg/Kg wet	5.00		71.4	40-140			
Indeno(1,2,3-cd)pyrene	3.60	0.10	mg/Kg wet	5.00		72.0	40-140			
2-Methylnaphthalene	2.99	0.10	mg/Kg wet	5.00		59.7	40-140			
Naphthalene	2.82	0.10	mg/Kg wet	5.00		56.5	40-140			
Phenanthrene	3.88	0.10	mg/Kg wet	5.00		77.5	40-140			
Pyrene	3.95	0.10	mg/Kg wet	5.00		79.0	40-140			
n-Decane	2.54	0.10	mg/Kg wet	5.00		50.8	40-140			
n-Docosane	4.09	0.10	mg/Kg wet	5.00		81.8	40-140			
n-Dodecane	2.98	0.10	mg/Kg wet	5.00		59.6	40-140			
n-Eicosane	4.07	0.10	mg/Kg wet	5.00		81.5	40-140			
n-Hexacosane	3.78	0.10	mg/Kg wet	5.00		75.7	40-140			
n-Hexadecane	3.88	0.10	mg/Kg wet	5.00		77.6	40-140			
n-Hexatriacontane	3.96	0.10	mg/Kg wet	5.00		79.1	40-140			
n-Nonadecane	3.98	0.10	mg/Kg wet	5.00		79.5	40-140			
n-Nonane	1.99	0.10	mg/Kg wet	5.00		39.7	30-140			
n-Octacosane	3.78	0.10	mg/Kg wet	5.00		75.7	40-140			
n-Octadecane	3.97	0.10	mg/Kg wet	5.00		79.5	40-140			
n-Tetracosane	4.15	0.10	mg/Kg wet	5.00		83.0	40-140			
n-Tetradecane	3.39	0.10	mg/Kg wet	5.00		67.7	40-140			
n-Triacontane	3.77	0.10	mg/Kg wet	5.00		75.3	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143912 - SW-846 3546										
LCS (B143912-BS1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Surrogate: Chlorooctadecane (COD)	*3.42*		mg/Kg wet	4.99		68.6	40-140			
Surrogate: o-Terphenyl (OTP)	*3.55*		mg/Kg wet	5.00		71.0	40-140			
Surrogate: 2-Bromonaphthalene	*4.29*		mg/Kg wet	5.00		85.7	40-140			
Surrogate: 2-Fluorobiphenyl	*4.42*		mg/Kg wet	5.00		88.5	40-140			
LCS Dup (B143912-BSD1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Acenaphthene	3.08	0.10	mg/Kg wet	5.00		61.5	40-140	9.96	25	
Acenaphthylene	2.98	0.10	mg/Kg wet	5.00		59.6	40-140	9.26	25	
Anthracene	3.67	0.10	mg/Kg wet	5.00		73.4	40-140	6.61	25	
Benzo(a)anthracene	3.66	0.10	mg/Kg wet	5.00		73.1	40-140	5.21	25	
Benzo(a)pyrene	3.56	0.10	mg/Kg wet	5.00		71.2	40-140	5.32	25	
Benzo(b)fluoranthene	3.57	0.10	mg/Kg wet	5.00		71.4	40-140	5.39	25	
Benzo(g,h,i)perylene	3.44	0.10	mg/Kg wet	5.00		68.8	40-140	5.62	25	
Benzo(k)fluoranthene	3.54	0.10	mg/Kg wet	5.00		70.9	40-140	4.96	25	
Chrysene	3.68	0.10	mg/Kg wet	5.00		73.7	40-140	5.21	25	
Dibenz(a,h)anthracene	3.66	0.10	mg/Kg wet	5.00		73.3	40-140	5.05	25	
Fluoranthene	3.72	0.10	mg/Kg wet	5.00		74.4	40-140	5.84	25	
Fluorene	3.26	0.10	mg/Kg wet	5.00		65.2	40-140	9.09	25	
Indeno(1,2,3-cd)pyrene	3.42	0.10	mg/Kg wet	5.00		68.3	40-140	5.25	25	
2-Methylnaphthalene	2.71	0.10	mg/Kg wet	5.00		54.2	40-140	9.77	25	
Naphthalene	2.60	0.10	mg/Kg wet	5.00		52.0	40-140	8.25	25	
Phenanthrene	3.60	0.10	mg/Kg wet	5.00		72.1	40-140	7.32	25	
Pyrene	3.74	0.10	mg/Kg wet	5.00		74.7	40-140	5.61	25	
n-Decane	2.29	0.10	mg/Kg wet	5.00		45.9	40-140	10.1	25	
n-Docosane	3.61	0.10	mg/Kg wet	5.00		72.2	40-140	12.5	25	
n-Dodecane	2.60	0.10	mg/Kg wet	5.00		52.0	40-140	13.6	25	
n-Eicosane	3.57	0.10	mg/Kg wet	5.00		71.4	40-140	13.2	25	
n-Hexacosane	3.34	0.10	mg/Kg wet	5.00		66.9	40-140	12.4	25	
n-Hexadecane	3.36	0.10	mg/Kg wet	5.00		67.1	40-140	14.4	25	
n-Hexatriacontane	3.52	0.10	mg/Kg wet	5.00		70.3	40-140	11.8	25	
n-Nonadecane	3.48	0.10	mg/Kg wet	5.00		69.6	40-140	13.4	25	
n-Nonane	1.84	0.10	mg/Kg wet	5.00		36.7	30-140	7.75	25	
n-Octacosane	3.35	0.10	mg/Kg wet	5.00		67.0	40-140	12.1	25	
n-Octadecane	3.47	0.10	mg/Kg wet	5.00		69.4	40-140	13.5	25	
n-Tetracosane	3.65	0.10	mg/Kg wet	5.00		73.0	40-140	12.8	25	
n-Tetradecane	2.91	0.10	mg/Kg wet	5.00		58.3	40-140	15.0	25	
n-Triacontane	3.35	0.10	mg/Kg wet	5.00		66.9	40-140	11.8	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*2.87*		mg/Kg wet	4.99		57.6	40-140			
Surrogate: o-Terphenyl (OTP)	*3.27*		mg/Kg wet	5.00		65.3	40-140			
Surrogate: 2-Bromonaphthalene	*3.99*		mg/Kg wet	5.00		79.8	40-140			
Surrogate: 2-Fluorobiphenyl	*4.05*		mg/Kg wet	5.00		81.0	40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B143921 - SW-846 3050B											
Blank (B143921-BLK1)				Prepared: 03/10/16 Analyzed: 03/11/16							
Antimony	ND	2.5	mg/Kg wet								
Arsenic	ND	2.5	mg/Kg wet								
Barium	ND	2.5	mg/Kg wet								
Beryllium	ND	0.25	mg/Kg wet								
Cadmium	ND	0.25	mg/Kg wet								
Chromium	ND	0.50	mg/Kg wet								
Lead	ND	0.75	mg/Kg wet								
Nickel	ND	0.50	mg/Kg wet								
Selenium	ND	5.0	mg/Kg wet								
Silver	ND	0.50	mg/Kg wet								
Thallium	ND	2.5	mg/Kg wet								
Vanadium	ND	1.0	mg/Kg wet								
Zinc	ND	1.0	mg/Kg wet								
LCS (B143921-BS1)				Prepared: 03/10/16 Analyzed: 03/11/16							
Antimony	83.0	5.0	mg/Kg wet	105		79.0		0-210.3			
Arsenic	88.9	5.0	mg/Kg wet	98.5		90.2		77.8-122.1			
Barium	259	5.0	mg/Kg wet	308		84.2		82-117.4			
Beryllium	61.4	0.50	mg/Kg wet	66.0		93.0		82.3-117.7			
Cadmium	128	0.50	mg/Kg wet	146		88.0		81.9-118.2			
Chromium	164	1.0	mg/Kg wet	182		89.9		78.7-120.6			
Lead	108	1.5	mg/Kg wet	130		82.8		82.4-117.8			
Nickel	126	1.0	mg/Kg wet	149		84.9		82.2-117.8			
Selenium	139	10	mg/Kg wet	154		90.0		77.1-122.3			
Silver	34.8	1.0	mg/Kg wet	40.9		85.1		74.3-125.4			
Thallium	157	5.0	mg/Kg wet	175		89.7		78.2-121.6			
Vanadium	81.9	2.0	mg/Kg wet	96.7		84.7		64.8-135.2			
Zinc	174	2.0	mg/Kg wet	191		90.9		79.7-120.8			
LCS Dup (B143921-BSD1)				Prepared: 03/10/16 Analyzed: 03/11/16							
Antimony	74.1	5.0	mg/Kg wet	105		70.6		0-210.3	11.3	30	
Arsenic	79.9	5.0	mg/Kg wet	98.5		81.1		77.8-122.1	10.6	30	
Barium	253	5.0	mg/Kg wet	308		82.0		82-117.4	2.57	30	
Beryllium	55.9	0.50	mg/Kg wet	66.0		84.7		82.3-117.7	9.35	30	
Cadmium	121	0.50	mg/Kg wet	146		83.1		81.9-118.2	5.73	30	
Chromium	149	1.0	mg/Kg wet	182		81.6		78.7-120.6	9.65	30	
Lead	105	1.5	mg/Kg wet	130		**81.0**	*	82.4-117.8	2.18	30	L-07
Nickel	123	1.0	mg/Kg wet	149		82.7		82.2-117.8	2.54	30	
Selenium	126	10	mg/Kg wet	154		81.9		77.1-122.3	9.38	30	
Silver	31.9	1.0	mg/Kg wet	40.9		77.9		74.3-125.4	8.89	30	
Thallium	152	5.0	mg/Kg wet	175		86.7		78.2-121.6	3.35	30	
Vanadium	74.5	2.0	mg/Kg wet	96.7		77.1		64.8-135.2	9.43	30	
Zinc	159	2.0	mg/Kg wet	191		83.2		79.7-120.8	8.88	30	

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143921 - SW-846 3050B										
MRL Check (B143921-MRL1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Lead	0.623	0.75	mg/Kg wet	0.750		83.1	80-120			
Batch B143935 - SW-846 7471										
Blank (B143935-BLK2)				Prepared: 03/10/16 Analyzed: 03/11/16						
Mercury	ND	0.025	mg/Kg wet							
LCS (B143935-BS2)				Prepared: 03/10/16 Analyzed: 03/11/16						
Mercury	0.673	0.076	mg/Kg wet	0.710		94.7	73.7-126.3			
LCS Dup (B143935-BSD2)				Prepared: 03/10/16 Analyzed: 03/11/16						
Mercury	0.662	0.077	mg/Kg wet	0.710		93.3	73.7-126.3	1.52	30	

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143895 - % Solids										
Duplicate (B143895-DUP4)		**Source: 16C0420-01**		Prepared: 03/09/16 Analyzed: 03/10/16						
% Solids	88.0		% Wt		88.0			0.00	20	

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BREAKDOWN REPORT

Lab Sample ID: **S010917-PEM1** **Analyzed:** **03/10/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	2.30
Endrin [1]	3.94

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	2.37
Endrin [2]	3.85

BREAKDOWN REPORT

Lab Sample ID: **S010917-PEM2** **Analyzed:** **03/11/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	2.56
Endrin [1]	3.64

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	2.72
Endrin [2]	3.43

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

NSW-GT-1

Lab Sample ID: 16C0420-01

Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	6.3	
	2	0.00	-0.03	0.03	6.2	1.3
Dieldrin	1	6.67	0.00	0.00	0.11	
	2	6.67	0.00	0.00	0.34	99.6

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

NSW-GT-2

Lab Sample ID: 16C0420-05

Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	1.2	
	2	0.00	-0.03	0.03	1.2	2.5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

WSW-GT-2

Lab Sample ID: 16C0420-06

Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.15	
	2	0.00	-0.03	0.03	0.16	9.2
Chlordane	1	0.00	0.00	0.00	0.045	
	2	0.00	0.00	0.00	0.042	6.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

SSW-GT-2

Lab Sample ID: 16C0420-07

Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.35	
	2	0.00	-0.03	0.03	0.35	0.3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B143898-BS1

Date(s) Analyzed: 03/10/2016 03/10/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.21	
	2	0.00	-0.03	0.03	0.21	0
Aroclor-1260	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.19	6

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B143898-BSD1

Date(s) Analyzed: 03/10/2016 03/10/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.21	
	2	0.00	-0.03	0.03	0.21	1
Aroclor-1260	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.19	7

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B143898-MS1

Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.29	
	2	0.00	-0.03	0.03	0.30	4
Aroclor-1260	1	0.00	-0.03	0.03	2.2	
	2	0.00	-0.03	0.03	2.0	9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B143898-MSD1 Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.29	
	2	0.00	-0.03	0.03	0.31	6
Aroclor-1260	1	0.00	-0.03	0.03	2.2	
	2	0.00	-0.03	0.03	2.0	11

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B143899-BS1 Date(s) Analyzed: 03/10/2016 03/10/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	6.89	0.00	0.00	0.12	
	2	7.01	0.00	0.00	0.12	1
4,4'-DDE	1	6.47	0.00	0.00	0.12	
	2	6.58	0.00	0.00	0.13	10
4,4'-DDT	1	7.10	0.00	0.00	0.11	
	2	7.24	0.00	0.00	0.12	5
Aldrin	1	5.84	0.00	0.00	0.11	
	2	5.84	0.00	0.00	0.12	10
alpha-BHC	1	5.19	0.00	0.00	0.11	
	2	5.20	0.00	0.00	0.12	10
beta-BHC	1	5.42	0.00	0.00	0.11	
	2	5.45	0.00	0.00	0.12	12
delta-BHC	1	5.52	0.00	0.00	0.11	
	2	5.62	0.00	0.00	0.12	10
Dieldrin	1	6.66	0.00	0.00	0.11	
	2	6.68	0.00	0.00	0.12	7
Endosulfan I	1	6.50	0.00	0.00	0.11	
	2	6.49	0.00	0.00	0.12	8
Endosulfan II	1	6.99	0.00	0.00	0.11	
	2	7.06	0.00	0.00	0.12	6
Endosulfan Sulfate	1	7.63	0.00	0.00	0.11	
	2	7.53	0.00	0.00	0.12	6
Endrin	1	6.83	0.00	0.00	0.12	
	2	6.90	0.00	0.00	0.12	3
Endrin Ketone	1	7.85	0.00	0.00	0.12	
	2	7.94	0.00	0.00	0.12	0
gamma-BHC (Lindane)	1	5.37	0.00	0.00	0.11	
	2	5.40	0.00	0.00	0.12	8
Heptachlor	1	5.65	0.00	0.00	0.11	
	2	5.65	0.00	0.00	0.12	12
Heptachlor Epoxide	1	6.23	0.00	0.00	0.11	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B143899-BS1 Date(s) Analyzed: 03/10/2016 03/10/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.22	0.00	0.00	0.11	1
Hexachlorobenzene	1	5.09	0.00	0.00	0.095	
	2	5.11	0.00	0.00	0.10	6
Methoxychlor	1	7.48	0.00	0.00	0.11	
	2	7.80	0.00	0.00	0.12	6

con-test® ANALYTICAL LABORATORY

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B143899-BSD1 Date(s) Analyzed: 03/10/2016 03/10/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	6.89	0.00	0.00	0.11	
	2	7.01	0.00	0.00	0.12	9
4,4'-DDE	1	6.47	0.00	0.00	0.11	
	2	6.58	0.00	0.00	0.12	9
4,4'-DDT	1	7.10	0.00	0.00	0.11	
	2	7.24	0.00	0.00	0.11	2
Aldrin	1	5.84	0.00	0.00	0.10	
	2	5.85	0.00	0.00	0.11	8
alpha-BHC	1	5.19	0.00	0.00	0.10	
	2	5.20	0.00	0.00	0.11	9
beta-BHC	1	5.42	0.00	0.00	0.099	
	2	5.45	0.00	0.00	0.11	10
delta-BHC	1	5.52	0.00	0.00	0.10	
	2	5.62	0.00	0.00	0.11	8
Dieldrin	1	6.67	0.00	0.00	0.11	
	2	6.68	0.00	0.00	0.11	5
Endosulfan I	1	6.50	0.00	0.00	0.10	
	2	6.49	0.00	0.00	0.11	7
Endosulfan II	1	6.99	0.00	0.00	0.11	
	2	7.06	0.00	0.00	0.11	4
Endosulfan Sulfate	1	7.63	0.00	0.00	0.11	
	2	7.53	0.00	0.00	0.11	3
Endrin	1	6.83	0.00	0.00	0.11	
	2	6.90	0.00	0.00	0.11	0
Endrin Ketone	1	7.85	0.00	0.00	0.11	
	2	7.94	0.00	0.00	0.11	2
gamma-BHC (Lindane)	1	5.37	0.00	0.00	0.10	
	2	5.40	0.00	0.00	0.11	6
Heptachlor	1	5.65	0.00	0.00	0.099	
	2	5.65	0.00	0.00	0.11	10
Heptachlor Epoxide	1	6.23	0.00	0.00	0.10	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B143899-BSD1 Date(s) Analyzed: 03/10/2016 03/10/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.22	0.00	0.00	0.11	8
Hexachlorobenzene	1	5.09	0.00	0.00	0.087	
	2	5.11	0.00	0.00	0.094	7
Methoxychlor	1	7.48	0.00	0.00	0.11	
	2	7.80	0.00	0.00	0.11	2

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

Matrix Spike

Lab Sample ID: B143899-MS1 Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	6.89	0.00	0.00	0.11	
	2	7.01	0.00	0.00	0.11	4
4,4'-DDE	1	6.47	0.00	0.00	0.11	
	2	6.58	0.00	0.00	0.11	1
4,4'-DDT	1	7.10	0.00	0.00	0.11	
	2	7.24	0.00	0.00	0.11	2
Aldrin	1	5.84	0.00	0.00	0.11	
	2	5.85	0.00	0.00	0.11	4
alpha-BHC	1	5.19	0.00	0.00	0.10	
	2	5.20	0.00	0.00	0.11	9
beta-BHC	1	5.42	0.00	0.00	0.097	
	2	5.45	0.00	0.00	0.10	3
delta-BHC	1	5.52	0.00	0.00	0.098	
	2	5.62	0.00	0.00	0.11	12
Dieldrin	1	6.66	0.00	0.00	0.11	
	2	6.68	0.00	0.00	0.11	5
Endosulfan I	1	6.50	0.00	0.00	0.10	
	2	6.49	0.00	0.00	0.11	7
Endosulfan II	1	6.99	0.00	0.00	0.099	
	2	7.06	0.00	0.00	0.11	10
Endosulfan Sulfate	1	7.63	0.00	0.00	0.094	
	2	7.53	0.00	0.00	0.092	2
Endrin	1	6.83	0.00	0.00	0.11	
	2	6.90	0.00	0.00	0.12	4
Endrin Ketone	1	7.85	0.00	0.00	0.10	
	2	7.94	0.00	0.00	0.10	4
gamma-BHC (Lindane)	1	5.37	0.00	0.00	0.10	
	2	5.40	0.00	0.00	0.11	10
Heptachlor	1	5.65	0.00	0.00	0.10	
	2	5.65	0.00	0.00	0.12	13
Heptachlor Epoxide	1	6.23	0.00	0.00	0.10	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

Matrix Spike

Lab Sample ID: B143899-MS1 Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.22	0.00	0.00	0.11	9
Hexachlorobenzene	1	5.09	0.00	0.00	0.091	
	2	5.11	0.00	0.00	0.097	6
Methoxychlor	1	7.48	0.00	0.00	0.11	
	2	7.80	0.00	0.00	0.11	5

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

Matrix Spike Dup

Lab Sample ID: B143899-MSD1 Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	6.89	0.00	0.00	0.11	
	2	7.01	0.00	0.00	0.11	0
4,4'-DDE	1	6.47	0.00	0.00	0.11	
	2	6.58	0.00	0.00	0.12	7
4,4'-DDT	1	7.10	0.00	0.00	0.11	
	2	7.24	0.00	0.00	0.11	2
Aldrin	1	5.84	0.00	0.00	0.11	
	2	5.84	0.00	0.00	0.12	9
alpha-BHC	1	5.19	0.00	0.00	0.11	
	2	5.20	0.00	0.00	0.11	4
beta-BHC	1	5.42	0.00	0.00	0.10	
	2	5.45	0.00	0.00	0.10	2
delta-BHC	1	5.52	0.00	0.00	0.10	
	2	5.62	0.00	0.00	0.11	7
Dieldrin	1	6.66	0.00	0.00	0.11	
	2	6.68	0.00	0.00	0.12	10
Endosulfan I	1	6.50	0.00	0.00	0.11	
	2	6.48	0.00	0.00	0.11	3
Endosulfan II	1	6.99	0.00	0.00	0.10	
	2	7.06	0.00	0.00	0.11	7
Endosulfan Sulfate	1	7.63	0.00	0.00	0.096	
	2	7.53	0.00	0.00	0.094	2
Endrin	1	6.83	0.00	0.00	0.12	
	2	6.90	0.00	0.00	0.12	1
Endrin Ketone	1	7.85	0.00	0.00	0.11	
	2	7.94	0.00	0.00	0.11	4
gamma-BHC (Lindane)	1	5.37	0.00	0.00	0.11	
	2	5.40	0.00	0.00	0.12	13
Heptachlor	1	5.65	0.00	0.00	0.11	
	2	5.65	0.00	0.00	0.12	11
Heptachlor Epoxide	1	6.23	0.00	0.00	0.11	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

Matrix Spike Dup

Lab Sample ID: B143899-MSD1 Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.22	0.00	0.00	0.11	4
Hexachlorobenzene	1	5.09	0.00	0.00	0.096	
	2	5.11	0.00	0.00	0.098	2
Methoxychlor	1	7.48	0.00	0.00	0.11	
	2	7.80	0.00	0.00	0.11	1

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
DL-03	Elevated reporting limit due to matrix.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
MS-07A	Matrix spike and spike duplicate recovery is outside of control limits. Analysis is in control based on laboratory fortified blank recovery. Possiblity of matrix effects that lead to low bias or non-homogeneous sample aliquot cannot be eliminated.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
MS-22	Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.
O-32	A dilution was performed as part of the standard analytical procedure.
P-02	Sample RPD between primary and confirmatory analysis exceeded 40%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,WA,ME,NH-P
C19-C36 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME,NH-P
C11-C22 Aromatics	CT,NC,WA,ME,NH-P
Acenaphthene	CT,NC,WA,ME,NH-P
Acenaphthylene	CT,NC,WA,ME,NH-P
Anthracene	CT,NC,WA,ME,NH-P
Benzo(a)anthracene	CT,NC,WA,ME,NH-P
Benzo(a)pyrene	CT,NC,WA,ME,NH-P
Benzo(b)fluoranthene	CT,NC,WA,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,WA,ME,NH-P
Benzo(k)fluoranthene	CT,NC,WA,ME,NH-P
Chrysene	CT,NC,WA,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,WA,ME,NH-P
Fluoranthene	CT,NC,WA,ME,NH-P
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME,NH-P
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME,NH-P
Phenanthrene	CT,NC,WA,ME,NH-P
Pyrene	CT,NC,WA,ME,NH-P
SW-846 6010C/D in Soil	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
SW-846 7471B in Soil	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8081B in Soil	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Soil	
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16C0420
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks
Attention: A. Foley
Project Location: Lowell
Sampled By:

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@golder
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection: Beginning Date/Time	Collection: Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPA w/ Targets MA DEP	~~VPH w/ Targets MA DEP~~	PCBs 8082 w/ Soxhlet	MA 14 metals	pesticides 8081
01	NSW-GT-1	3/8/16	2:10		X			X		X	X	X
02	ESW-GT-1		3:15		X							
03	SSW-GT-1		3:18		X							
04	BTM-GT-1		3:05	X								
05	NSW-GT-2		2:00		X							
06	WSW-GT-2		12:15		X							
07	SSW-GT-2		2:06		X							
08	BTM-GT-2		2:03	X								

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V=vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 3/8/16	18:00
Received by: (signature) [signature] 3-9-16	1550
Relinquished by: (signature) [signature] 3-9-16	1935
Received by: (signature) [signature] 4.0 3/9/16	1935

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other ~~Sold~~
RUSH †
☐ †24-Hr ☒ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

Table of Contents

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY**: JDL **DATE**: 3/9/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** **X** **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 4.8

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** **RUSH** **No** ____

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	16
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		SOC Kit	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials:	# HCl		# Methanol	**Time and Date Frozen:**
Doc# 277	# Bisulfate		# DI Water	
Rev. 4 August 2013	# Thiosulfate		Unpreserved	

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JDL **3/9/16 1935**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C0420
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C0420-01 thru 16C0420-08

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B (X)	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Tod Kopyscinski Position: Laboratory Director

Printed Name: Tod E. Kopyscinski Date: 03/11/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

December 7, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C0454

Enclosed are results of analyses for samples received by the laboratory on March 10, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 12/7/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C0454

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
NSW-GT-1	16C0454-01	Soil		MADEP-VPH-04-1.1	
				SM 2540G	
SSW-GT-1	16C0454-02	Soil		MADEP-VPH-04-1.1	
				SM 2540G	
ESW-GT-1	16C0454-03	Soil		MADEP-VPH-04-1.1	
				SM 2540G	
BTM-GT-1	16C0454-04	Soil		MADEP-VPH-04-1.1	
				SM 2540G	
NSW-GT-2	16C0454-05	Soil		MADEP-VPH-04-1.1	
				SM 2540G	
SSW-GT-2	16C0454-06	Soil		MADEP-VPH-04-1.1	
				SM 2540G	
WSW-GT-2	16C0454-07	Soil		MADEP-VPH-04-1.1	
				SM 2540G	
BTM-GT-2	16C0454-08	Soil		MADEP-VPH-04-1.1	
				SM 2540G	
FO-1-TP (0-1')	16C0454-09	Soil		SM 2540G	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
FO-1-TP (1-2')	16C0454-10	Soil		SM 2540G	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
FO-1-TP (2-3')	16C0454-11	Soil		SM 2540G	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
FO-1 (3')	16C0454-12	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
				SW-846 8100 Modified	
				SW-846 8260C	
				SW-846 8270D	

con-test® ANALYTICAL LABORATORY

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

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MADEP-VPH-04-1.1

Qualifications:

O-01

Soil/methanol ratio does not meet method specifications. Excess amount of soil. Sample was completely covered with methanol, but with less than the method-specified amount.

Analyte & Samples(s) Qualified:

16C0454-01[NSW-GT-1], 16C0454-03[ESW-GT-1], 16C0454-04[BTM-GT-1], 16C0454-05[NSW-GT-2], 16C0454-07[WSW-GT-2], 16C0454-12[FO-1 (3')]

SW-846 6010C-D

Qualifications:

DL-04

Elevated reporting limit due to high concentration of an interfering analyte(s).

Analyte & Samples(s) Qualified:

Silver
16C0454-09[FO-1-TP (0-1')]

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Lead
B143754-BS1

SW-846 8081B

Qualifications:

DL-04

Elevated reporting limit due to high concentration of an interfering analyte(s).

Analyte & Samples(s) Qualified:

16C0454-09[FO-1-TP (0-1')], 16C0454-10[FO-1-TP (1-2')], 16C0454-11[FO-1-TP (2-3')]

P-08

Sample RPD between primary and confirmatory analysis exceeded 100%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.

Analyte & Samples(s) Qualified:

4,4'-DDE
16C0454-10[FO-1-TP (1-2')]

4,4'-DDT
16C0454-09[FO-1-TP (0-1')], 16C0454-10[FO-1-TP (1-2')], 16C0454-11[FO-1-TP (2-3')]

Dieldrin
16C0454-09[FO-1-TP (0-1')], 16C0454-10[FO-1-TP (1-2')], 16C0454-11[FO-1-TP (2-3')]

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1260
B143995-MS1, B143995-MSD1

Aroclor-1260 [2C]
B143995-MS1, B143995-MSD1

MS-22

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.

Analyte & Samples(s) Qualified:

Aroclor-1016 [2C]
B143995-MSD1

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O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

16C0454-12[FO-1 (3')]

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl
16C0454-09[FO-1-TP (0-1')], 16C0454-10[FO-1-TP (1-2')], 16C0454-11[FO-1-TP (2-3')]

Decachlorobiphenyl [2C]
16C0454-09[FO-1-TP (0-1')], 16C0454-10[FO-1-TP (1-2')], 16C0454-11[FO-1-TP (2-3')]

Tetrachloro-m-xylene
16C0454-09[FO-1-TP (0-1')], 16C0454-10[FO-1-TP (1-2')], 16C0454-11[FO-1-TP (2-3')]

Tetrachloro-m-xylene [2C]
16C0454-09[FO-1-TP (0-1')], 16C0454-10[FO-1-TP (1-2')], 16C0454-11[FO-1-TP (2-3')]

SW-846 8260C

Qualifications:

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Dichlorodifluoromethane (Freon 12
16C0454-12[FO-1 (3')], B144055-BLK1, B144055-BS1, B144055-BSD1

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Bromomethane
16C0454-12[FO-1 (3')], B144055-BLK1, B144055-BS1, B144055-BSD1

Chloromethane
16C0454-12[FO-1 (3')], B144055-BLK1, B144055-BS1, B144055-BSD1

Methylene Chloride
16C0454-12[FO-1 (3')], B144055-BLK1, B144055-BS1, B144055-BSD1

Tetrahydrofuran
16C0454-12[FO-1 (3')], B144055-BLK1, B144055-BS1, B144055-BSD1

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
16C0454-12[FO-1 (3')], B144055-BLK1, B144055-BS1, B144055-BSD1

SW-846 8270D

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

3,3-Dichlorobenzidine
B144018-BS1

S-07

One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.

Analyte & Samples(s) Qualified:

p-Terphenyl-d14
B144018-BLK1

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MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C 11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

MADEP-VPH-04-1.1

No significant modifications were made to the method. All VPH samples were received preserved properly in methanol with a soil/methanol ratio of 1:1 +/- 25% completely covered by methanol in the proper containers specified on the chain-of-custody form unless specified in this narrative.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

SW-846 8100 Modified

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for “difficult analytes” where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

SW-846 8270D

Laboratory control sample recoveries for required MCP Data Enhancement 8270 compounds were all within control limits specified by the method, 40-140% for base/neutrals and 30-130% for acids except for “difficult analytes” listed below and/or otherwise listed in this narrative. Difficult analytes limits are 15 and 140%: 2,4-dinitrophenol, 4-chloroaniline, 4-nitrophenol, and phenol.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Tod E. Kopyscinski
Laboratory Director

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: NSW-GT-1
Sampled: 3/9/2016 10:15
Sample ID: 16C0454-01
Sample Matrix: Soil

Sample Flags: O-01
Soil/Methanol Preservation Ratio: 1.56

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:50	EEH
C5-C8 Aliphatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:50	EEH
Unadjusted C9-C12 Aliphatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:50	EEH
C9-C12 Aliphatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:50	EEH
C9-C10 Aromatics	ND	8.6	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:50	EEH
Benzene	ND	0.043	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:50	EEH
Ethylbenzene	ND	0.043	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:50	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.043	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:50	EEH
Naphthalene	ND	0.22	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:50	EEH
Toluene	0.14	0.043	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:50	EEH
m+p Xylene	ND	0.086	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:50	EEH
o-Xylene	ND	0.043	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:50	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	120	70-130		3/14/16 15:50
2,5-Dibromotoluene (PID)	116	70-130		3/14/16 15:50

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16C0454

Date Received: 3/10/2016

Field Sample #: NSW-GT-1 | Sampled: 3/9/2016 10:15

Sample ID: 16C0454-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.0		% Wt	1		SM 2540G	3/15/16	3/15/16 9:27	JMG

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: SSW-GT-1
Sampled: 3/9/2016 10:18
Sample ID: 16C0454-02
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.24

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 16:26	EEH
C5-C8 Aliphatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 16:26	EEH
Unadjusted C9-C12 Aliphatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 16:26	EEH
C9-C12 Aliphatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 16:26	EEH
C9-C10 Aromatics	ND	10	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 16:26	EEH
Benzene	ND	0.052	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 16:26	EEH
Ethylbenzene	ND	0.052	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 16:26	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.052	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 16:26	EEH
Naphthalene	ND	0.26	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 16:26	EEH
Toluene	0.25	0.052	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 16:26	EEH
m+p Xylene	ND	0.10	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 16:26	EEH
o-Xylene	ND	0.052	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 16:26	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	125	70-130		3/14/16 16:26
2,5-Dibromotoluene (PID)	122	70-130		3/14/16 16:26

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454

Date Received: 3/10/2016

Field Sample #: SSW-GT-1
Sampled: 3/9/2016 10:18

Sample ID: 16C0454-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.1		% Wt	1		SM 2540G	3/15/16	3/15/16 9:27	JMG

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: ESW-GT-1
Sampled: 3/9/2016 10:21
Sample ID: 16C0454-03
Sample Matrix: Soil

Sample Flags: O-01
Soil/Methanol Preservation Ratio: 1.35

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	9.5	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:02	EEH
C5-C8 Aliphatics	ND	9.5	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:02	EEH
Unadjusted C9-C12 Aliphatics	ND	9.5	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:02	EEH
C9-C12 Aliphatics	ND	9.5	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:02	EEH
C9-C10 Aromatics	ND	9.5	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:02	EEH
Benzene	0.15	0.047	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:02	EEH
Ethylbenzene	ND	0.047	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:02	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.047	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:02	EEH
Naphthalene	ND	0.24	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:02	EEH
Toluene	0.23	0.047	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:02	EEH
m+p Xylene	ND	0.095	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:02	EEH
o-Xylene	ND	0.047	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:02	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	107	70-130		3/14/16 17:02
2,5-Dibromotoluene (PID)	113	70-130		3/14/16 17:02

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: ESW-GT-1
Sampled: 3/9/2016 10:21
Sample ID: 16C0454-03
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.5		% Wt	1		SM 2540G	3/15/16	3/15/16 9:27	JMG

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: BTM-GT-1
Sampled: 3/9/2016 10:24
Sample ID: 16C0454-04
Sample Matrix: Soil

Sample Flags: O-01
Soil/Methanol Preservation Ratio: 1.48

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	9.6	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:38	EEH
C5-C8 Aliphatics	ND	9.6	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:38	EEH
Unadjusted C9-C12 Aliphatics	ND	9.6	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:38	EEH
C9-C12 Aliphatics	ND	9.6	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:38	EEH
C9-C10 Aromatics	ND	9.6	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:38	EEH
Benzene	0.10	0.048	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:38	EEH
Ethylbenzene	ND	0.048	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:38	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.048	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:38	EEH
Naphthalene	ND	0.24	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:38	EEH
Toluene	0.60	0.048	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:38	EEH
m+p Xylene	ND	0.096	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:38	EEH
o-Xylene	ND	0.048	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 17:38	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	110	70-130		3/14/16 17:38
2,5-Dibromotoluene (PID)	108	70-130		3/14/16 17:38

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Project Location: Lowell
Sample Description:
Work Order: 16C0454

Date Received: 3/10/2016

Field Sample #: BTM-GT-1
Sampled: 3/9/2016 10:24

Sample ID: 16C0454-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.8		% Wt	1		SM 2540G	3/15/16	3/15/16 9:27	JMG

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: NSW-GT-2
Sampled: 3/9/2016 10:30
Sample ID: 16C0454-05
Sample Matrix: Soil

Sample Flags: O-01
Soil/Methanol Preservation Ratio: 1.58

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	8.3	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:14	EEH
C5-C8 Aliphatics	ND	8.3	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:14	EEH
Unadjusted C9-C12 Aliphatics	ND	8.3	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:14	EEH
C9-C12 Aliphatics	ND	8.3	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:14	EEH
C9-C10 Aromatics	ND	8.3	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:14	EEH
Benzene	ND	0.042	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:14	EEH
Ethylbenzene	ND	0.042	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:14	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.042	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:14	EEH
Naphthalene	ND	0.21	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:14	EEH
Toluene	ND	0.042	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:14	EEH
m+p Xylene	ND	0.083	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:14	EEH
o-Xylene	ND	0.042	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:14	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	116	70-130		3/14/16 18:14
2,5-Dibromotoluene (PID)	124	70-130		3/14/16 18:14

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Project Location: Lowell | Sample Description: | Work Order: 16C0454

Date Received: 3/10/2016

Field Sample #: NSW-GT-2 | Sampled: 3/9/2016 10:30

Sample ID: 16C0454-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.1		% Wt	1		SM 2540G	3/15/16	3/15/16 9:27	JMG

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: SSW-GT-2
Sampled: 3/9/2016 10:34
Sample ID: 16C0454-06
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.22

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:38	EEH
C5-C8 Aliphatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:38	EEH
Unadjusted C9-C12 Aliphatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:38	EEH
C9-C12 Aliphatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:38	EEH
C9-C10 Aromatics	ND	11	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:38	EEH
Benzene	ND	0.053	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:38	EEH
Ethylbenzene	ND	0.053	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:38	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.053	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:38	EEH
Naphthalene	ND	0.26	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:38	EEH
Toluene	0.087	0.053	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:38	EEH
m+p Xylene	ND	0.11	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:38	EEH
o-Xylene	ND	0.053	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:38	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	109	70-130		3/14/16 20:38
2,5-Dibromotoluene (PID)	102	70-130		3/14/16 20:38

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Project Location: Lowell | Sample Description: | Work Order: 16C0454

Date Received: 3/10/2016

Field Sample #: SSW-GT-2 | Sampled: 3/9/2016 10:34

Sample ID: 16C0454-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.9		% Wt	1		SM 2540G	3/15/16	3/15/16 9:27	JMG

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: WSW-GT-2
Sampled: 3/9/2016 10:38
Sample ID: 16C0454-07
Sample Matrix: Soil

Sample Flags: O-01
Soil/Methanol Preservation Ratio: 1.55

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	8.2	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:50	EEH
C5-C8 Aliphatics	ND	8.2	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:50	EEH
Unadjusted C9-C12 Aliphatics	ND	8.2	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:50	EEH
C9-C12 Aliphatics	ND	8.2	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:50	EEH
C9-C10 Aromatics	ND	8.2	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:50	EEH
Benzene	ND	0.041	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:50	EEH
Ethylbenzene	ND	0.041	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:50	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.041	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:50	EEH
Naphthalene	ND	0.20	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:50	EEH
Toluene	ND	0.041	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:50	EEH
m+p Xylene	ND	0.082	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:50	EEH
o-Xylene	ND	0.041	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 18:50	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	115	70-130		3/14/16 18:50
2,5-Dibromotoluene (PID)	122	70-130		3/14/16 18:50

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Project Location: Lowell
Sample Description:
Work Order: 16C0454

Date Received: 3/10/2016

Field Sample #: WSW-GT-2
Sampled: 3/9/2016 10:38

Sample ID: 16C0454-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.6		% Wt	1		SM 2540G	3/15/16	3/15/16 9:27	JMG

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: BTM-GT-2
Sampled: 3/9/2016 10:42
Sample ID: 16C0454-08
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.25

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	9.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 19:26	EEH
C5-C8 Aliphatics	ND	9.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 19:26	EEH
Unadjusted C9-C12 Aliphatics	ND	9.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 19:26	EEH
C9-C12 Aliphatics	ND	9.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 19:26	EEH
C9-C10 Aromatics	ND	9.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 19:26	EEH
Benzene	0.058	0.050	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 19:26	EEH
Ethylbenzene	ND	0.050	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 19:26	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 19:26	EEH
Naphthalene	ND	0.25	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 19:26	EEH
Toluene	0.32	0.050	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 19:26	EEH
m+p Xylene	ND	0.099	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 19:26	EEH
o-Xylene	ND	0.050	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 19:26	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	129	70-130		3/14/16 19:26
2,5-Dibromotoluene (PID)	111	70-130		3/14/16 19:26

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Project Location: Lowell
Sample Description:
Work Order: 16C0454

Date Received: 3/10/2016

Field Sample #: BTM-GT-2
Sampled: 3/9/2016 10:42

Sample ID: 16C0454-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.3		% Wt	1		SM 2540G	3/15/16	3/15/16 9:27	JMG

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1-TP (0-1')
Sampled: 3/9/2016 14:15
Sample ID: 16C0454-09
Sample Matrix: Soil
Sample Flags: DL-04

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
alpha-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
beta-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
delta-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
gamma-BHC (Lindane) [1]	ND	0.046	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
Chlordane [1]	ND	0.46	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
4,4'-DDD [1]	ND	0.092	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
4,4'-DDE [1]	ND	0.092	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
4,4'-DDT [1]	0.15	0.092	mg/Kg dry	20	P-08	SW-846 8081B	3/10/16	3/12/16 6:39	PJG
Dieldrin [1]	0.16	0.092	mg/Kg dry	20	P-08	SW-846 8081B	3/10/16	3/12/16 6:39	PJG
Endosulfan I [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
Endosulfan II [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
Endosulfan sulfate [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
Endrin [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
Endrin ketone [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
Heptachlor [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
Heptachlor epoxide [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
Hexachlorobenzene [1]	ND	0.14	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG
Methoxychlor [1]	ND	1.1	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 6:39	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	71.2	30-150		3/12/16 6:39
Decachlorobiphenyl [2]	55.5	30-150		3/12/16 6:39
Tetrachloro-m-xylene [1]	71.4	30-150		3/12/16 6:39
Tetrachloro-m-xylene [2]	73.6	30-150		3/12/16 6:39

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1-TP (0-1')
Sampled: 3/9/2016 14:15
Sample ID: 16C0454-09
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:12	KAL
Aroclor-1221 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:12	KAL
Aroclor-1232 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:12	KAL
Aroclor-1242 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:12	KAL
Aroclor-1248 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:12	KAL
Aroclor-1254 [2]	13	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:12	KAL
Aroclor-1260 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:12	KAL
Aroclor-1262 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:12	KAL
Aroclor-1268 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:12	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/12/16 14:12
Decachlorobiphenyl [2]	*	30-150	S-01	3/12/16 14:12
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/12/16 14:12
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/12/16 14:12

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1-TP (0-1')
Sampled: 3/9/2016 14:15
Sample ID: 16C0454-09
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	3.0	2.8	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:17	AMP
Arsenic	19	2.8	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:17	AMP
Barium	140	2.8	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:17	AMP
Beryllium	0.68	0.28	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:17	AMP
Cadmium	1.4	0.28	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:17	AMP
Chromium	36	0.57	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:17	AMP
Lead	340	0.85	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:17	AMP
Mercury	0.68	0.14	mg/Kg dry	5		SW-846 7471B	3/12/16	3/14/16 14:09	TGW
Nickel	32	0.57	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:17	AMP
Selenium	ND	5.7	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:17	AMP
Silver	ND	1.1	mg/Kg dry	2	DL-04	SW-846 6010C-D	3/11/16	3/14/16 10:09	AME
Thallium	ND	2.8	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:17	AMP
Vanadium	160	1.1	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:17	AMP
Zinc	250	1.1	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:17	AMP

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1-TP (0-1')
Sampled: 3/9/2016 14:15
Sample ID: 16C0454-09
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.4		% Wt	1		SM 2540G	3/10/16	3/11/16 13:33	MJR

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Project Location: Lowell
Sample Description:
Work Order: 16C0454

Date Received: 3/10/2016

Field Sample #: FO-1-TP (1-2')
Sampled: 3/9/2016 14:30

Sample ID: 16C0454-10

Sample Matrix: Soil

Sample Flags: DL-04

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
alpha-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
beta-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
delta-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
gamma-BHC (Lindane) [1]	ND	0.046	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
Chlordane [1]	ND	0.46	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
4,4'-DDD [1]	ND	0.093	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
4,4'-DDE [1]	0.093	0.093	mg/Kg dry	20	P-08	SW-846 8081B	3/10/16	3/12/16 7:03	PJG
4,4'-DDT [1]	0.13	0.093	mg/Kg dry	20	P-08	SW-846 8081B	3/10/16	3/12/16 7:03	PJG
Dieldrin [1]	0.19	0.093	mg/Kg dry	20	P-08	SW-846 8081B	3/10/16	3/12/16 7:03	PJG
Endosulfan I [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
Endosulfan II [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
Endosulfan sulfate [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
Endrin [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
Endrin ketone [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
Heptachlor [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
Heptachlor epoxide [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
Hexachlorobenzene [1]	ND	0.14	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG
Methoxychlor [1]	ND	1.2	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:03	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	70.1	30-150		3/12/16 7:03
Decachlorobiphenyl [2]	60.2	30-150		3/12/16 7:03
Tetrachloro-m-xylene [1]	76.2	30-150		3/12/16 7:03
Tetrachloro-m-xylene [2]	76.2	30-150		3/12/16 7:03

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1-TP (1-2')
Sampled: 3/9/2016 14:30
Sample ID: 16C0454-10
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:25	KAL
Aroclor-1221 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:25	KAL
Aroclor-1232 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:25	KAL
Aroclor-1242 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:25	KAL
Aroclor-1248 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:25	KAL
Aroclor-1254 [1]	12	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:25	KAL
Aroclor-1260 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:25	KAL
Aroclor-1262 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:25	KAL
Aroclor-1268 [1]	ND	2.3	mg/Kg dry	100		SW-846 8082A	3/10/16	3/12/16 14:25	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/12/16 14:25
Decachlorobiphenyl [2]	*	30-150	S-01	3/12/16 14:25
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/12/16 14:25
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/12/16 14:25

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1-TP (1-2')
Sampled: 3/9/2016 14:30
Sample ID: 16C0454-10
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.9	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:22	AMP
Arsenic	14	2.9	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:22	AMP
Barium	95	2.9	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:22	AMP
Beryllium	0.39	0.29	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:22	AMP
Cadmium	0.98	0.29	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:22	AMP
Chromium	31	0.59	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:22	AMP
Lead	1100	0.88	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:22	AMP
Mercury	0.93	0.15	mg/Kg dry	5		SW-846 7471B	3/12/16	3/14/16 14:11	TGW
Nickel	22	0.59	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:22	AMP
Selenium	ND	5.9	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:22	AMP
Silver	ND	0.59	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:22	AMP
Thallium	ND	2.9	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:22	AMP
Vanadium	96	1.2	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:22	AMP
Zinc	160	1.2	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 19:22	AMP

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1-TP (1-2')
Sampled: 3/9/2016 14:30
Sample ID: 16C0454-10
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.5		% Wt	1		SM 2540G	3/10/16	3/11/16 13:33	MJR

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1-TP (2-3')
Sampled: 3/9/2016 14:45
Sample ID: 16C0454-11
Sample Matrix: Soil
Sample Flags: DL-04

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
alpha-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
beta-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
delta-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
gamma-BHC (Lindane) [1]	ND	0.045	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
Chlordane [1]	ND	0.45	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
4,4'-DDD [1]	ND	0.090	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
4,4'-DDE [1]	ND	0.090	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
4,4'-DDT [1]	0.13	0.090	mg/Kg dry	20	P-08	SW-846 8081B	3/10/16	3/12/16 7:27	PJG
Dieldrin [1]	0.16	0.090	mg/Kg dry	20	P-08	SW-846 8081B	3/10/16	3/12/16 7:27	PJG
Endosulfan I [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
Endosulfan II [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
Endosulfan sulfate [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
Endrin [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
Endrin ketone [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
Heptachlor [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
Heptachlor epoxide [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
Hexachlorobenzene [1]	ND	0.14	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG
Methoxychlor [1]	ND	1.1	mg/Kg dry	20		SW-846 8081B	3/10/16	3/12/16 7:27	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	75.6	30-150		3/12/16 7:27
Decachlorobiphenyl [2]	58.4	30-150		3/12/16 7:27
Tetrachloro-m-xylene [1]	74.2	30-150		3/12/16 7:27
Tetrachloro-m-xylene [2]	76.1	30-150		3/12/16 7:27

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1-TP (2-3')
Sampled: 3/9/2016 14:45
Sample ID: 16C0454-11
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/10/16	3/12/16 14:37	KAL
Aroclor-1221 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/10/16	3/12/16 14:37	KAL
Aroclor-1232 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/10/16	3/12/16 14:37	KAL
Aroclor-1242 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/10/16	3/12/16 14:37	KAL
Aroclor-1248 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/10/16	3/12/16 14:37	KAL
Aroclor-1254 [1]	7.8	1.1	mg/Kg dry	50		SW-846 8082A	3/10/16	3/12/16 14:37	KAL
Aroclor-1260 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/10/16	3/12/16 14:37	KAL
Aroclor-1262 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/10/16	3/12/16 14:37	KAL
Aroclor-1268 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/10/16	3/12/16 14:37	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/12/16 14:37
Decachlorobiphenyl [2]	*	30-150	S-01	3/12/16 14:37
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/12/16 14:37
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/12/16 14:37

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Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1-TP (2-3')
Sampled: 3/9/2016 14:45
Sample ID: 16C0454-11
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.9	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:16	AMP
Arsenic	18	2.9	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:16	AMP
Barium	130	2.9	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:16	AMP
Beryllium	1.9	0.29	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:16	AMP
Cadmium	1.3	0.29	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:16	AMP
Chromium	37	0.57	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:16	AMP
Lead	220	0.86	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:16	AMP
Mercury	0.84	0.14	mg/Kg dry	5		SW-846 7471B	3/12/16	3/14/16 14:16	TGW
Nickel	29	0.57	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:16	AMP
Selenium	ND	5.7	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:16	AMP
Silver	ND	0.57	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:16	AMP
Thallium	ND	2.9	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:16	AMP
Vanadium	140	1.1	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:16	AMP
Zinc	190	1.1	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:16	AMP

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Project Location: Lowell
Sample Description:
Work Order: 16C0454

Date Received: 3/10/2016

Field Sample #: FO-1-TP (2-3')
Sampled: 3/9/2016 14:45

Sample ID: 16C0454-11

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.9		% Wt	1		SM 2540G	3/10/16	3/11/16 13:33	MJR

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1 (3')
Sampled: 3/9/2016 15:10
Sample ID: 16C0454-12
Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Benzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Bromobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Bromochloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Bromodichloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Bromoform	ND	0.0074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Bromomethane	ND	0.0074	mg/Kg dry	1	V-05	SW-846 8260C	3/11/16	3/11/16 8:25	MFF
2-Butanone (MEK)	ND	0.030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
n-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
sec-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
tert-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Carbon Disulfide	ND	0.0045	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Carbon Tetrachloride	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Chlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Chlorodibromomethane	ND	0.00074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Chloroethane	ND	0.0074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Chloroform	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Chloromethane	ND	0.0074	mg/Kg dry	1	V-05	SW-846 8260C	3/11/16	3/11/16 8:25	MFF
2-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
4-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,2-Dibromoethane (EDB)	ND	0.00074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Dibromomethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,2-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,3-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,4-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0074	mg/Kg dry	1	R-05	SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,1-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,2-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,1-Dichloroethylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
cis-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
trans-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,3-Dichloropropane	ND	0.00074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
2,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,1-Dichloropropene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
cis-1,3-Dichloropropene	ND	0.00074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
trans-1,3-Dichloropropene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Diethyl Ether	ND	0.0074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Diisopropyl Ether (DIPE)	ND	0.00074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,4-Dioxane	ND	0.074	mg/Kg dry	1	V-16	SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Ethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1 (3')
Sampled: 3/9/2016 15:10
Sample ID: 16C0454-12
Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
2-Hexanone (MBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Isopropylbenzene (Cumene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Methylene Chloride	ND	0.0074	mg/Kg dry	1	V-05	SW-846 8260C	3/11/16	3/11/16 8:25	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Naphthalene	ND	0.0074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
n-Propylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Styrene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,1,1,2-Tetrachloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,1,2,2-Tetrachloroethane	ND	0.00074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Tetrachloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Tetrahydrofuran	ND	0.0074	mg/Kg dry	1	V-05	SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Toluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,2,3-Trichlorobenzene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,2,4-Trichlorobenzene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,1,1-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,1,2-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Trichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,2,3-Trichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,2,4-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
1,3,5-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
Vinyl Chloride	ND	0.0074	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
m+p Xylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF
o-Xylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 8:25	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	91.6	70-130		3/11/16 8:25
Toluene-d8	94.2	70-130		3/11/16 8:25
4-Bromofluorobenzene	98.8	70-130		3/11/16 8:25

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1 (3')
Sampled: 3/9/2016 15:10
Sample ID: 16C0454-12
Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Acenaphthylene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Acetophenone	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Aniline	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Benzo(a)anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Benzo(a)pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Benzo(b)fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Benzo(g,h,i)perylene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Benzo(k)fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Bis(2-chloroethoxy)methane	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Bis(2-chloroethyl)ether	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Bis(2-chloroisopropyl)ether	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Bis(2-Ethylhexyl)phthalate	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
4-Bromophenylphenylether	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Butylbenzylphthalate	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
4-Chloroaniline	ND	0.69	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
2-Chloronaphthalene	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
2-Chlorophenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Chrysene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Dibenz(a,h)anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Dibenzofuran	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Di-n-butylphthalate	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
1,2-Dichlorobenzene	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
1,3-Dichlorobenzene	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
1,4-Dichlorobenzene	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
3,3-Dichlorobenzidine	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
2,4-Dichlorophenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Diethylphthalate	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
2,4-Dimethylphenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Dimethylphthalate	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
2,4-Dinitrophenol	ND	0.69	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
2,4-Dinitrotoluene	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
2,6-Dinitrotoluene	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Di-n-octylphthalate	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
1,2-Diphenylhydrazine (as Azobenzene)	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Fluorene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Hexachlorobenzene	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Hexachlorobutadiene	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Hexachloroethane	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Indeno(1,2,3-cd)pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Isophorone	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
2-Methylnaphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16C0454

Date Received: 3/10/2016

Field Sample #: FO-1 (3') | Sampled: 3/9/2016 15:10

Sample ID: 16C0454-12

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
3/4-Methylphenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Naphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Nitrobenzene	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
2-Nitrophenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
4-Nitrophenol	ND	0.69	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Pentachlorophenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Phenanthrene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Phenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
Pyridine	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
1,2,4-Trichlorobenzene	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
2,4,5-Trichlorophenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR
2,4,6-Trichlorophenol	ND	0.35	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 15:10	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	75.2	30-130		3/11/16 15:10
Phenol-d6	77.5	30-130		3/11/16 15:10
Nitrobenzene-d5	80.2	30-130		3/11/16 15:10
2-Fluorobiphenyl	81.7	30-130		3/11/16 15:10
2,4,6-Tribromophenol	70.3	30-130		3/11/16 15:10
p-Terphenyl-d14	91.6	30-130		3/11/16 15:10

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1 (3')
Sampled: 3/9/2016 15:10
Sample ID: 16C0454-12
Sample Matrix: Soil

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.0051	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
alpha-BHC [1]	ND	0.0051	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
beta-BHC [1]	ND	0.0051	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
delta-BHC [1]	ND	0.0051	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
gamma-BHC (Lindane) [1]	ND	0.0021	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
Chlordane [1]	ND	0.021	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
4,4'-DDD [1]	ND	0.0041	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
4,4'-DDE [1]	ND	0.0041	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
4,4'-DDT [1]	ND	0.0041	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
Dieldrin [1]	ND	0.0041	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
Endosulfan I [1]	ND	0.0051	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
Endosulfan II [1]	ND	0.0082	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
Endosulfan sulfate [1]	ND	0.0082	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
Endrin [1]	ND	0.0082	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
Endrin ketone [1]	ND	0.0082	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
Heptachlor [1]	ND	0.0051	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
Heptachlor epoxide [1]	ND	0.0051	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
Hexachlorobenzene [1]	ND	0.0062	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG
Methoxychlor [1]	ND	0.051	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 6:15	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	74.9	30-150		3/12/16 6:15
Decachlorobiphenyl [2]	84.7	30-150		3/12/16 6:15
Tetrachloro-m-xylene [1]	79.7	30-150		3/12/16 6:15
Tetrachloro-m-xylene [2]	79.9	30-150		3/12/16 6:15

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1 (3')
Sampled: 3/9/2016 15:10
Sample ID: 16C0454-12
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 17:28	KAL
Aroclor-1221 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 17:28	KAL
Aroclor-1232 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 17:28	KAL
Aroclor-1242 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 17:28	KAL
Aroclor-1248 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 17:28	KAL
Aroclor-1254 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 17:28	KAL
Aroclor-1260 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 17:28	KAL
Aroclor-1262 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 17:28	KAL
Aroclor-1268 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 17:28	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.0	30-150		3/11/16 17:28
Decachlorobiphenyl [2]	86.5	30-150		3/11/16 17:28
Tetrachloro-m-xylene [1]	96.3	30-150		3/11/16 17:28
Tetrachloro-m-xylene [2]	95.0	30-150		3/11/16 17:28

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1 (3')
Sampled: 3/9/2016 15:10
Sample ID: 16C0454-12
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	ND	8.7	mg/Kg dry	1		SW-846 8100 Modified	3/11/16	3/14/16 10:32	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
o-Terphenyl	79.2	40-140		3/14/16 10:32

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1 (3')
Sampled: 3/9/2016 15:10
Sample ID: 16C0454-12
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
C19-C36 Aliphatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
C11-C22 Aromatics	ND	10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Acenaphthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Acenaphthylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Benzo(a)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Benzo(a)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Benzo(b)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Benzo(g,h,i)perylene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Benzo(k)fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Chrysene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Dibenz(a,h)anthracene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Fluoranthene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Fluorene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
2-Methylnaphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Naphthalene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Phenanthrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS
Pyrene	ND	0.10	mg/Kg dry	1		MADEP-EPH-04-1.1	3/11/16	3/11/16 14:14	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	66.9	40-140		3/11/16 14:14
o-Terphenyl (OTP)	67.6	40-140		3/11/16 14:14
2-Bromonaphthalene	83.1	40-140		3/11/16 14:14
2-Fluorobiphenyl	83.2	40-140		3/11/16 14:14

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1 (3')
Sampled: 3/9/2016 15:10
Sample ID: 16C0454-12
Sample Matrix: Soil

Sample Flags: O-01
Soil/Methanol Preservation Ratio: 1.41

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	7.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:02	EEH
C5-C8 Aliphatics	ND	7.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:02	EEH
Unadjusted C9-C12 Aliphatics	ND	7.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:02	EEH
C9-C12 Aliphatics	ND	7.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:02	EEH
C9-C10 Aromatics	ND	7.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:02	EEH
Benzene	ND	0.040	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:02	EEH
Ethylbenzene	ND	0.040	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:02	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.040	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:02	EEH
Naphthalene	ND	0.20	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:02	EEH
Toluene	ND	0.040	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:02	EEH
m+p Xylene	ND	0.079	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:02	EEH
o-Xylene	ND	0.040	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 20:02	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	94.8	70-130		3/14/16 20:02
2,5-Dibromotoluene (PID)	111	70-130		3/14/16 20:02

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454
Date Received: 3/10/2016
Field Sample #: FO-1 (3')
Sampled: 3/9/2016 15:10
Sample ID: 16C0454-12
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.6	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:20	AMP
Arsenic	15	2.6	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:20	AMP
Barium	32	2.6	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:20	AMP
Beryllium	0.63	0.26	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:20	AMP
Cadmium	0.51	0.26	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:20	AMP
Chromium	25	0.52	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:20	AMP
Lead	7.0	0.78	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:20	AMP
Mercury	ND	0.025	mg/Kg dry	1		SW-846 7471B	3/12/16	3/14/16 13:27	TGW
Nickel	20	0.52	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:20	AMP
Selenium	ND	5.2	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:20	AMP
Silver	ND	0.52	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:20	AMP
Thallium	ND	2.6	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:20	AMP
Vanadium	32	1.0	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:20	AMP
Zinc	23	1.0	mg/Kg dry	1		SW-846 6010C-D	3/11/16	3/12/16 20:20	AMP

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0454

Date Received: 3/10/2016

Field Sample #: FO-1 (3')
Sampled: 3/9/2016 15:10

Sample ID: 16C0454-12

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.5		% Wt	1		SM 2540G	3/10/16	3/11/16 13:33	MJR

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0454-12 [FO-1 (3')]	B144026	20.0	2.00	03/11/16

Prep Method: MA VPH-MADEP-VPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0454-01 [NSW-GT-1]	B144047	23.4	17.8	03/11/16
16C0454-02 [SSW-GT-1]	B144047	18.6	17.2	03/11/16
16C0454-03 [ESW-GT-1]	B144047	20.2	17.1	03/11/16
16C0454-04 [BTM-GT-1]	B144047	22.2	18.2	03/11/16
16C0454-05 [NSW-GT-2]	B144047	23.7	17.6	03/11/16
16C0454-06 [SSW-GT-2]	B144047	18.2	17.0	03/11/16
16C0454-07 [WSW-GT-2]	B144047	23.2	17.2	03/11/16
16C0454-08 [BTM-GT-2]	B144047	18.7	16.8	03/11/16
16C0454-12 [FO-1 (3')]	B144047	21.2	16.0	03/11/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C0454-01 [NSW-GT-1]	B143895	03/15/16
16C0454-02 [SSW-GT-1]	B143895	03/15/16
16C0454-03 [ESW-GT-1]	B143895	03/15/16
16C0454-04 [BTM-GT-1]	B143895	03/15/16
16C0454-05 [NSW-GT-2]	B143895	03/15/16
16C0454-06 [SSW-GT-2]	B143895	03/15/16
16C0454-07 [WSW-GT-2]	B143895	03/15/16
16C0454-08 [BTM-GT-2]	B143895	03/15/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C0454-09 [FO-1-TP (0-1')]	B144002	03/10/16
16C0454-10 [FO-1-TP (1-2')]	B144002	03/10/16
16C0454-11 [FO-1-TP (2-3')]	B144002	03/10/16
16C0454-12 [FO-1 (3')]	B144002	03/10/16

Prep Method: SW-846 3050B-SW-846 6010C-D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0454-09 [FO-1-TP (0-1')]	B143754	1.03	50.0	03/11/16
16C0454-10 [FO-1-TP (1-2')]	B143754	0.992	50.0	03/11/16

Prep Method: SW-846 3050B-SW-846 6010C-D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0454-11 [FO-1-TP (2-3')]	B143755	1.01	50.0	03/11/16
16C0454-12 [FO-1 (3')]	B143755	1.00	50.0	03/11/16

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0454-09 [FO-1-TP (0-1')]	B143996	0.631	50.0	03/12/16
16C0454-10 [FO-1-TP (1-2')]	B143996	0.604	50.0	03/12/16
16C0454-11 [FO-1-TP (2-3')]	B143996	0.607	50.0	03/12/16
16C0454-12 [FO-1 (3')]	B143996	0.632	50.0	03/12/16

Prep Method: SW-846 3546-SW-846 8081B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0454-09 [FO-1-TP (0-1')]	B144017	10.2	10.0	03/10/16
16C0454-10 [FO-1-TP (1-2')]	B144017	10.1	10.0	03/10/16
16C0454-11 [FO-1-TP (2-3')]	B144017	10.3	10.0	03/10/16
16C0454-12 [FO-1 (3')]	B144017	10.2	10.0	03/10/16

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0454-09 [FO-1-TP (0-1')]	B143995	10.0	10.0	03/10/16
16C0454-10 [FO-1-TP (1-2')]	B143995	10.1	10.0	03/10/16
16C0454-11 [FO-1-TP (2-3')]	B143995	10.2	10.0	03/10/16
16C0454-12 [FO-1 (3')]	B143995	10.2	10.0	03/10/16

Prep Method: SW-846 3546-SW-846 8100 Modified

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0454-12 [FO-1 (3')]	B144024	30.0	1.00	03/11/16

Prep Method: SW-846 5035-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0454-12 [FO-1 (3')]	B144055	7.05	10.0	03/11/16

Prep Method: SW-846 3546-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0454-12 [FO-1 (3')]	B144018	30.1	1.00	03/10/16

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144055 - SW-846 5035										
Blank (B144055-BLK1)				Prepared & Analyzed: 03/11/16						
Acetone	ND	0.10	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.010	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							V-05
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							V-05
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0040	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							R-05
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0040	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							V-16
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							V-05
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.010	mg/Kg wet							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B144055 - SW-846 5035											
Blank (B144055-BLK1)				Prepared & Analyzed: 03/11/16							
n-Propylbenzene	ND	0.0020	mg/Kg wet								
Styrene	ND	0.0020	mg/Kg wet								
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet								
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet								
Tetrachloroethylene	ND	0.0020	mg/Kg wet								
Tetrahydrofuran	ND	0.010	mg/Kg wet							V-05	
Toluene	ND	0.0020	mg/Kg wet								
1,2,3-Trichlorobenzene	ND	0.0040	mg/Kg wet								
1,2,4-Trichlorobenzene	ND	0.0040	mg/Kg wet								
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet								
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet								
Trichloroethylene	ND	0.0020	mg/Kg wet								
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet								
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet								
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet								
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet								
Vinyl Chloride	ND	0.010	mg/Kg wet								
m+p Xylene	ND	0.0040	mg/Kg wet								
o-Xylene	ND	0.0020	mg/Kg wet								
Surrogate: 1,2-Dichloroethane-d4	*0.0449*		mg/Kg wet	0.0500		89.8	70-130				
Surrogate: Toluene-d8	*0.0470*		mg/Kg wet	0.0500		94.1	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0487*		mg/Kg wet	0.0500		97.4	70-130				
LCS (B144055-BS1)				Prepared & Analyzed: 03/11/16							
Acetone	0.249	0.10	mg/Kg wet	0.200		124	40-160				†
tert-Amyl Methyl Ether (TAME)	0.0180	0.0010	mg/Kg wet	0.0200		90.2	70-130				
Benzene	0.0182	0.0020	mg/Kg wet	0.0200		91.2	70-130				
Bromobenzene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130				
Bromochloromethane	0.0181	0.0020	mg/Kg wet	0.0200		90.4	70-130				
Bromodichloromethane	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-130				
Bromoform	0.0217	0.010	mg/Kg wet	0.0200		108	70-130				
Bromomethane	0.00826	0.010	mg/Kg wet	0.0200		41.3	40-160			L-14, V-05	†
2-Butanone (MEK)	0.197	0.040	mg/Kg wet	0.200		98.4	40-160				†
n-Butylbenzene	0.0219	0.0020	mg/Kg wet	0.0200		109	70-130				
sec-Butylbenzene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130				
tert-Butylbenzene	0.0221	0.0020	mg/Kg wet	0.0200		110	70-130				
tert-Butyl Ethyl Ether (TBEE)	0.0180	0.0010	mg/Kg wet	0.0200		90.0	70-130				
Carbon Disulfide	0.0158	0.0060	mg/Kg wet	0.0200		78.8	70-130				
Carbon Tetrachloride	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130				
Chlorobenzene	0.0232	0.0020	mg/Kg wet	0.0200		116	70-130				
Chlorodibromomethane	0.0207	0.0010	mg/Kg wet	0.0200		104	70-130				
Chloroethane	0.0180	0.010	mg/Kg wet	0.0200		90.2	70-130				
Chloroform	0.0185	0.0040	mg/Kg wet	0.0200		92.6	70-130				
Chloromethane	0.0114	0.010	mg/Kg wet	0.0200		57.0	40-160			L-14, V-05	†
2-Chlorotoluene	0.0227	0.0020	mg/Kg wet	0.0200		113	70-130				
4-Chlorotoluene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0162	0.0040	mg/Kg wet	0.0200		81.0	70-130				
1,2-Dibromoethane (EDB)	0.0211	0.0010	mg/Kg wet	0.0200		105	70-130				
Dibromomethane	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130				
1,2-Dichlorobenzene	0.0213	0.0020	mg/Kg wet	0.0200		107	70-130				
1,3-Dichlorobenzene	0.0213	0.0020	mg/Kg wet	0.0200		107	70-130				
1,4-Dichlorobenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B144055 - SW-846 5035											
LCS (B144055-BS1)				Prepared & Analyzed: 03/11/16							
Dichlorodifluoromethane (Freon 12)	0.0125	0.010	mg/Kg wet	0.0200		62.6	40-160			L-14, R-05	†
1,1-Dichloroethane	0.0184	0.0020	mg/Kg wet	0.0200		92.2	70-130				
1,2-Dichloroethane	0.0196	0.0020	mg/Kg wet	0.0200		98.2	70-130				
1,1-Dichloroethylene	0.0159	0.0040	mg/Kg wet	0.0200		79.4	70-130				
cis-1,2-Dichloroethylene	0.0176	0.0020	mg/Kg wet	0.0200		88.1	70-130				
trans-1,2-Dichloroethylene	0.0172	0.0020	mg/Kg wet	0.0200		86.2	70-130				
1,2-Dichloropropane	0.0192	0.0020	mg/Kg wet	0.0200		96.0	70-130				
1,3-Dichloropropane	0.0190	0.0010	mg/Kg wet	0.0200		95.1	70-130				
2,2-Dichloropropane	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130				
1,1-Dichloropropene	0.0194	0.0020	mg/Kg wet	0.0200		97.0	70-130				
cis-1,3-Dichloropropene	0.0185	0.0010	mg/Kg wet	0.0200		92.4	70-130				
trans-1,3-Dichloropropene	0.0184	0.0040	mg/Kg wet	0.0200		92.0	70-130				
Diethyl Ether	0.0171	0.010	mg/Kg wet	0.0200		85.7	70-130				
Diisopropyl Ether (DIPE)	0.0157	0.0010	mg/Kg wet	0.0200		78.4	70-130				
1,4-Dioxane	0.179	0.10	mg/Kg wet	0.200		89.6	40-160			V-16	†
Ethylbenzene	0.0235	0.0020	mg/Kg wet	0.0200		118	70-130				
Hexachlorobutadiene	0.0232	0.0020	mg/Kg wet	0.0200		116	70-130				
2-Hexanone (MBK)	0.194	0.020	mg/Kg wet	0.200		96.9	40-160				†
Isopropylbenzene (Cumene)	0.0241	0.0020	mg/Kg wet	0.0200		121	70-130				
p-Isopropyltoluene (p-Cymene)	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130				
Methyl tert-Butyl Ether (MTBE)	0.0178	0.0040	mg/Kg wet	0.0200		89.2	70-130				
Methylene Chloride	0.0151	0.010	mg/Kg wet	0.0200		75.4	70-130			V-05	
4-Methyl-2-pentanone (MIBK)	0.164	0.020	mg/Kg wet	0.200		82.0	40-160				†
Naphthalene	0.0160	0.010	mg/Kg wet	0.0200		80.1	70-130				
n-Propylbenzene	0.0233	0.0020	mg/Kg wet	0.0200		117	70-130				
Styrene	0.0232	0.0020	mg/Kg wet	0.0200		116	70-130				
1,1,1,2-Tetrachloroethane	0.0249	0.0020	mg/Kg wet	0.0200		125	70-130				
1,1,2,2-Tetrachloroethane	0.0213	0.0010	mg/Kg wet	0.0200		107	70-130				
Tetrachloroethylene	0.0246	0.0020	mg/Kg wet	0.0200		123	70-130				
Tetrahydrofuran	0.0167	0.010	mg/Kg wet	0.0200		83.3	70-130			V-05	
Toluene	0.0190	0.0020	mg/Kg wet	0.0200		94.9	70-130				
1,2,3-Trichlorobenzene	0.0178	0.0040	mg/Kg wet	0.0200		88.9	70-130				
1,2,4-Trichlorobenzene	0.0181	0.0040	mg/Kg wet	0.0200		90.7	70-130				
1,1,1-Trichloroethane	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-130				
1,1,2-Trichloroethane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130				
Trichloroethylene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130				
Trichlorofluoromethane (Freon 11)	0.0173	0.010	mg/Kg wet	0.0200		86.6	70-130				
1,2,3-Trichloropropane	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130				
1,2,4-Trimethylbenzene	0.0219	0.0020	mg/Kg wet	0.0200		109	70-130				
1,3,5-Trimethylbenzene	0.0248	0.0020	mg/Kg wet	0.0200		124	70-130				
Vinyl Chloride	0.0149	0.010	mg/Kg wet	0.0200		74.3	70-130				
m+p Xylene	0.0454	0.0040	mg/Kg wet	0.0400		113	70-130				
o-Xylene	0.0223	0.0020	mg/Kg wet	0.0200		112	70-130				
Surrogate: 1,2-Dichloroethane-d4	*0.0447*		mg/Kg wet	0.0500		89.3	70-130				
Surrogate: Toluene-d8	*0.0474*		mg/Kg wet	0.0500		94.8	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0526*		mg/Kg wet	0.0500		105	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B144055 - SW-846 5035											
LCS Dup (B144055-BSD1)				Prepared & Analyzed: 03/11/16							
Acetone	0.250	0.10	mg/Kg wet	0.200		125	40-160	0.521	20		†
tert-Amyl Methyl Ether (TAME)	0.0169	0.0010	mg/Kg wet	0.0200		84.6	70-130	6.41	20		
Benzene	0.0176	0.0020	mg/Kg wet	0.0200		87.9	70-130	3.69	20		
Bromobenzene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	1.83	20		
Bromochloromethane	0.0171	0.0020	mg/Kg wet	0.0200		85.3	70-130	5.81	20		
Bromodichloromethane	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130	0.605	20		
Bromoform	0.0210	0.010	mg/Kg wet	0.0200		105	70-130	3.38	20		
Bromomethane	0.00974	0.010	mg/Kg wet	0.0200		48.7	40-160	16.4	20	L-14, V-05	†
2-Butanone (MEK)	0.197	0.040	mg/Kg wet	0.200		98.4	40-160	0.0610	20		†
n-Butylbenzene	0.0215	0.0020	mg/Kg wet	0.0200		107	70-130	1.94	20		
sec-Butylbenzene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130	0.639	20		
tert-Butylbenzene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	3.31	20		
tert-Butyl Ethyl Ether (TBEE)	0.0172	0.0010	mg/Kg wet	0.0200		85.8	70-130	4.78	20		
Carbon Disulfide	0.0149	0.0060	mg/Kg wet	0.0200		74.4	70-130	5.74	20		
Carbon Tetrachloride	0.0199	0.0020	mg/Kg wet	0.0200		99.3	70-130	3.37	20		
Chlorobenzene	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130	2.62	20		
Chlorodibromomethane	0.0203	0.0010	mg/Kg wet	0.0200		102	70-130	1.85	20		
Chloroethane	0.0172	0.010	mg/Kg wet	0.0200		85.9	70-130	4.88	20		
Chloroform	0.0176	0.0040	mg/Kg wet	0.0200		88.2	70-130	4.87	20		
Chloromethane	0.0108	0.010	mg/Kg wet	0.0200		53.8	40-160	5.78	20	L-14, V-05	†
2-Chlorotoluene	0.0221	0.0020	mg/Kg wet	0.0200		111	70-130	2.32	20		
4-Chlorotoluene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	1.65	20		
1,2-Dibromo-3-chloropropane (DBCP)	0.0148	0.0040	mg/Kg wet	0.0200		74.2	70-130	8.76	20		
1,2-Dibromoethane (EDB)	0.0217	0.0010	mg/Kg wet	0.0200		108	70-130	2.90	20		
Dibromomethane	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130	1.56	20		
1,2-Dichlorobenzene	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130	0.282	20		
1,3-Dichlorobenzene	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130	1.23	20		
1,4-Dichlorobenzene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130	1.47	20		
Dichlorodifluoromethane (Freon 12)	0.00816	0.010	mg/Kg wet	0.0200		40.8	40-160	**42.2** *	20	L-14, R-05	†
1,1-Dichloroethane	0.0176	0.0020	mg/Kg wet	0.0200		88.0	70-130	4.66	20		
1,2-Dichloroethane	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-130	0.710	20		
1,1-Dichloroethylene	0.0158	0.0040	mg/Kg wet	0.0200		79.1	70-130	0.379	20		
cis-1,2-Dichloroethylene	0.0164	0.0020	mg/Kg wet	0.0200		81.8	70-130	7.42	20		
trans-1,2-Dichloroethylene	0.0170	0.0020	mg/Kg wet	0.0200		85.0	70-130	1.40	20		
1,2-Dichloropropane	0.0185	0.0020	mg/Kg wet	0.0200		92.6	70-130	3.61	20		
1,3-Dichloropropane	0.0189	0.0010	mg/Kg wet	0.0200		94.3	70-130	0.845	20		
2,2-Dichloropropane	0.0178	0.0020	mg/Kg wet	0.0200		88.9	70-130	7.58	20		
1,1-Dichloropropene	0.0188	0.0020	mg/Kg wet	0.0200		94.1	70-130	3.04	20		
cis-1,3-Dichloropropene	0.0176	0.0010	mg/Kg wet	0.0200		88.1	70-130	4.76	20		
trans-1,3-Dichloropropene	0.0182	0.0040	mg/Kg wet	0.0200		91.0	70-130	1.09	20		
Diethyl Ether	0.0165	0.010	mg/Kg wet	0.0200		82.7	70-130	3.56	20		
Diisopropyl Ether (DIPE)	0.0147	0.0010	mg/Kg wet	0.0200		73.4	70-130	6.59	20		
1,4-Dioxane	0.151	0.10	mg/Kg wet	0.200		75.3	40-160	17.4	20	V-16	†
Ethylbenzene	0.0227	0.0020	mg/Kg wet	0.0200		113	70-130	3.64	20		
Hexachlorobutadiene	0.0233	0.0020	mg/Kg wet	0.0200		117	70-130	0.430	20		
2-Hexanone (MBK)	0.194	0.020	mg/Kg wet	0.200		96.8	40-160	0.0723	20		†
Isopropylbenzene (Cumene)	0.0235	0.0020	mg/Kg wet	0.0200		118	70-130	2.52	20		
p-Isopropyltoluene (p-Cymene)	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130	0.887	20		
Methyl tert-Butyl Ether (MTBE)	0.0178	0.0040	mg/Kg wet	0.0200		88.8	70-130	0.449	20		
Methylene Chloride	0.0144	0.010	mg/Kg wet	0.0200		72.1	70-130	4.47	20	V-05	
4-Methyl-2-pentanone (MIBK)	0.163	0.020	mg/Kg wet	0.200		81.7	40-160	0.330	20		†
Naphthalene	0.0165	0.010	mg/Kg wet	0.0200		82.7	70-130	3.19	20		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144055 - SW-846 5035										
LCS Dup (B144055-BSD1)				Prepared & Analyzed: 03/11/16						
n-Propylbenzene	0.0225	0.0020	mg/Kg wet	0.0200		112	70-130	3.66	20	
Styrene	0.0231	0.0020	mg/Kg wet	0.0200		116	70-130	0.0864	20	
1,1,1,2-Tetrachloroethane	0.0239	0.0020	mg/Kg wet	0.0200		120	70-130	4.09	20	
1,1,2,2-Tetrachloroethane	0.0205	0.0010	mg/Kg wet	0.0200		102	70-130	4.12	20	
Tetrachloroethylene	0.0239	0.0020	mg/Kg wet	0.0200		120	70-130	3.05	20	
Tetrahydrofuran	0.0151	0.010	mg/Kg wet	0.0200		75.7	70-130	9.56	20	V-05
Toluene	0.0185	0.0020	mg/Kg wet	0.0200		92.3	70-130	2.78	20	
1,2,3-Trichlorobenzene	0.0187	0.0040	mg/Kg wet	0.0200		93.3	70-130	4.83	20	
1,2,4-Trichlorobenzene	0.0192	0.0040	mg/Kg wet	0.0200		96.0	70-130	5.68	20	
1,1,1-Trichloroethane	0.0189	0.0020	mg/Kg wet	0.0200		94.7	70-130	4.34	20	
1,1,2-Trichloroethane	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130	6.73	20	
Trichloroethylene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	3.61	20	
Trichlorofluoromethane (Freon 11)	0.0166	0.010	mg/Kg wet	0.0200		82.9	70-130	4.37	20	
1,2,3-Trichloropropane	0.0199	0.0020	mg/Kg wet	0.0200		99.4	70-130	4.14	20	
1,2,4-Trimethylbenzene	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130	0.183	20	
1,3,5-Trimethylbenzene	0.0244	0.0020	mg/Kg wet	0.0200		122	70-130	1.54	20	
Vinyl Chloride	0.0143	0.010	mg/Kg wet	0.0200		71.6	70-130	3.70	20	
m+p Xylene	0.0444	0.0040	mg/Kg wet	0.0400		111	70-130	2.23	20	
o-Xylene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130	3.56	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0445*		mg/Kg wet	0.0500		88.9	70-130			
Surrogate: Toluene-d8	*0.0483*		mg/Kg wet	0.0500		96.7	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0517*		mg/Kg wet	0.0500		103	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144018 - SW-846 3546										
Blank (B144018-BLK1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Acetophenone	ND	0.34	mg/Kg wet							
Aniline	ND	0.34	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Bis(2-chloroethoxy)methane	ND	0.34	mg/Kg wet							
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg wet							
Bis(2-chloroisopropyl)ether	ND	0.34	mg/Kg wet							
Bis(2-Ethylhexyl)phthalate	ND	0.34	mg/Kg wet							
4-Bromophenylphenylether	ND	0.34	mg/Kg wet							
Butylbenzylphthalate	ND	0.34	mg/Kg wet							
4-Chloroaniline	ND	0.66	mg/Kg wet							
2-Chloronaphthalene	ND	0.34	mg/Kg wet							
2-Chlorophenol	ND	0.34	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Dibenzofuran	ND	0.34	mg/Kg wet							
Di-n-butylphthalate	ND	0.34	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.34	mg/Kg wet							
3,3-Dichlorobenzidine	ND	0.17	mg/Kg wet							
2,4-Dichlorophenol	ND	0.34	mg/Kg wet							
Diethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dimethylphenol	ND	0.34	mg/Kg wet							
Dimethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dinitrophenol	ND	0.66	mg/Kg wet							
2,4-Dinitrotoluene	ND	0.34	mg/Kg wet							
2,6-Dinitrotoluene	ND	0.34	mg/Kg wet							
Di-n-octylphthalate	ND	0.34	mg/Kg wet							
1,2-Diphenylhydrazine (as Azobenzene)	ND	0.34	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Hexachlorobenzene	ND	0.34	mg/Kg wet							
Hexachlorobutadiene	ND	0.34	mg/Kg wet							
Hexachloroethane	ND	0.34	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
Isophorone	ND	0.34	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylphenol	ND	0.34	mg/Kg wet							
3/4-Methylphenol	ND	0.34	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Nitrobenzene	ND	0.34	mg/Kg wet							
2-Nitrophenol	ND	0.34	mg/Kg wet							
4-Nitrophenol	ND	0.66	mg/Kg wet							
Pentachlorophenol	ND	0.34	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B144018 - SW-846 3546												
Blank (B144018-BLK1)				Prepared: 03/10/16 Analyzed: 03/11/16								
Phenol	ND	0.34	mg/Kg wet									
Pyrene	ND	0.17	mg/Kg wet									
Pyridine	ND	0.34	mg/Kg wet									
1,2,4-Trichlorobenzene	ND	0.34	mg/Kg wet									
2,4,5-Trichlorophenol	ND	0.34	mg/Kg wet									
2,4,6-Trichlorophenol	ND	0.34	mg/Kg wet									
Surrogate: 2-Fluorophenol	*5.94*		mg/Kg wet	6.67		89.1		30-130				
Surrogate: Phenol-d6	*6.30*		mg/Kg wet	6.67		94.5		30-130				
Surrogate: Nitrobenzene-d5	*3.15*		mg/Kg wet	3.33		94.5		30-130				
Surrogate: 2-Fluorobiphenyl	*3.37*		mg/Kg wet	3.33		101		30-130				
Surrogate: 2,4,6-Tribromophenol	*6.40*		mg/Kg wet	6.67		95.9		30-130				
Surrogate: p-Terphenyl-d14	*4.52*		mg/Kg wet	3.33		**136**	*	30-130			S-07	
LCS (B144018-BS1)				Prepared: 03/10/16 Analyzed: 03/11/16								
Acenaphthene	1.24	0.17	mg/Kg wet	1.67		74.4		40-140				
Acenaphthylene	1.27	0.17	mg/Kg wet	1.67		76.3		40-140				
Acetophenone	1.20	0.34	mg/Kg wet	1.67		72.3		40-140				
Aniline	0.809	0.34	mg/Kg wet	1.67		48.5		40-140				
Anthracene	1.30	0.17	mg/Kg wet	1.67		77.9		40-140				
Benzo(a)anthracene	1.31	0.17	mg/Kg wet	1.67		78.4		40-140				
Benzo(a)pyrene	1.30	0.17	mg/Kg wet	1.67		77.7		40-140				
Benzo(b)fluoranthene	1.27	0.17	mg/Kg wet	1.67		76.2		40-140				
Benzo(g,h,i)perylene	1.35	0.17	mg/Kg wet	1.67		80.9		40-140				
Benzo(k)fluoranthene	1.26	0.17	mg/Kg wet	1.67		75.7		40-140				
Bis(2-chloroethoxy)methane	1.34	0.34	mg/Kg wet	1.67		80.6		40-140				
Bis(2-chloroethyl)ether	1.26	0.34	mg/Kg wet	1.67		75.8		40-140				
Bis(2-chloroisopropyl)ether	1.23	0.34	mg/Kg wet	1.67		73.5		40-140				
Bis(2-Ethylhexyl)phthalate	1.50	0.34	mg/Kg wet	1.67		90.0		40-140				
4-Bromophenylphenylether	1.34	0.34	mg/Kg wet	1.67		80.5		40-140				
Butylbenzylphthalate	1.50	0.34	mg/Kg wet	1.67		89.7		40-140				
4-Chloroaniline	0.822	0.66	mg/Kg wet	1.67		49.3		15-140				†
2-Chloronaphthalene	1.25	0.34	mg/Kg wet	1.67		74.8		40-140				
2-Chlorophenol	1.20	0.34	mg/Kg wet	1.67		71.9		30-130				
Chrysene	1.28	0.17	mg/Kg wet	1.67		76.8		40-140				
Dibenz(a,h)anthracene	1.32	0.17	mg/Kg wet	1.67		79.3		40-140				
Dibenzofuran	1.29	0.34	mg/Kg wet	1.67		77.5		40-140				
Di-n-butylphthalate	1.33	0.34	mg/Kg wet	1.67		79.8		40-140				
1,2-Dichlorobenzene	1.12	0.34	mg/Kg wet	1.67		67.3		40-140				
1,3-Dichlorobenzene	1.09	0.34	mg/Kg wet	1.67		65.6		40-140				
1,4-Dichlorobenzene	1.10	0.34	mg/Kg wet	1.67		66.0		40-140				
3,3-Dichlorobenzidine	0.646	0.17	mg/Kg wet	1.67		**38.7**	*	40-140			L-07	
2,4-Dichlorophenol	1.23	0.34	mg/Kg wet	1.67		73.8		30-130				
Diethylphthalate	1.33	0.34	mg/Kg wet	1.67		79.9		40-140				
2,4-Dimethylphenol	1.28	0.34	mg/Kg wet	1.67		77.0		30-130				
Dimethylphthalate	1.33	0.34	mg/Kg wet	1.67		80.1		40-140				
2,4-Dinitrophenol	0.489	0.66	mg/Kg wet	1.67		29.3		15-140				†
2,4-Dinitrotoluene	1.32	0.34	mg/Kg wet	1.67		79.4		40-140				
2,6-Dinitrotoluene	1.41	0.34	mg/Kg wet	1.67		84.9		40-140				
Di-n-octylphthalate	1.50	0.34	mg/Kg wet	1.67		89.8		40-140				
1,2-Diphenylhydrazine (as Azobenzene)	1.40	0.34	mg/Kg wet	1.67		84.1		40-140				
Fluoranthene	1.22	0.17	mg/Kg wet	1.67		73.2		40-140				
Fluorene	1.32	0.17	mg/Kg wet	1.67		79.3		40-140				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144018 - SW-846 3546										
LCS (B144018-BS1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Hexachlorobenzene	1.31	0.34	mg/Kg wet	1.67		78.8	40-140			
Hexachlorobutadiene	1.22	0.34	mg/Kg wet	1.67		73.1	40-140			
Hexachloroethane	1.15	0.34	mg/Kg wet	1.67		69.1	40-140			
Indeno(1,2,3-cd)pyrene	1.30	0.17	mg/Kg wet	1.67		78.2	40-140			
Isophorone	1.38	0.34	mg/Kg wet	1.67		82.6	40-140			
2-Methylnaphthalene	1.28	0.17	mg/Kg wet	1.67		76.8	40-140			
2-Methylphenol	1.23	0.34	mg/Kg wet	1.67		74.0	30-130			
3/4-Methylphenol	1.27	0.34	mg/Kg wet	1.67		76.2	30-130			
Naphthalene	1.19	0.17	mg/Kg wet	1.67		71.4	40-140			
Nitrobenzene	1.24	0.34	mg/Kg wet	1.67		74.1	40-140			
2-Nitrophenol	1.20	0.34	mg/Kg wet	1.67		71.8	30-130			
4-Nitrophenol	1.27	0.66	mg/Kg wet	1.67		76.2	15-140			†
Pentachlorophenol	1.04	0.34	mg/Kg wet	1.67		62.5	30-130			
Phenanthrene	1.31	0.17	mg/Kg wet	1.67		78.9	40-140			
Phenol	1.19	0.34	mg/Kg wet	1.67		71.1	15-140			†
Pyrene	1.43	0.17	mg/Kg wet	1.67		85.9	40-140			
Pyridine	0.855	0.34	mg/Kg wet	1.67		51.3	30-140			†
1,2,4-Trichlorobenzene	1.21	0.34	mg/Kg wet	1.67		72.5	40-140			
2,4,5-Trichlorophenol	1.21	0.34	mg/Kg wet	1.67		72.7	30-130			
2,4,6-Trichlorophenol	1.26	0.34	mg/Kg wet	1.67		75.7	30-130			
Surrogate: 2-Fluorophenol	*5.09*		mg/Kg wet	6.67		76.4	30-130			
Surrogate: Phenol-d6	*5.26*		mg/Kg wet	6.67		78.9	30-130			
Surrogate: Nitrobenzene-d5	*2.73*		mg/Kg wet	3.33		81.8	30-130			
Surrogate: 2-Fluorobiphenyl	*2.92*		mg/Kg wet	3.33		87.5	30-130			
Surrogate: 2,4,6-Tribromophenol	*5.71*		mg/Kg wet	6.67		85.7	30-130			
Surrogate: p-Terphenyl-d14	*3.45*		mg/Kg wet	3.33		103	30-130			
LCS Dup (B144018-BSD1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Acenaphthene	1.42	0.17	mg/Kg wet	1.67		85.2	40-140	13.6	30	
Acenaphthylene	1.46	0.17	mg/Kg wet	1.67		87.4	40-140	13.5	30	
Acetophenone	1.32	0.34	mg/Kg wet	1.67		79.1	40-140	9.01	30	
Aniline	0.908	0.34	mg/Kg wet	1.67		54.5	40-140	11.6	30	
Anthracene	1.45	0.17	mg/Kg wet	1.67		87.1	40-140	11.2	30	
Benzo(a)anthracene	1.47	0.17	mg/Kg wet	1.67		88.1	40-140	11.6	30	
Benzo(a)pyrene	1.50	0.17	mg/Kg wet	1.67		90.2	40-140	14.8	30	
Benzo(b)fluoranthene	1.47	0.17	mg/Kg wet	1.67		88.2	40-140	14.7	30	
Benzo(g,h,i)perylene	1.57	0.17	mg/Kg wet	1.67		94.2	40-140	15.1	30	
Benzo(k)fluoranthene	1.46	0.17	mg/Kg wet	1.67		87.8	40-140	14.8	30	
Bis(2-chloroethoxy)methane	1.49	0.34	mg/Kg wet	1.67		89.3	40-140	10.2	30	
Bis(2-chloroethyl)ether	1.39	0.34	mg/Kg wet	1.67		83.1	40-140	9.26	30	
Bis(2-chloroisopropyl)ether	1.33	0.34	mg/Kg wet	1.67		79.6	40-140	7.89	30	
Bis(2-Ethylhexyl)phthalate	1.69	0.34	mg/Kg wet	1.67		102	40-140	12.1	30	
4-Bromophenylphenylether	1.52	0.34	mg/Kg wet	1.67		91.1	40-140	12.4	30	
Butylbenzylphthalate	1.68	0.34	mg/Kg wet	1.67		101	40-140	11.7	30	
4-Chloroaniline	0.981	0.66	mg/Kg wet	1.67		58.8	15-140	17.6	30	†
2-Chloronaphthalene	1.37	0.34	mg/Kg wet	1.67		82.0	40-140	9.11	30	
2-Chlorophenol	1.32	0.34	mg/Kg wet	1.67		79.1	30-130	9.43	30	
Chrysene	1.45	0.17	mg/Kg wet	1.67		86.8	40-140	12.3	30	
Dibenz(a,h)anthracene	1.52	0.17	mg/Kg wet	1.67		91.4	40-140	14.1	30	
Dibenzofuran	1.49	0.34	mg/Kg wet	1.67		89.3	40-140	14.2	30	
Di-n-butylphthalate	1.50	0.34	mg/Kg wet	1.67		90.2	40-140	12.2	30	
1,2-Dichlorobenzene	1.23	0.34	mg/Kg wet	1.67		73.8	40-140	9.19	30	

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144018 - SW-846 3546										
LCS Dup (B144018-BSD1)				Prepared: 03/10/16 Analyzed: 03/11/16						
1,3-Dichlorobenzene	1.20	0.34	mg/Kg wet	1.67		72.2	40-140	9.52	30	
1,4-Dichlorobenzene	1.21	0.34	mg/Kg wet	1.67		72.6	40-140	9.55	30	
3,3-Dichlorobenzidine	0.756	0.17	mg/Kg wet	1.67		45.4	40-140	15.8	30	
2,4-Dichlorophenol	1.40	0.34	mg/Kg wet	1.67		84.1	30-130	13.1	30	
Diethylphthalate	1.52	0.34	mg/Kg wet	1.67		91.0	40-140	13.0	30	
2,4-Dimethylphenol	1.50	0.34	mg/Kg wet	1.67		89.8	30-130	15.4	30	
Dimethylphthalate	1.49	0.34	mg/Kg wet	1.67		89.6	40-140	11.3	30	
2,4-Dinitrophenol	0.458	0.66	mg/Kg wet	1.67		27.5	15-140	6.47	30	†
2,4-Dinitrotoluene	1.50	0.34	mg/Kg wet	1.67		90.2	40-140	12.8	30	
2,6-Dinitrotoluene	1.63	0.34	mg/Kg wet	1.67		97.9	40-140	14.3	30	
Di-n-octylphthalate	1.69	0.34	mg/Kg wet	1.67		101	40-140	12.1	30	
1,2-Diphenylhydrazine (as Azobenzene)	1.57	0.34	mg/Kg wet	1.67		94.0	40-140	11.1	30	
Fluoranthene	1.39	0.17	mg/Kg wet	1.67		83.5	40-140	13.1	30	
Fluorene	1.50	0.17	mg/Kg wet	1.67		89.8	40-140	12.4	30	
Hexachlorobenzene	1.51	0.34	mg/Kg wet	1.67		90.8	40-140	14.2	30	
Hexachlorobutadiene	1.36	0.34	mg/Kg wet	1.67		81.8	40-140	11.2	30	
Hexachloroethane	1.25	0.34	mg/Kg wet	1.67		75.1	40-140	8.35	30	
Indeno(1,2,3-cd)pyrene	1.52	0.17	mg/Kg wet	1.67		91.2	40-140	15.3	30	
Isophorone	1.55	0.34	mg/Kg wet	1.67		93.1	40-140	11.9	30	
2-Methylnaphthalene	1.42	0.17	mg/Kg wet	1.67		85.2	40-140	10.3	30	
2-Methylphenol	1.35	0.34	mg/Kg wet	1.67		80.9	30-130	8.90	30	
3/4-Methylphenol	1.37	0.34	mg/Kg wet	1.67		82.2	30-130	7.55	30	
Naphthalene	1.33	0.17	mg/Kg wet	1.67		79.8	40-140	11.0	30	
Nitrobenzene	1.40	0.34	mg/Kg wet	1.67		83.8	40-140	12.3	30	
2-Nitrophenol	1.35	0.34	mg/Kg wet	1.67		81.0	30-130	12.0	30	
4-Nitrophenol	1.44	0.66	mg/Kg wet	1.67		86.7	15-140	12.9	30	†
Pentachlorophenol	1.11	0.34	mg/Kg wet	1.67		66.8	30-130	6.65	30	
Phenanthrene	1.49	0.17	mg/Kg wet	1.67		89.5	40-140	12.6	30	
Phenol	1.32	0.34	mg/Kg wet	1.67		79.4	15-140	10.9	30	†
Pyrene	1.60	0.17	mg/Kg wet	1.67		95.7	40-140	10.8	30	
Pyridine	0.944	0.34	mg/Kg wet	1.67		56.6	30-140	9.90	30	†
1,2,4-Trichlorobenzene	1.35	0.34	mg/Kg wet	1.67		80.7	40-140	10.7	30	
2,4,5-Trichlorophenol	1.41	0.34	mg/Kg wet	1.67		84.5	30-130	14.9	30	
2,4,6-Trichlorophenol	1.42	0.34	mg/Kg wet	1.67		85.1	30-130	11.6	30	
Surrogate: 2-Fluorophenol	*5.56*		mg/Kg wet	6.67		83.4	30-130			
Surrogate: Phenol-d6	*5.75*		mg/Kg wet	6.67		86.3	30-130			
Surrogate: Nitrobenzene-d5	*3.12*		mg/Kg wet	3.33		93.5	30-130			
Surrogate: 2-Fluorobiphenyl	*3.15*		mg/Kg wet	3.33		94.5	30-130			
Surrogate: 2,4,6-Tribromophenol	*6.32*		mg/Kg wet	6.67		94.7	30-130			
Surrogate: p-Terphenyl-d14	*3.72*		mg/Kg wet	3.33		111	30-130			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144017 - SW-846 3546										
Blank (B144017-BLK1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aldrin	ND	0.0050	mg/Kg wet							
Aldrin [2C]	ND	0.0050	mg/Kg wet							
alpha-BHC	ND	0.0050	mg/Kg wet							
alpha-BHC [2C]	ND	0.0050	mg/Kg wet							
beta-BHC	ND	0.0050	mg/Kg wet							
beta-BHC [2C]	ND	0.0050	mg/Kg wet							
delta-BHC	ND	0.0050	mg/Kg wet							
delta-BHC [2C]	ND	0.0050	mg/Kg wet							
gamma-BHC (Lindane)	ND	0.0020	mg/Kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0020	mg/Kg wet							
Chlordane	ND	0.020	mg/Kg wet							
Chlordane [2C]	ND	0.020	mg/Kg wet							
4,4'-DDD	ND	0.0040	mg/Kg wet							
4,4'-DDD [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDE	ND	0.0040	mg/Kg wet							
4,4'-DDE [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDT	ND	0.0040	mg/Kg wet							
4,4'-DDT [2C]	ND	0.0040	mg/Kg wet							
Dieldrin	ND	0.0040	mg/Kg wet							
Dieldrin [2C]	ND	0.0040	mg/Kg wet							
Endosulfan I	ND	0.0050	mg/Kg wet							
Endosulfan I [2C]	ND	0.0050	mg/Kg wet							
Endosulfan II	ND	0.0080	mg/Kg wet							
Endosulfan II [2C]	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate [2C]	ND	0.0080	mg/Kg wet							
Endrin	ND	0.0080	mg/Kg wet							
Endrin [2C]	ND	0.0080	mg/Kg wet							
Endrin Aldehyde	ND	0.0080	mg/Kg wet							
Endrin Aldehyde [2C]	ND	0.0080	mg/Kg wet							
Endrin Ketone	ND	0.0080	mg/Kg wet							
Endrin Ketone [2C]	ND	0.0080	mg/Kg wet							
Heptachlor	ND	0.0050	mg/Kg wet							
Heptachlor [2C]	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide [2C]	ND	0.0050	mg/Kg wet							
Hexachlorobenzene	ND	0.0060	mg/Kg wet							
Hexachlorobenzene [2C]	ND	0.0060	mg/Kg wet							
Methoxychlor	ND	0.050	mg/Kg wet							
Methoxychlor [2C]	ND	0.050	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.198*		mg/Kg wet	0.200		99.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.199*		mg/Kg wet	0.200		99.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.192*		mg/Kg wet	0.200		96.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.202*		mg/Kg wet	0.200		101	30-150			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144017 - SW-846 3546										
LCS (B144017-BS1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aldrin	0.11	0.0050	mg/Kg wet	0.100		106	40-140			
Aldrin [2C]	0.12	0.0050	mg/Kg wet	0.100		115	40-140			
alpha-BHC	0.11	0.0050	mg/Kg wet	0.100		107	40-140			
alpha-BHC [2C]	0.12	0.0050	mg/Kg wet	0.100		116	40-140			
beta-BHC	0.10	0.0050	mg/Kg wet	0.100		104	40-140			
beta-BHC [2C]	0.11	0.0050	mg/Kg wet	0.100		110	40-140			
delta-BHC	0.10	0.0050	mg/Kg wet	0.100		104	40-140			
delta-BHC [2C]	0.11	0.0050	mg/Kg wet	0.100		111	40-140			
gamma-BHC (Lindane)	0.11	0.0020	mg/Kg wet	0.100		108	40-140			
gamma-BHC (Lindane) [2C]	0.12	0.0020	mg/Kg wet	0.100		119	40-140			
4,4'-DDD	0.11	0.0040	mg/Kg wet	0.100		109	40-140			
4,4'-DDD [2C]	0.11	0.0040	mg/Kg wet	0.100		114	40-140			
4,4'-DDE	0.11	0.0040	mg/Kg wet	0.100		108	40-140			
4,4'-DDE [2C]	0.12	0.0040	mg/Kg wet	0.100		117	40-140			
4,4'-DDT	0.10	0.0040	mg/Kg wet	0.100		103	40-140			
4,4'-DDT [2C]	0.11	0.0040	mg/Kg wet	0.100		106	40-140			
Dieldrin	0.11	0.0040	mg/Kg wet	0.100		106	40-140			
Dieldrin [2C]	0.11	0.0040	mg/Kg wet	0.100		111	40-140			
Endosulfan I	0.10	0.0050	mg/Kg wet	0.100		105	40-140			
Endosulfan I [2C]	0.11	0.0050	mg/Kg wet	0.100		108	40-140			
Endosulfan II	0.11	0.0080	mg/Kg wet	0.100		106	40-140			
Endosulfan II [2C]	0.11	0.0080	mg/Kg wet	0.100		108	40-140			
Endosulfan Sulfate	0.11	0.0080	mg/Kg wet	0.100		106	40-140			
Endosulfan Sulfate [2C]	0.11	0.0080	mg/Kg wet	0.100		107	40-140			
Endrin	0.11	0.0080	mg/Kg wet	0.100		110	40-140			
Endrin [2C]	0.11	0.0080	mg/Kg wet	0.100		113	40-140			
Endrin Ketone	0.11	0.0080	mg/Kg wet	0.100		111	40-140			
Endrin Ketone [2C]	0.11	0.0080	mg/Kg wet	0.100		111	40-140			
Heptachlor	0.10	0.0050	mg/Kg wet	0.100		104	40-140			
Heptachlor [2C]	0.11	0.0050	mg/Kg wet	0.100		113	40-140			
Heptachlor Epoxide	0.10	0.0050	mg/Kg wet	0.100		104	40-140			
Heptachlor Epoxide [2C]	0.11	0.0050	mg/Kg wet	0.100		107	40-140			
Hexachlorobenzene	0.093	0.0060	mg/Kg wet	0.100		93.4	40-140			
Hexachlorobenzene [2C]	0.099	0.0060	mg/Kg wet	0.100		98.6	40-140			
Methoxychlor	0.10	0.050	mg/Kg wet	0.100		101	40-140			
Methoxychlor [2C]	0.10	0.050	mg/Kg wet	0.100		103	40-140			
Surrogate: Decachlorobiphenyl	*0.203*		mg/Kg wet	0.200		102	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.204*		mg/Kg wet	0.200		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.195*		mg/Kg wet	0.200		97.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.213*		mg/Kg wet	0.200		106	30-150			
LCS Dup (B144017-BSD1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aldrin	0.11	0.0050	mg/Kg wet	0.100		105	40-140	0.501	30	
Aldrin [2C]	0.11	0.0050	mg/Kg wet	0.100		114	40-140	0.913	30	
alpha-BHC	0.11	0.0050	mg/Kg wet	0.100		106	40-140	0.769	30	
alpha-BHC [2C]	0.11	0.0050	mg/Kg wet	0.100		112	40-140	4.04	30	
beta-BHC	0.10	0.0050	mg/Kg wet	0.100		103	40-140	1.33	30	
beta-BHC [2C]	0.11	0.0050	mg/Kg wet	0.100		111	40-140	0.603	30	
delta-BHC	0.11	0.0050	mg/Kg wet	0.100		106	40-140	1.81	30	
delta-BHC [2C]	0.11	0.0050	mg/Kg wet	0.100		112	40-140	0.591	30	
gamma-BHC (Lindane)	0.11	0.0020	mg/Kg wet	0.100		108	40-140	0.149	30	
gamma-BHC (Lindane) [2C]	0.12	0.0020	mg/Kg wet	0.100		117	40-140	2.35	30	

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144017 - SW-846 3546										
LCS Dup (B144017-BSD1)				Prepared: 03/10/16 Analyzed: 03/11/16						
4,4'-DDD	0.11	0.0040	mg/Kg wet	0.100		112	40-140	2.60	30	
4,4'-DDD [2C]	0.12	0.0040	mg/Kg wet	0.100		117	40-140	2.78	30	
4,4'-DDE	0.11	0.0040	mg/Kg wet	0.100		112	40-140	3.77	30	
4,4'-DDE [2C]	0.12	0.0040	mg/Kg wet	0.100		119	40-140	1.94	30	
4,4'-DDT	0.11	0.0040	mg/Kg wet	0.100		107	40-140	3.04	30	
4,4'-DDT [2C]	0.11	0.0040	mg/Kg wet	0.100		110	40-140	3.93	30	
Dieldrin	0.11	0.0040	mg/Kg wet	0.100		107	40-140	1.77	30	
Dieldrin [2C]	0.11	0.0040	mg/Kg wet	0.100		114	40-140	1.84	30	
Endosulfan I	0.11	0.0050	mg/Kg wet	0.100		106	40-140	1.25	30	
Endosulfan I [2C]	0.11	0.0050	mg/Kg wet	0.100		110	40-140	1.29	30	
Endosulfan II	0.11	0.0080	mg/Kg wet	0.100		108	40-140	1.90	30	
Endosulfan II [2C]	0.11	0.0080	mg/Kg wet	0.100		111	40-140	2.46	30	
Endosulfan Sulfate	0.11	0.0080	mg/Kg wet	0.100		109	40-140	2.29	30	
Endosulfan Sulfate [2C]	0.11	0.0080	mg/Kg wet	0.100		110	40-140	2.49	30	
Endrin	0.11	0.0080	mg/Kg wet	0.100		111	40-140	1.54	30	
Endrin [2C]	0.12	0.0080	mg/Kg wet	0.100		116	40-140	1.88	30	
Endrin Ketone	0.11	0.0080	mg/Kg wet	0.100		114	40-140	2.33	30	
Endrin Ketone [2C]	0.11	0.0080	mg/Kg wet	0.100		114	40-140	2.53	30	
Heptachlor	0.10	0.0050	mg/Kg wet	0.100		103	40-140	0.153	30	
Heptachlor [2C]	0.11	0.0050	mg/Kg wet	0.100		112	40-140	1.16	30	
Heptachlor Epoxide	0.10	0.0050	mg/Kg wet	0.100		105	40-140	1.20	30	
Heptachlor Epoxide [2C]	0.11	0.0050	mg/Kg wet	0.100		108	40-140	0.560	30	
Hexachlorobenzene	0.092	0.0060	mg/Kg wet	0.100		92.0	40-140	1.52	30	
Hexachlorobenzene [2C]	0.095	0.0060	mg/Kg wet	0.100		95.4	40-140	3.27	30	
Methoxychlor	0.10	0.050	mg/Kg wet	0.100		104	40-140	3.27	30	
Methoxychlor [2C]	0.11	0.050	mg/Kg wet	0.100		107	40-140	3.85	30	
Surrogate: Decachlorobiphenyl	*0.204*		mg/Kg wet	0.200		102	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.203*		mg/Kg wet	0.200		101	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg wet	0.200		92.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.196*		mg/Kg wet	0.200		98.1	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143995 - SW-846 3540C										
Blank (B143995-BLK1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.181*		mg/Kg wet	0.200		90.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.194*		mg/Kg wet	0.200		97.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg wet	0.200		92.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.199*		mg/Kg wet	0.200		99.4	30-150			
LCS (B143995-BS1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aroclor-1016	0.19	0.020	mg/Kg wet	0.200		97.2	40-140			
Aroclor-1016 [2C]	0.19	0.020	mg/Kg wet	0.200		93.8	40-140			
Aroclor-1260	0.19	0.020	mg/Kg wet	0.200		93.8	40-140			
Aroclor-1260 [2C]	0.18	0.020	mg/Kg wet	0.200		90.3	40-140			
Surrogate: Decachlorobiphenyl	*0.181*		mg/Kg wet	0.200		90.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.195*		mg/Kg wet	0.200		97.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.188*		mg/Kg wet	0.200		93.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.201*		mg/Kg wet	0.200		100	30-150			
LCS Dup (B143995-BSD1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aroclor-1016	0.20	0.020	mg/Kg wet	0.200		97.7	40-140	0.539	30	
Aroclor-1016 [2C]	0.19	0.020	mg/Kg wet	0.200		94.4	40-140	0.632	30	
Aroclor-1260	0.19	0.020	mg/Kg wet	0.200		94.2	40-140	0.396	30	
Aroclor-1260 [2C]	0.18	0.020	mg/Kg wet	0.200		90.7	40-140	0.369	30	
Surrogate: Decachlorobiphenyl	*0.177*		mg/Kg wet	0.200		88.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.190*		mg/Kg wet	0.200		94.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg wet	0.200		92.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.198*		mg/Kg wet	0.200		99.0	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B143995 - SW-846 3540C											
Matrix Spike (B143995-MS1)		**Source: 16C0454-09**		Prepared: 03/10/16 Analyzed: 03/11/16							
Aroclor-1016	0.21	0.12	mg/Kg dry	0.232	ND	92.1		40-140			
Aroclor-1016 [2C]	0.28	0.12	mg/Kg dry	0.232	ND	122		40-140			
Aroclor-1260	2.0	0.12	mg/Kg dry	0.232	ND	**850**	*	40-140			MS-21
Aroclor-1260 [2C]	2.3	0.12	mg/Kg dry	0.232	ND	**993**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.129*		mg/Kg dry	0.232		55.6		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.176*		mg/Kg dry	0.232		75.7		30-150			
Surrogate: Tetrachloro-m-xylene	*0.154*		mg/Kg dry	0.232		66.3		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.155*		mg/Kg dry	0.232		66.6		30-150			
Matrix Spike Dup (B143995-MSD1)		**Source: 16C0454-09**		Prepared: 03/10/16 Analyzed: 03/11/16							
Aroclor-1016	0.27	0.12	mg/Kg dry	0.234	ND	117		40-140		50	
Aroclor-1016 [2C]	0.36	0.12	mg/Kg dry	0.234	ND	**153**	*	40-140		50	MS-22
Aroclor-1260	2.6	0.12	mg/Kg dry	0.234	ND	**1130**	*	40-140	28.8	50	MS-21
Aroclor-1260 [2C]	3.1	0.12	mg/Kg dry	0.234	ND	**1310**	*	40-140	28.8	50	MS-21
Surrogate: Decachlorobiphenyl	*0.145*		mg/Kg dry	0.234		62.1		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.207*		mg/Kg dry	0.234		88.3		30-150			
Surrogate: Tetrachloro-m-xylene	*0.175*		mg/Kg dry	0.234		74.7		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.177*		mg/Kg dry	0.234		75.4		30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144024 - SW-846 3546										
Blank (B144024-BLK1)				Prepared: 03/11/16 Analyzed: 03/14/16						
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: o-Terphenyl	*2.57*		mg/Kg wet	3.33		77.2	40-140			
LCS (B144024-BS1)				Prepared: 03/11/16 Analyzed: 03/14/16						
TPH (C9-C36)	20.5	8.3	mg/Kg wet	33.3		61.5	40-140			
Surrogate: o-Terphenyl	*2.35*		mg/Kg wet	3.33		70.4	40-140			
LCS Dup (B144024-BSD1)				Prepared: 03/11/16 Analyzed: 03/14/16						
TPH (C9-C36)	25.4	8.3	mg/Kg wet	33.3		76.3	40-140	21.4	30	
Surrogate: o-Terphenyl	*2.77*		mg/Kg wet	3.33		83.1	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144026 - SW-846 3546										
Blank (B144026-BLK1)				Prepared & Analyzed: 03/11/16						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*3.44*		mg/Kg wet	4.99		69.0	40-140			
Surrogate: o-Terphenyl (OTP)	*3.65*		mg/Kg wet	5.00		72.9	40-140			
Surrogate: 2-Bromonaphthalene	*4.06*		mg/Kg wet	5.00		81.2	40-140			
Surrogate: 2-Fluorobiphenyl	*4.25*		mg/Kg wet	5.00		85.0	40-140			
LCS (B144026-BS1)				Prepared & Analyzed: 03/11/16						
Acenaphthene	3.93	0.10	mg/Kg wet	5.00		78.7	40-140			
Acenaphthylene	3.72	0.10	mg/Kg wet	5.00		74.4	40-140			
Anthracene	4.70	0.10	mg/Kg wet	5.00		93.9	40-140			
Benzo(a)anthracene	4.19	0.10	mg/Kg wet	5.00		83.9	40-140			
Benzo(a)pyrene	4.13	0.10	mg/Kg wet	5.00		82.6	40-140			
Benzo(b)fluoranthene	4.13	0.10	mg/Kg wet	5.00		82.6	40-140			
Benzo(g,h,i)perylene	4.02	0.10	mg/Kg wet	5.00		80.4	40-140			
Benzo(k)fluoranthene	4.16	0.10	mg/Kg wet	5.00		83.2	40-140			
Chrysene	4.23	0.10	mg/Kg wet	5.00		84.7	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144026 - SW-846 3546										
LCS (B144026-BS1)				Prepared & Analyzed: 03/11/16						
Dibenz(a,h)anthracene	4.29	0.10	mg/Kg wet	5.00		85.8	40-140			
Fluoranthene	4.23	0.10	mg/Kg wet	5.00		84.5	40-140			
Fluorene	3.93	0.10	mg/Kg wet	5.00		78.7	40-140			
Indeno(1,2,3-cd)pyrene	3.93	0.10	mg/Kg wet	5.00		78.5	40-140			
2-Methylnaphthalene	3.45	0.10	mg/Kg wet	5.00		69.0	40-140			
Naphthalene	3.33	0.10	mg/Kg wet	5.00		66.7	40-140			
Phenanthrene	4.13	0.10	mg/Kg wet	5.00		82.6	40-140			
Pyrene	4.24	0.10	mg/Kg wet	5.00		84.8	40-140			
n-Decane	2.48	0.10	mg/Kg wet	5.00		49.5	40-140			
n-Docosane	3.63	0.10	mg/Kg wet	5.00		72.6	40-140			
n-Dodecane	2.97	0.10	mg/Kg wet	5.00		59.4	40-140			
n-Eicosane	3.74	0.10	mg/Kg wet	5.00		74.8	40-140			
n-Hexacosane	3.90	0.10	mg/Kg wet	5.00		78.1	40-140			
n-Hexadecane	3.53	0.10	mg/Kg wet	5.00		70.7	40-140			
n-Hexatriacontane	3.87	0.10	mg/Kg wet	5.00		77.4	40-140			
n-Nonadecane	3.69	0.10	mg/Kg wet	5.00		73.8	40-140			
n-Nonane	1.85	0.10	mg/Kg wet	5.00		37.0	30-140			
n-Octacosane	3.95	0.10	mg/Kg wet	5.00		78.9	40-140			
n-Octadecane	3.67	0.10	mg/Kg wet	5.00		73.4	40-140			
n-Tetracosane	4.13	0.10	mg/Kg wet	5.00		82.5	40-140			
n-Tetradecane	3.27	0.10	mg/Kg wet	5.00		65.3	40-140			
n-Triacontane	4.03	0.10	mg/Kg wet	5.00		80.5	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.42*		mg/Kg wet	4.99		68.5	40-140			
Surrogate: o-Terphenyl (OTP)	*4.13*		mg/Kg wet	5.00		82.6	40-140			
Surrogate: 2-Bromonaphthalene	*4.68*		mg/Kg wet	5.00		93.7	40-140			
Surrogate: 2-Fluorobiphenyl	*4.57*		mg/Kg wet	5.00		91.4	40-140			
LCS Dup (B144026-BSD1)				Prepared & Analyzed: 03/11/16						
Acenaphthene	3.96	0.10	mg/Kg wet	5.00		79.3	40-140	0.760	25	
Acenaphthylene	3.74	0.10	mg/Kg wet	5.00		74.9	40-140	0.686	25	
Anthracene	4.73	0.10	mg/Kg wet	5.00		94.6	40-140	0.757	25	
Benzo(a)anthracene	4.31	0.10	mg/Kg wet	5.00		86.3	40-140	2.81	25	
Benzo(a)pyrene	4.29	0.10	mg/Kg wet	5.00		85.8	40-140	3.79	25	
Benzo(b)fluoranthene	4.28	0.10	mg/Kg wet	5.00		85.7	40-140	3.74	25	
Benzo(g,h,i)perylene	4.22	0.10	mg/Kg wet	5.00		84.4	40-140	4.79	25	
Benzo(k)fluoranthene	4.29	0.10	mg/Kg wet	5.00		85.8	40-140	3.08	25	
Chrysene	4.35	0.10	mg/Kg wet	5.00		87.0	40-140	2.67	25	
Dibenz(a,h)anthracene	4.50	0.10	mg/Kg wet	5.00		90.0	40-140	4.87	25	
Fluoranthene	4.26	0.10	mg/Kg wet	5.00		85.3	40-140	0.893	25	
Fluorene	3.97	0.10	mg/Kg wet	5.00		79.3	40-140	0.820	25	
Indeno(1,2,3-cd)pyrene	4.14	0.10	mg/Kg wet	5.00		82.9	40-140	5.41	25	
2-Methylnaphthalene	3.46	0.10	mg/Kg wet	5.00		69.2	40-140	0.316	25	
Naphthalene	3.33	0.10	mg/Kg wet	5.00		66.6	40-140	0.183	25	
Phenanthrene	4.16	0.10	mg/Kg wet	5.00		83.2	40-140	0.726	25	
Pyrene	4.27	0.10	mg/Kg wet	5.00		85.4	40-140	0.707	25	
n-Decane	2.65	0.10	mg/Kg wet	5.00		53.0	40-140	6.74	25	
n-Docosane	4.26	0.10	mg/Kg wet	5.00		85.2	40-140	16.0	25	
n-Dodecane	3.23	0.10	mg/Kg wet	5.00		64.7	40-140	8.48	25	
n-Eicosane	4.28	0.10	mg/Kg wet	5.00		85.6	40-140	13.4	25	
n-Hexacosane	4.50	0.10	mg/Kg wet	5.00		90.1	40-140	14.3	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144026 - SW-846 3546										
LCS Dup (B144026-BSD1)				Prepared & Analyzed: 03/11/16						
n-Hexadecane	3.99	0.10	mg/Kg wet	5.00		79.9	40-140	12.2	25	
n-Hexatriacontane	4.38	0.10	mg/Kg wet	5.00		87.7	40-140	12.5	25	
n-Nonadecane	4.20	0.10	mg/Kg wet	5.00		84.0	40-140	12.9	25	
n-Nonane	1.93	0.10	mg/Kg wet	5.00		38.6	30-140	4.25	25	
n-Octacosane	4.54	0.10	mg/Kg wet	5.00		90.7	40-140	13.9	25	
n-Octadecane	4.18	0.10	mg/Kg wet	5.00		83.7	40-140	13.1	25	
n-Tetracosane	4.78	0.10	mg/Kg wet	5.00		95.5	40-140	14.6	25	
n-Tetradecane	3.63	0.10	mg/Kg wet	5.00		72.5	40-140	10.4	25	
n-Triacontane	4.61	0.10	mg/Kg wet	5.00		92.1	40-140	13.4	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.87*		mg/Kg wet	4.99		77.5	40-140			
Surrogate: o-Terphenyl (OTP)	*4.14*		mg/Kg wet	5.00		82.7	40-140			
Surrogate: 2-Bromonaphthalene	*4.39*		mg/Kg wet	5.00		87.9	40-140			
Surrogate: 2-Fluorobiphenyl	*4.38*		mg/Kg wet	5.00		87.7	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144047 - MA VPH										
Blank (B144047-BLK1)				Prepared: 03/11/16 Analyzed: 03/14/16						
Unadjusted C5-C8 Aliphatics	ND	10	mg/Kg wet							
C5-C8 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C10 Aromatics	ND	10	mg/Kg wet							
Benzene	ND	0.050	mg/Kg wet							
Butylcyclohexane	ND	0.050	mg/Kg wet							
Decane	ND	0.050	mg/Kg wet							
Ethylbenzene	ND	0.050	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg wet							
2-Methylpentane	ND	0.050	mg/Kg wet							
Naphthalene	ND	0.25	mg/Kg wet							
Nonane	ND	0.050	mg/Kg wet							
Pentane	ND	0.050	mg/Kg wet							
Toluene	ND	0.050	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.050	mg/Kg wet							
2,2,4-Trimethylpentane	ND	0.050	mg/Kg wet							
m+p Xylene	ND	0.10	mg/Kg wet							
o-Xylene	ND	0.050	mg/Kg wet							
Surrogate: 2,5-Dibromotoluene (FID)	*0.0436*		mg/Kg wet	0.0400		109	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0403*		mg/Kg wet	0.0400		101	70-130			
LCS (B144047-BS1)				Prepared: 03/11/16 Analyzed: 03/14/16						
Benzene	0.0977	0.0010	mg/Kg wet	0.100		97.7	70-130			
Butylcyclohexane	0.0805	0.0010	mg/Kg wet	0.100		80.5	70-130			
Decane	0.0908	0.0010	mg/Kg wet	0.100		90.8	70-130			
Ethylbenzene	0.104	0.0010	mg/Kg wet	0.100		104	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0902	0.0010	mg/Kg wet	0.100		90.2	70-130			
2-Methylpentane	0.101	0.0010	mg/Kg wet	0.100		101	70-130			
Naphthalene	0.109	0.0050	mg/Kg wet	0.100		109	70-130			
Nonane	0.0800	0.0010	mg/Kg wet	0.100		80.0	30-130			
Pentane	0.106	0.0010	mg/Kg wet	0.100		106	70-130			
Toluene	0.0984	0.0010	mg/Kg wet	0.100		98.4	70-130			
1,2,4-Trimethylbenzene	0.112	0.0010	mg/Kg wet	0.100		112	70-130			
2,2,4-Trimethylpentane	0.0858	0.0010	mg/Kg wet	0.100		85.8	70-130			
m+p Xylene	0.218	0.0020	mg/Kg wet	0.200		109	70-130			
o-Xylene	0.107	0.0010	mg/Kg wet	0.100		107	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*0.0500*		mg/Kg wet	0.0400		125	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0483*		mg/Kg wet	0.0400		121	70-130			
LCS Dup (B144047-BSD1)				Prepared: 03/11/16 Analyzed: 03/14/16						
Benzene	0.0948	0.0010	mg/Kg wet	0.100		94.8	70-130	2.93	25	
Butylcyclohexane	0.0796	0.0010	mg/Kg wet	0.100		79.6	70-130	1.05	25	
Decane	0.0906	0.0010	mg/Kg wet	0.100		90.6	70-130	0.278	25	
Ethylbenzene	0.101	0.0010	mg/Kg wet	0.100		101	70-130	3.32	25	
Methyl tert-Butyl Ether (MTBE)	0.0910	0.0010	mg/Kg wet	0.100		91.0	70-130	0.851	25	
2-Methylpentane	0.0946	0.0010	mg/Kg wet	0.100		94.6	70-130	6.35	25	
Naphthalene	0.109	0.0050	mg/Kg wet	0.100		109	70-130	0.682	25	
Nonane	0.0799	0.0010	mg/Kg wet	0.100		79.9	30-130	0.0338	25	
Pentane	0.0860	0.0010	mg/Kg wet	0.100		86.0	70-130	20.5	25	
Toluene	0.0955	0.0010	mg/Kg wet	0.100		95.5	70-130	3.01	25	
1,2,4-Trimethylbenzene	0.108	0.0010	mg/Kg wet	0.100		108	70-130	3.52	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144047 - MA VPH										
LCS Dup (B144047-BSD1)				Prepared: 03/11/16 Analyzed: 03/14/16						
2,2,4-Trimethylpentane	0.0798	0.0010	mg/Kg wet	0.100		79.8	70-130	7.21	25	
m+p Xylene	0.211	0.0020	mg/Kg wet	0.200		105	70-130	3.24	25	
o-Xylene	0.103	0.0010	mg/Kg wet	0.100		103	70-130	3.16	25	
Surrogate: 2,5-Dibromotoluene (FID)	*0.0462*		mg/Kg wet	0.0400		115	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0461*		mg/Kg wet	0.0400		115	70-130			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B143754 - SW-846 3050B											
Blank (B143754-BLK1)				Prepared: 03/11/16 Analyzed: 03/12/16							
Antimony	ND	2.5	mg/Kg wet								
Arsenic	ND	2.5	mg/Kg wet								
Barium	ND	2.5	mg/Kg wet								
Beryllium	ND	0.25	mg/Kg wet								
Cadmium	ND	0.25	mg/Kg wet								
Chromium	ND	0.50	mg/Kg wet								
Lead	ND	0.75	mg/Kg wet								
Nickel	ND	0.50	mg/Kg wet								
Selenium	ND	5.0	mg/Kg wet								
Silver	ND	0.50	mg/Kg wet								
Thallium	ND	2.5	mg/Kg wet								
Vanadium	ND	1.0	mg/Kg wet								
Zinc	ND	1.0	mg/Kg wet								
LCS (B143754-BS1)				Prepared: 03/11/16 Analyzed: 03/12/16							
Antimony	88.1	5.0	mg/Kg wet	105		83.9		0-210.3			
Arsenic	89.4	5.0	mg/Kg wet	98.5		90.8		77.8-122.1			
Barium	268	5.0	mg/Kg wet	308		86.9		82-117.4			
Beryllium	61.6	0.50	mg/Kg wet	66.0		93.4		82.3-117.7			
Cadmium	132	0.50	mg/Kg wet	146		90.3		81.9-118.2			
Chromium	160	0.99	mg/Kg wet	182		87.6		78.7-120.6			
Lead	105	1.5	mg/Kg wet	130		**80.8**	*	82.4-117.8			L-07
Nickel	129	0.99	mg/Kg wet	149		86.4		82.2-117.8			
Selenium	136	9.9	mg/Kg wet	154		88.0		77.1-122.3			
Silver	33.0	0.99	mg/Kg wet	40.9		80.6		74.3-125.4			
Thallium	157	5.0	mg/Kg wet	175		89.7		78.2-121.6			
Vanadium	82.8	2.0	mg/Kg wet	96.7		85.6		64.8-135.2			
Zinc	170	2.0	mg/Kg wet	191		88.9		79.7-120.8			
LCS Dup (B143754-BSD1)				Prepared: 03/11/16 Analyzed: 03/12/16							
Antimony	94.3	5.0	mg/Kg wet	105		89.8		0-210.3	6.79	30	
Arsenic	92.9	5.0	mg/Kg wet	98.5		94.3		77.8-122.1	3.84	30	
Barium	274	5.0	mg/Kg wet	308		88.8		82-117.4	2.11	30	
Beryllium	65.7	0.50	mg/Kg wet	66.0		99.5		82.3-117.7	6.31	30	
Cadmium	138	0.50	mg/Kg wet	146		94.8		81.9-118.2	4.89	30	
Chromium	168	1.0	mg/Kg wet	182		92.6		78.7-120.6	5.45	30	
Lead	109	1.5	mg/Kg wet	130		84.1		82.4-117.8	3.97	30	
Nickel	137	1.0	mg/Kg wet	149		92.2		82.2-117.8	6.48	30	
Selenium	144	10	mg/Kg wet	154		93.2		77.1-122.3	5.69	30	
Silver	34.0	1.0	mg/Kg wet	40.9		83.0		74.3-125.4	2.92	30	
Thallium	163	5.0	mg/Kg wet	175		92.9		78.2-121.6	3.50	30	
Vanadium	88.0	2.0	mg/Kg wet	96.7		91.0		64.8-135.2	6.10	30	
Zinc	180	2.0	mg/Kg wet	191		94.2		79.7-120.8	5.76	30	

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143754 - SW-846 3050B										
MRL Check (B143754-MRL1)				Prepared: 03/11/16 Analyzed: 03/12/16						
Lead	0.687	0.73	mg/Kg wet	0.730		94.0	80-120			
Batch B143755 - SW-846 3050B										
Blank (B143755-BLK1)				Prepared: 03/11/16 Analyzed: 03/12/16						
Antimony	ND	2.5	mg/Kg wet							
Arsenic	ND	2.5	mg/Kg wet							
Barium	ND	2.5	mg/Kg wet							
Beryllium	ND	0.25	mg/Kg wet							
Cadmium	ND	0.25	mg/Kg wet							
Chromium	ND	0.50	mg/Kg wet							
Lead	ND	0.75	mg/Kg wet							
Nickel	ND	0.50	mg/Kg wet							
Selenium	ND	5.0	mg/Kg wet							
Silver	ND	0.50	mg/Kg wet							
Thallium	ND	2.5	mg/Kg wet							
Vanadium	ND	1.0	mg/Kg wet							
Zinc	ND	1.0	mg/Kg wet							
LCS (B143755-BS1)				Prepared: 03/11/16 Analyzed: 03/12/16						
Antimony	87.6	5.0	mg/Kg wet	105		83.5	0-210.3			
Arsenic	85.7	5.0	mg/Kg wet	98.5		87.0	77.8-122.1			
Barium	277	5.0	mg/Kg wet	308		90.0	82-117.4			
Beryllium	62.7	0.50	mg/Kg wet	66.0		95.0	82.3-117.7			
Cadmium	134	0.50	mg/Kg wet	146		92.0	81.9-118.2			
Chromium	164	0.99	mg/Kg wet	182		90.2	78.7-120.6			
Lead	117	1.5	mg/Kg wet	130		89.8	82.4-117.8			
Nickel	136	0.99	mg/Kg wet	149		91.0	82.2-117.8			
Selenium	124	9.9	mg/Kg wet	154		80.7	77.1-122.3			
Silver	36.0	0.99	mg/Kg wet	40.9		87.9	74.3-125.4			
Thallium	168	5.0	mg/Kg wet	175		95.7	78.2-121.6			
Vanadium	86.5	2.0	mg/Kg wet	96.7		89.4	64.8-135.2			
Zinc	166	2.0	mg/Kg wet	191		87.1	79.7-120.8			
LCS Dup (B143755-BSD1)				Prepared: 03/11/16 Analyzed: 03/12/16						
Antimony	86.8	5.0	mg/Kg wet	105		82.7	0-210.3	0.899	30	
Arsenic	89.9	5.0	mg/Kg wet	98.5		91.2	77.8-122.1	4.71	30	
Barium	293	5.0	mg/Kg wet	308		95.0	82-117.4	5.46	30	
Beryllium	65.1	0.50	mg/Kg wet	66.0		98.6	82.3-117.7	3.75	30	
Cadmium	143	0.50	mg/Kg wet	146		98.2	81.9-118.2	6.49	30	
Chromium	174	0.99	mg/Kg wet	182		95.3	78.7-120.6	5.57	30	
Lead	112	1.5	mg/Kg wet	130		86.4	82.4-117.8	3.93	30	
Nickel	141	0.99	mg/Kg wet	149		94.7	82.2-117.8	4.00	30	
Selenium	131	9.9	mg/Kg wet	154		85.1	77.1-122.3	5.29	30	
Silver	37.6	0.99	mg/Kg wet	40.9		92.0	74.3-125.4	4.57	30	
Thallium	181	5.0	mg/Kg wet	175		104	78.2-121.6	7.87	30	
Vanadium	91.5	2.0	mg/Kg wet	96.7		94.7	64.8-135.2	5.71	30	
Zinc	175	2.0	mg/Kg wet	191		91.8	79.7-120.8	5.20	30	

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143755 - SW-846 3050B										
MRL Check (B143755-MRL1)				Prepared: 03/11/16 Analyzed: 03/12/16						
Lead	0.780	0.73	mg/Kg wet	0.731		107	80-120			
Batch B143996 - SW-846 7471										
Blank (B143996-BLK1)				Prepared: 03/12/16 Analyzed: 03/14/16						
Mercury	ND	0.025	mg/Kg wet							
LCS (B143996-BS1)				Prepared: 03/12/16 Analyzed: 03/14/16						
Mercury	6.73	0.79	mg/Kg wet	7.10		94.7	73.7-126.3			
LCS Dup (B143996-BSD1)				Prepared: 03/12/16 Analyzed: 03/14/16						
Mercury	7.17	0.79	mg/Kg wet	7.10		101	73.7-126.3	6.46	30	

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BREAKDOWN REPORT

Lab Sample ID: **S010929-PEM1** **Analyzed:** **03/11/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	2.97
Endrin [1]	3.73

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	3.47
Endrin [2]	3.81

BREAKDOWN REPORT

Lab Sample ID: **S010929-PEM2** **Analyzed:** **03/12/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	3.68
Endrin [1]	4.25

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	4.12
Endrin [2]	4.28

BREAKDOWN REPORT

Lab Sample ID: **S010929-PEM3** **Analyzed:** **03/12/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	4.02
Endrin [1]	3.75

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BREAKDOWN REPORT

Lab Sample ID: **S010929-PEM3** **Analyzed:** **03/12/2016**

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	4.40
Endrin [2]	3.74

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

FO-1-TP (0-1')

Lab Sample ID: 16C0454-09 Date(s) Analyzed 03/12/2016 03/12/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDT	1	7.08	0.00	0.00	0.15	
	2	7.23	0.00	0.00	0.63	125.0
Aroclor-1254	1	0.00	-0.03	0.03	13	
	2	0.00	-0.03	0.03	13	3.0
Dieldrin	1	6.67	0.00	0.00	0.16	
	2	6.67	0.00	0.00	0.52	106.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

FO-1-TP (1-2')

Lab Sample ID: 16C0454-10 Date(s) Analyzed 03/12/2016 03/12/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDE	1	6.49	0.00	0.00	0.093	
	2	6.59	0.00	0.00	0.36	118.0
4,4'-DDT	1	7.08	0.00	0.00	0.13	
	2	7.23	0.00	0.00	0.73	141.0
Aroclor-1254	1	0.00	-0.03	0.03	12	
	2	0.00	-0.03	0.03	11	4.4
Dieldrin	1	6.67	0.00	0.00	0.19	
	2	6.67	0.00	0.00	0.59	102.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

FO-1-TP (2-3')

Lab Sample ID: 16C0454-11 Date(s) Analyzed 03/12/2016 03/12/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDT	1	7.08	0.00	0.00	0.13	
	2	7.23	0.00	0.00	0.61	131.0
Aroclor-1254	1	0.00	-0.03	0.03	7.8	
	2	0.00	-0.03	0.03	7.7	0.9
Dieldrin	1	6.67	0.00	0.00	0.16	
	2	6.67	0.00	0.00	0.52	105.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B143995-BS1

Date(s) Analyzed 03/11/2016 03/11/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.19	
	2	0.00	-0.03	0.03	0.19	2
Aroclor-1260	1	0.00	-0.03	0.03	0.19	
	2	0.00	-0.03	0.03	0.18	4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B143995-BSD1 Date(s) Analyzed 03/11/2016 03/11/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.19	3
Aroclor-1260	1	0.00	-0.03	0.03	0.19	
	2	0.00	-0.03	0.03	0.18	4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B143995-MS1 Date(s) Analyzed 03/11/2016 03/11/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.21	
	2	0.00	-0.03	0.03	0.28	27
Aroclor-1260	1	0.00	-0.03	0.03	2.0	
	2	0.00	-0.03	0.03	2.3	16

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B143995-MSD1 Date(s) Analyzed 03/11/2016 03/11/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.27	
	2	0.00	-0.03	0.03	0.36	27
Aroclor-1260	1	0.00	-0.03	0.03	2.6	
	2	0.00	-0.03	0.03	3.1	16

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B144017-BS1 Date(s) Analyzed 03/11/2016 03/11/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	6.89	0.00	0.00	0.11	
	2	7.00	0.00	0.00	0.11	1
4,4'-DDE	1	6.47	0.00	0.00	0.11	
	2	6.58	0.00	0.00	0.12	11
4,4'-DDT	1	7.10	0.00	0.00	0.10	
	2	7.24	0.00	0.00	0.11	7
Aldrin	1	5.84	0.00	0.00	0.11	
	2	5.84	0.00	0.00	0.12	12
alpha-BHC	1	5.19	0.00	0.00	0.11	
	2	5.19	0.00	0.00	0.12	12
beta-BHC	1	5.42	0.00	0.00	0.10	
	2	5.45	0.00	0.00	0.11	6
delta-BHC	1	5.52	0.00	0.00	0.10	
	2	5.62	0.00	0.00	0.11	6
Dieldrin	1	6.66	0.00	0.00	0.11	
	2	6.68	0.00	0.00	0.11	4
Endosulfan I	1	6.49	0.00	0.00	0.10	
	2	6.48	0.00	0.00	0.11	5
Endosulfan II	1	6.99	0.00	0.00	0.11	
	2	7.06	0.00	0.00	0.11	4
Endosulfan Sulfate	1	7.63	0.00	0.00	0.11	
	2	7.53	0.00	0.00	0.11	4
Endrin	1	6.83	0.00	0.00	0.11	
	2	6.90	0.00	0.00	0.11	0
Endrin Ketone	1	7.84	0.00	0.00	0.11	
	2	7.94	0.00	0.00	0.11	1
gamma-BHC (Lindane)	1	5.37	0.00	0.00	0.11	
	2	5.39	0.00	0.00	0.12	11
Heptachlor	1	5.65	0.00	0.00	0.10	
	2	5.65	0.00	0.00	0.11	6
Heptachlor Epoxide	1	6.23	0.00	0.00	0.10	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B144017-BS1

Date(s) Analyzed 03/11/2016 03/11/2016

Instrument ID (1): ECD6

Instrument ID (2): ECD6

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.22	0.00	0.00	0.11	6
Hexachlorobenzene	1	5.09	0.00	0.00	0.093	
	2	5.11	0.00	0.00	0.099	6
Methoxychlor	1	7.47	0.00	0.00	0.10	
	2	7.80	0.00	0.00	0.10	1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B144017-BSD1 Date(s) Analyzed 03/11/2016 03/11/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	6.89	0.00	0.00	0.11	
	2	7.00	0.00	0.00	0.12	7
4,4'-DDE	1	6.47	0.00	0.00	0.11	
	2	6.58	0.00	0.00	0.12	7
4,4'-DDT	1	7.10	0.00	0.00	0.11	
	2	7.24	0.00	0.00	0.11	3
Aldrin	1	5.83	0.00	0.00	0.11	
	2	5.84	0.00	0.00	0.11	5
alpha-BHC	1	5.19	0.00	0.00	0.11	
	2	5.20	0.00	0.00	0.11	4
beta-BHC	1	5.42	0.00	0.00	0.10	
	2	5.45	0.00	0.00	0.11	7
delta-BHC	1	5.52	0.00	0.00	0.11	
	2	5.62	0.00	0.00	0.11	4
Dieldrin	1	6.66	0.00	0.00	0.11	
	2	6.68	0.00	0.00	0.11	3
Endosulfan I	1	6.50	0.00	0.00	0.11	
	2	6.48	0.00	0.00	0.11	4
Endosulfan II	1	6.99	0.00	0.00	0.11	
	2	7.06	0.00	0.00	0.11	2
Endosulfan Sulfate	1	7.63	0.00	0.00	0.11	
	2	7.53	0.00	0.00	0.11	1
Endrin	1	6.83	0.00	0.00	0.11	
	2	6.90	0.00	0.00	0.12	8
Endrin Ketone	1	7.84	0.00	0.00	0.11	
	2	7.94	0.00	0.00	0.11	4
gamma-BHC (Lindane)	1	5.37	0.00	0.00	0.11	
	2	5.39	0.00	0.00	0.12	11
Heptachlor	1	5.65	0.00	0.00	0.10	
	2	5.65	0.00	0.00	0.11	7
Heptachlor Epoxide	1	6.23	0.00	0.00	0.10	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B144017-BSD1 Date(s) Analyzed 03/11/2016 03/11/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.22	0.00	0.00	0.11	5
Hexachlorobenzene	1	5.09	0.00	0.00	0.092	
	2	5.11	0.00	0.00	0.095	3
Methoxychlor	1	7.47	0.00	0.00	0.10	
	2	7.80	0.00	0.00	0.11	6

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
DL-04	Elevated reporting limit due to high concentration of an interfering analyte(s).
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
MS-22	Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.
O-01	Soil/methanol ratio does not meet method specifications. Excess amount of soil. Sample was completely covered with methanol, but with less than the method-specified amount.
O-32	A dilution was performed as part of the standard analytical procedure.
P-08	Sample RPD between primary and confirmatory analysis exceeded 100%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.
S-07	One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,ME,NH-P
C19-C36 Aliphatics	CT,NC,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,ME,NH-P
C11-C22 Aromatics	CT,NC,ME,NH-P
Acenaphthene	CT,NC,ME,NH-P
Acenaphthylene	CT,NC,ME,NH-P
Anthracene	CT,NC,ME,NH-P
Benzo(a)anthracene	CT,NC,ME,NH-P
Benzo(a)pyrene	CT,NC,ME,NH-P
Benzo(b)fluoranthene	CT,NC,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,ME,NH-P
Benzo(k)fluoranthene	CT,NC,ME,NH-P
Chrysene	CT,NC,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,ME,NH-P
Fluoranthene	CT,NC,ME,NH-P
Fluorene	CT,NC,ME
Indeno(1,2,3-cd)pyrene	CT,NC,ME,NH-P
2-Methylnaphthalene	CT,NC,ME
Naphthalene	CT,NC,ME,NH-P
Phenanthrene	CT,NC,ME,NH-P
Pyrene	CT,NC,ME,NH-P
MADEP-VPH-04-1.1 in Soil	
Unadjusted C5-C8 Aliphatics	CT,NC,ME,NH-P
C5-C8 Aliphatics	CT,NC,ME,NH-P
Unadjusted C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C10 Aromatics	CT,NC,ME,NH-P
Benzene	CT,NC,ME,NH-P
Ethylbenzene	CT,NC,ME,NH-P
Methyl tert-Butyl Ether (MTBE)	CT,NC,ME,NH-P
Naphthalene	CT,NC,ME,NH-P
Toluene	CT,NC,ME,NH-P
m+p Xylene	CT,NC,ME,NH-P
o-Xylene	CT,NC,ME,NH-P
SW-846 6010C-D in Soil	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 6010C-D in Soil	
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
SW-846 7471B in Soil	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8081B in Soil	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8081B in Water	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Water	
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA
SW-846 8260C in Soil	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Soil	
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME
SW-846 8270D in Soil	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Acetophenone	NY,NH
Aniline	NY,NH
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D in Soil	
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	NY,NH
1,3-Dichlorobenzene	NY,NH
1,4-Dichlorobenzene	NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
1,2-Diphenylhydrazine (as Azobenzene)	NY,NH
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
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Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16C0454
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@gold
Format: ☑ PDF ☑ EXCEL ○ GIS ○ OTHER ○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	VPH w/ Targets										# of Containers / ** Preservation / ***Container Code
01	NSW-GT-1	3/9/16	10:15		X	S	U	X										
02	SSW-GT-1		10:18					X										
03	ESW-GT-1		10:21					X										
04	BTM-GT-1		10:24					X										
05	NSW-GT-2		10:30					X										
06	SSW-GT-2		10:34					X										
07	WSW-GT-2		10:38					X										
08	BTM-GT-2		10:42					X										

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V=vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	[signature] 3/9/16	Date/Time: 1830
Received by: (signature)	[signature] 3/10/16	Date/Time: 12:00
Relinquished by: (signature)	[signature] 3/10/16	Date/Time: 2:25
Received by: (signature)	[signature] 4.9 3/10/16	Date/Time: 1425

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☑ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16C0454
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: Goldman
Address:
Attention: A Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: [illegible]
Format: ☒ PDF ☒ EXCEL ○ GIS ○ OTHER ○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	Pesticide 8081	PCB 8082 w/ Soxhlet	MA 14 Metals	PCB 8082	VOC w/ Targets	SVOC	TPH	VPH w/ Targets	EPH w/ Targets		
								3				3	2	1				
												MB	[illegible]	M				
												V	A	V				
09	FO-1-TP (0-1')	3/9/16	2:15		X	S	U	X	X	X	X							
10	FO 1-TP (1-2')	↓	2:30		X	S	U	X	X	X	X							
11	FO 1-TP (2-3')	↓	2:45		X	S	U	X	X	X	X							
12	FO-1 (3')	↓	3:10		X	S	U	X	X	X	X	X	X	X	X	X		

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments: 20 X Rule

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature) [signature]	3/9/16	Date/Time: 18:30
Received by: (signature) [signature]	3/10/16	Date/Time: 12:00
Relinquished by: (signature) [signature]	3/10/16	Date/Time: 2:25
Received by: (signature) [signature] 4.9	3/10/16	Date/Time: 1425

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other
RUSH †
☐ †24-Hr ☒ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC
Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY**: JDL **DATE**: 3/10/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 4.9

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** **RUSH** **No** ____

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	5
250 mL Amber (8oz amber)			4 oz amber/clear jar	
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below	12		Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

No % Solids jars for samples 1 through 8.

40 mL vials:	# HCl		# Methanol	10	**Time and Date Frozen:**
Doc# 277	# Bisulfate	2	# DI Water		
Rev. 4 August 2013	# Thiosulfate		Unpreserved		

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	F	No % Solids sample for 01-08.
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JDL **3/10/16 1425**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C0454
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C0454-01 thru 16C0454-12

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A (X)	8081 Pesticides CAM V B (X)	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B (X)	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Tod Kopyscinski Position: Laboratory Director

Printed Name: Tod E. Kopyscinski Date: 12/06/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

December 7, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C0588

Enclosed are results of analyses for samples received by the laboratory on March 14, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 12/7/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C0588

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
FO-1-TP (0-1')	16C0588-01	Soil		SW-846 1311	
				SW-846 6010C-D	
FO-1-TP (1-2')	16C0588-02	Soil		SW-846 1311	
				SW-846 6010C-D	
FO-1-TP (2-3')	16C0588-03	Soil		SW-846 1311	
				SW-846 6010C-D	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Tod E. Kopyscinski
Laboratory Director

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0588

Date Received: 3/14/2016

Field Sample #: FO-1-TP (0-1')
Sampled: 3/9/2016 14:15

Sample ID: 16C0588-01

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	0.21	0.010	mg/L	1		SW-846 6010C-D	3/15/16	3/15/16 19:21	AME

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Project Location: Lowell
Sample Description:
Work Order: 16C0588
Date Received: 3/14/2016
Field Sample #: FO-1-TP (1-2')
Sampled: 3/9/2016 14:30
Sample ID: 16C0588-02
Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	0.12	0.010	mg/L	1		SW-846 6010C-D	3/15/16	3/15/16 19:27	AME

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Project Location: Lowell
Sample Description:
Work Order: 16C0588

Date Received: 3/14/2016

Field Sample #: FO-1-TP (2-3')
Sampled: 3/9/2016 14:45

Sample ID: 16C0588-03

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	0.12	0.010	mg/L	1		SW-846 6010C-D	3/15/16	3/15/16 19:33	AME

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Sample Extraction Data

Prep Method: SW-846 3010A-SW-846 6010C-D **Leachates were extracted on 3/14/2016 per SW-846 1311 in Batch B144211**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16C0588-01 [FO-1-TP (0-1')]	B144280	50.0	50.0	03/15/16
16C0588-02 [FO-1-TP (1-2')]	B144280	50.0	50.0	03/15/16
16C0588-03 [FO-1-TP (2-3')]	B144280	50.0	50.0	03/15/16

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QUALITY CONTROL

TCLP - Metals Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144280 - SW-846 3010A										
Blank (B144280-BLK1)				Prepared & Analyzed: 03/15/16						
Lead	ND	0.010	mg/L							
LCS (B144280-BS1)				Prepared & Analyzed: 03/15/16						
Lead	0.466	0.010	mg/L	0.500		93.2	80-120			
LCS Dup (B144280-BSD1)				Prepared & Analyzed: 03/15/16						
Lead	0.477	0.010	mg/L	0.500		95.4	80-120	2.26	20	
Matrix Spike (B144280-MS1)		**Source: 16C0588-01**		Prepared & Analyzed: 03/15/16						
Lead	0.667	0.010	mg/L	0.500	0.210	91.4	75-125			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level

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

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 6010C-D in Water	
Lead	NY,CT,ME,NC,NH,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

16c0588

Rev 04.05.12

Company Name: GEC
Address: 60 Brooks
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@gold
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	VPH w/ Targets										
01	NSW-GT-1	3/9/16	10:15		X	S	U	X										
02	SSW-GT-1		10:18					X										
03	ESW-GT-1		10:21					X										
04	BTM-GT-1		10:24					X										
05	NSW-GT-2		10:30					X										
06	SSW-GT-2		10:34					X										
07	WSW-GT-2		10:38					X										
08	BTM-GT-2	✓	10:42		✓	✓	✓	X										

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V=vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	[signature] 3/9/16	Date/Time: 1830
Received by: (signature)	[signature] 3/10/16	Date/Time: 12:00
Relinquished by: (signature)	[signature] 3/10/16	Date/Time: 2:25
Received by: (signature)	[signature] 4.9 3/10/16	Date/Time: 1425

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☑ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16C0454
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: Goldman
Address:
Attention: A Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: [illegible]
Format: ☒ PDF ☒ EXCEL ○ GIS ○ OTHER ○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	Pesticide 8081	PCB 8082 w/ Soxhlet	MA 14 Metals	PCB 8082	VOC w/ Targets	SVOC	TPH	VPH w/ Targets	EPH w/ Targets		
								3				3	2	1				
												MB	[illegible]	M				
												V	A	V				
09	FO-1-TP (0-1')	3/9/16	2:15		X	S	U	X	X	X	X							
10	FO 1-TP (1-2')	↓	2:30		X	S	U	X	X	X	X							
11	FO 1-TP (2-3')	↓	2:45		X	S	U	X	X	X	X							
12	FO-1 (3')	↓	3:10		X	S	U	X	X	X	X	X	X	X	X	X		

TCLP Pb on samples -09,-10 & -11 per 20x rule - 2 day TAT 3/14/16 JMG

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments: 20 X Rule

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature) [signature]	3/9/16	Date/Time: 18:30
Received by: (signature) [signature]	3/10/16	Date/Time: 12:00
Relinquished by: (signature) [signature]	3/10/16	Date/Time: 2:25
Received by: (signature) [signature] 4.9	3/10/16	Date/Time: 1425

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other
RUSH †
☐ †24-Hr ☒ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY**: JDL **DATE**: 3/10/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** **X** **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 4.9

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** **RUSH** **No** ____

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	5
250 mL Amber (8oz amber)			4 oz amber/clear jar	
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below	12		Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

No % Solids jars for samples 1 through 8.

40 mL vials:	# HCl		# Methanol	10	**Time and Date Frozen:**
Doc# 277	# Bisulfate	2	# DI Water		
Rev. 4 August 2013	# Thiosulfate		Unpreserved		

Page 2 of 2

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	F	No % Solids sample for 01-08.
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JDL **3/10/16 1425**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C0588
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C0588-01 thru 16C0588-03

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Tod Kopyscinski Position: Laboratory Director

Printed Name: Tod E. Kopyscinski Date: 12/06/16

ANALYTICAL REPORT

Lab Number:	L1606873
Client:	ENPRO Services 114 Bridge Road Salisbury, MA 01952
ATTN:	Tony SantaFe
Phone:	(978) 465-1595
Project Name:	DELLBROOK/MASS MILLS
Project Number:	62303-0027
Report Date:	03/14/16

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

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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

Project Name: DELLBROOK/MASS MILLS
Project Number: 62303-0027

Lab Number: L1606873
Report Date: 03/14/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1606873-01	TANK#1	WIPE	MASS MILLS	03/09/16 14:00	03/10/16
L1606873-02	TANK#2	WIPE	MASS MILLS	03/09/16 14:15	03/10/16

Project Name: DELLBROOK/MASS MILLS **Lab Number:** L1606873

Project Number: 62303-0027 **Report Date:** 03/14/16

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: DELLBROOK/MASS MILLS **Lab Number:** L1606873
Project Number: 62303-0027 **Report Date:** 03/14/16

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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

Please contact Client Services at 800-624-9220 with any questions.

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

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 03/14/16

ORGANICS

PCBS

Project Name: DELLBROOK/MASS MILLS **Lab Number:** L1606873

Project Number: 62303-0027 **Report Date:** 03/14/16

SAMPLE RESULTS

Lab ID:	L1606873-01	Date Collected:	03/09/16 14:00
Client ID:	TANK#1	Date Received:	03/10/16
Sample Location:	MASS MILLS	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	97,8082A	Extraction Date:	03/10/16 18:15
Analytical Date:	03/12/16 00:55	Cleanup Method:	EPA 3665A
Analyst:	KB	Cleanup Date:	03/11/16
		Cleanup Method:	EPA 3660B
		Cleanup Date:	03/11/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.300	--	1	A
Aroclor 1221	ND		ug Abs	0.300	--	1	A
Aroclor 1232	ND		ug Abs	0.300	--	1	A
Aroclor 1242	ND		ug Abs	0.300	--	1	A
Aroclor 1248	ND		ug Abs	0.200	--	1	A
Aroclor 1254	ND		ug Abs	0.300	--	1	A
Aroclor 1260	ND		ug Abs	0.200	--	1	A
Aroclor 1262	ND		ug Abs	0.100	--	1	A
Aroclor 1268	ND		ug Abs	0.100	--	1	A
PCBs, Total	ND		ug Abs	0.100	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		30-150	A
Decachlorobiphenyl	91		30-150	A
2,4,5,6-Tetrachloro-m-xylene	91		30-150	B
Decachlorobiphenyl	82		30-150	B

Project Name: DELLBROOK/MASS MILLS **Lab Number:** L1606873

Project Number: 62303-0027 **Report Date:** 03/14/16

SAMPLE RESULTS

Lab ID:	L1606873-02	Date Collected:	03/09/16 14:15
Client ID:	TANK#2	Date Received:	03/10/16
Sample Location:	MASS MILLS	Field Prep:	Not Specified
Matrix:	Wipe	Extraction Method:	EPA 3540C
Analytical Method:	97,8082A	Extraction Date:	03/10/16 18:15
Analytical Date:	03/12/16 01:12	Cleanup Method:	EPA 3665A
Analyst:	KB	Cleanup Date:	03/11/16
		Cleanup Method:	EPA 3660B
		Cleanup Date:	03/11/16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
MCP Polychlorinated Biphenyls - Westborough Lab							
Aroclor 1016	ND		ug Abs	0.300	--	1	A
Aroclor 1221	ND		ug Abs	0.300	--	1	A
Aroclor 1232	ND		ug Abs	0.300	--	1	A
Aroclor 1242	ND		ug Abs	0.300	--	1	A
Aroclor 1248	ND		ug Abs	0.200	--	1	A
Aroclor 1254	ND		ug Abs	0.300	--	1	A
Aroclor 1260	ND		ug Abs	0.200	--	1	A
Aroclor 1262	ND		ug Abs	0.100	--	1	A
Aroclor 1268	ND		ug Abs	0.100	--	1	A
PCBs, Total	ND		ug Abs	0.100	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	98		30-150	A
2,4,5,6-Tetrachloro-m-xylene	89		30-150	B
Decachlorobiphenyl	91		30-150	B

Project Name: DELLBROOK/MASS MILLS

Project Number: 62303-0027

Lab Number: L1606873

Report Date: 03/14/16

Method Blank Analysis
Batch Quality Control

Analytical Method: 97,8082A
Analytical Date: 03/12/16 00:06
Analyst: KB

Extraction Method: EPA 3540C
Extraction Date: 03/10/16 18:15
Cleanup Method: EPA 3665A
Cleanup Date: 03/11/16
Cleanup Method: EPA 3660B
Cleanup Date: 03/11/16

Parameter	Result	Qualifier	Units	RL	MDL	Column
MCP Polychlorinated Biphenyls - Westborough Lab for sample(s): 01-02 Batch: WG872680-1						
Aroclor 1016	ND		ug Abs	0.300	--	A
Aroclor 1221	ND		ug Abs	0.300	--	A
Aroclor 1232	ND		ug Abs	0.300	--	A
Aroclor 1242	ND		ug Abs	0.300	--	A
Aroclor 1248	ND		ug Abs	0.200	--	A
Aroclor 1254	ND		ug Abs	0.300	--	A
Aroclor 1260	ND		ug Abs	0.200	--	A
Aroclor 1262	ND		ug Abs	0.100	--	A
Aroclor 1268	ND		ug Abs	0.100	--	A
PCBs, Total	ND		ug Abs	0.100	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	88		30-150	A
Decachlorobiphenyl	95		30-150	A
2,4,5,6-Tetrachloro-m-xylene	86		30-150	B
Decachlorobiphenyl	78		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: DELLBROOK/MASS MILLS
Project Number: 62303-0027
Lab Number: L1606873
Report Date: 03/14/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
MCP Polychlorinated Biphenyls - Westborough Lab Associated sample(s): 01-02 Batch: WG872680-2 WG872680-3									
Aroclor 1016	72		96		40-140	28		30	A
Aroclor 1260	57		85		40-140	**39**	Q	30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		95		30-150	A
Decachlorobiphenyl	67		99		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		95		30-150	B
Decachlorobiphenyl	59		89		30-150	B

Project Name: DELLBROOK/MASS MILLS
Project Number: 62303-0027

Lab Number: L1606873
Report Date: 03/14/16

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information	Custody Seal
Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1606873-01A	Amber 100ml Hexane preserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)
L1606873-02A	Amber 100ml Hexane preserved	A	N/A	2.8	Y	Absent	MCP-8082LL-10-3540C(365)

*Values in parentheses indicate holding time in days

Project Name:	DELLBROOK/MASS MILLS	**Lab Number:**	L1606873
Project Number:	62303-0027	**Report Date:**	03/14/16

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

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

Terms

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

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

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

Report Format: Data Usability Report

Project Name:	DELLBROOK/MASS MILLS	**Lab Number:**	L1606873
Project Number:	62303-0027	**Report Date:**	03/14/16

Data Qualifiers

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: DELLBROOK/MASS MILLS **Lab Number:** L1606873
Project Number: 62303-0027 **Report Date:** 03/14/16

REFERENCES

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene
EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene
EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.
EPA 1010A: NPW: Ignitability
EPA 6010C: NPW: Strontium; SCM: Strontium
EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate (soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation
EPA 9038: NPW: Sulfate
EPA 9050A: NPW: Specific Conductance
EPA 9056: NPW: Chloride, Nitrate, Sulfate
EPA 9065: NPW: Phenols
EPA 9251: NPW: Chloride
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam
EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane
SM 2540D: TSS
SM2540G: SCM: Percent Solids
EPA 1631E: SCM: Mercury
EPA 7474: SCM: Mercury
EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA 8270-SIM: NPW and SCM: Alkylated PAHs.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.
Biological Tissue Matrix: ***8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A:*** Lead***; 8270D:*** bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F,**
EPA 353.2: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

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

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL
8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Date Rec'd in Lab: 3/10/16

ALPHA Job #: L1606873

Client Information

Client: ENPRO Services, Inc.
Address: 114 Bridge Rd
Salisbury, MA 01952
Phone: 978 225-1113
Email: asantafe@enpro.com

Project Information

Project Name: DellBrook / Mass Mills
Project Location: Mass Mills
Project #: 62303-0027
Project Manager: ASS
ALPHA Quote #:

Turn-Around Time

☐ Standard ☑ RUSH (only confirmed if pre-approved!)
Date Due:

Report Information - Data Deliverables

☐ ADEx ☐ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Additional Project Information:

*48 Hr TAT

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	VOC: ☐ 8260 ☐ 624 ☐ 524.2	SVOC: ☐ ABN ☐ PAH	METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15	METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13	EPH: ☐ Ranges & Targets ☐ Ranges Only	VPH: ☐ Ranges & Targets ☐ Ranges Only	☑ PCB ☐ PEST	TPH: ☐ Quant Only ☐ Fingerprint	Sample Comments	TOTAL # BOTTLES
06873-01	Tank #1	3/9/16	200	Wipe	ASS							X			
02	Tank #2	3/9/16	215	Wipe	ASS							X			

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

Container Type															
Preservative															

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Secured / Stamp	3/10/16 800am	Secured / Stamp	800am
Secured / Stamp	3/10/16 2:18pm	AAL	3/10/16 1418
	3/10/16 1543		3/10/16 1543

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 14, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C0453

Enclosed are results of analyses for samples received by the laboratory on March 10, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/14/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C0453

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
FO-1 BTM	16C0453-01	Soil		MADEP-VPH-04-1.1	
				SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
				SW-846 8100 Modified	
				SW-846 8151A	
				SW-846 8260C	
				SW-846 8270D	
SP-1	16C0453-02	Soil		SM 2540G	
				SM2580 A	
				SW-846 7196A	
				SW-846 9045C	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

SW-846 6010C/D

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Lead
B143754-BS1

SW-846 7196A

Qualifications:

DL-03

Elevated reporting limit due to matrix.

Analyte & Samples(s) Qualified:

Hexavalent Chromium
16C0453-02[SP-1]

MS-16

For solid method SW846-7196A, the matrix spike is outside of control limits. pH and ORP results were indicative of reducing conditions. Reanalysis is not required. Analysis is in control based on LCS recoveries.

Analyte & Samples(s) Qualified:

Hexavalent Chromium
16C0453-02[SP-1], B144033-MS3

SW-846 8082A

Qualifications:

O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

16C0453-01[FO-1 BTM]

SW-846 8151A

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Dalapon
B144016-BS1

SW-846 8260C

Qualifications:

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Dichlorodifluoromethane (Freon 1
16C0453-01[FO-1 BTM], B144055-BLK1, B144055-BS1, B144055-BSD1

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Bromomethane
16C0453-01[FO-1 BTM], B144055-BLK1, B144055-BS1, B144055-BSD1

Chloromethane
16C0453-01[FO-1 BTM], B144055-BLK1, B144055-BS1, B144055-BSD1

Methylene Chloride
16C0453-01[FO-1 BTM], B144055-BLK1, B144055-BS1, B144055-BSD1

Tetrahydrofuran
16C0453-01[FO-1 BTM], B144055-BLK1, B144055-BS1, B144055-BSD1

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V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
16C0453-01[FO-1 BTM], B144055-BLK1, B144055-BS1, B144055-BSD1

SW-846 8270D

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

3,3-Dichlorobenzidine
B144018-BS1

S-07

One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.

Analyte & Samples(s) Qualified:

p-Terphenyl-d14
B144018-BLK1

MADEP-VPH-04-1.1

No significant modifications were made to the method. All VPH samples were received preserved properly in methanol with a soil/methanol ratio of 1:1 +/- 25% completely covered by methanol in the proper containers specified on the chain-of-custody form unless specified in this narrative.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

SW-846 8100 Modified

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for “difficult analytes” where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

SW-846 8270D

Laboratory control sample recoveries for required MCP Data Enhancement 8270 compounds were all within control limits specified by the method, 40-140% for base/neutrals and 30-130% for acids except for “difficult analytes” listed below and/or otherwise listed in this narrative. Difficult analytes limits are 15 and 140%: 2,4-dinitrophenol, 4-chloroaniline, 4-nitrophenol, and phenol.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Tod E. Kopyscinski
Laboratory Director

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0453
Date Received: 3/10/2016
Field Sample #: FO-1 BTM
Sampled: 3/10/2016 09:25
Sample ID: 16C0453-01
Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Benzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Bromobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Bromochloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Bromodichloromethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Bromoform	ND	0.0076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Bromomethane	ND	0.0076	mg/Kg dry	1	V-05	SW-846 8260C	3/11/16	3/11/16 7:57	MFF
2-Butanone (MEK)	ND	0.030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
n-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
sec-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
tert-Butylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Carbon Disulfide	ND	0.0046	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Carbon Tetrachloride	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Chlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Chlorodibromomethane	ND	0.00076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Chloroethane	ND	0.0076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Chloroform	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Chloromethane	ND	0.0076	mg/Kg dry	1	V-05	SW-846 8260C	3/11/16	3/11/16 7:57	MFF
2-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
4-Chlorotoluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,2-Dibromoethane (EDB)	ND	0.00076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Dibromomethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,2-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,3-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,4-Dichlorobenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0076	mg/Kg dry	1	R-05	SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,1-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,2-Dichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,1-Dichloroethylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
cis-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
trans-1,2-Dichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,3-Dichloropropane	ND	0.00076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
2,2-Dichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,1-Dichloropropene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
cis-1,3-Dichloropropene	ND	0.00076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
trans-1,3-Dichloropropene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Diethyl Ether	ND	0.0076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Diisopropyl Ether (DIPE)	ND	0.00076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,4-Dioxane	ND	0.076	mg/Kg dry	1	V-16	SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Ethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0453
Date Received: 3/10/2016
Field Sample #: FO-1 BTM
Sampled: 3/10/2016 09:25
Sample ID: 16C0453-01
Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
2-Hexanone (MBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Isopropylbenzene (Cumene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Methylene Chloride	ND	0.0076	mg/Kg dry	1	V-05	SW-846 8260C	3/11/16	3/11/16 7:57	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Naphthalene	ND	0.0076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
n-Propylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Styrene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,1,1,2-Tetrachloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,1,2,2-Tetrachloroethane	ND	0.00076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Tetrachloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Tetrahydrofuran	ND	0.0076	mg/Kg dry	1	V-05	SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Toluene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,2,3-Trichlorobenzene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,2,4-Trichlorobenzene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,1,1-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,1,2-Trichloroethane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Trichloroethylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,2,3-Trichloropropane	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,2,4-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
1,3,5-Trimethylbenzene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
Vinyl Chloride	ND	0.0076	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
m+p Xylene	ND	0.0030	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF
o-Xylene	ND	0.0015	mg/Kg dry	1		SW-846 8260C	3/11/16	3/11/16 7:57	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	89.1	70-130		3/11/16 7:57
Toluene-d8	94.3	70-130		3/11/16 7:57
4-Bromofluorobenzene	99.7	70-130		3/11/16 7:57

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16C0453

Date Received: 3/10/2016

Field Sample #: FO-1 BTM | Sampled: 3/10/2016 09:25

Sample ID: 16C0453-01

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Acenaphthylene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Acetophenone	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Aniline	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Benzo(a)anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Benzo(a)pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Benzo(b)fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Benzo(g,h,i)perylene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Benzo(k)fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Bis(2-chloroethoxy)methane	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Bis(2-chloroethyl)ether	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Bis(2-chloroisopropyl)ether	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Bis(2-Ethylhexyl)phthalate	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
4-Bromophenylphenylether	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Butylbenzylphthalate	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
4-Chloroaniline	ND	0.72	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
2-Chloronaphthalene	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
2-Chlorophenol	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Chrysene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Dibenz(a,h)anthracene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Dibenzofuran	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Di-n-butylphthalate	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
1,2-Dichlorobenzene	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
1,3-Dichlorobenzene	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
1,4-Dichlorobenzene	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
3,3-Dichlorobenzidine	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
2,4-Dichlorophenol	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Diethylphthalate	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
2,4-Dimethylphenol	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Dimethylphthalate	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
2,4-Dinitrophenol	ND	0.72	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
2,4-Dinitrotoluene	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
2,6-Dinitrotoluene	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Di-n-octylphthalate	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
1,2-Diphenylhydrazine (as Azobenzene)	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Fluoranthene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Fluorene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Hexachlorobenzene	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Hexachlorobutadiene	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Hexachloroethane	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Indeno(1,2,3-cd)pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Isophorone	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
2-Methylnaphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0453
Date Received: 3/10/2016
Field Sample #: FO-1 BTM
Sampled: 3/10/2016 09:25
Sample ID: 16C0453-01
Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
3/4-Methylphenol	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Naphthalene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Nitrobenzene	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
2-Nitrophenol	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
4-Nitrophenol	ND	0.72	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Pentachlorophenol	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Phenanthrene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Phenol	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Pyrene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
Pyridine	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
1,2,4-Trichlorobenzene	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
2,4,5-Trichlorophenol	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR
2,4,6-Trichlorophenol	ND	0.37	mg/Kg dry	1		SW-846 8270D	3/10/16	3/11/16 14:44	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	74.9	30-130		3/11/16 14:44
Phenol-d6	77.0	30-130		3/11/16 14:44
Nitrobenzene-d5	80.2	30-130		3/11/16 14:44
2-Fluorobiphenyl	84.1	30-130		3/11/16 14:44
2,4,6-Tribromophenol	73.9	30-130		3/11/16 14:44
p-Terphenyl-d14	89.1	30-130		3/11/16 14:44

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0453
Date Received: 3/10/2016
Field Sample #: FO-1 BTM
Sampled: 3/10/2016 09:25
Sample ID: 16C0453-01
Sample Matrix: Soil

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.0054	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
alpha-BHC [1]	ND	0.0054	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
beta-BHC [1]	ND	0.0054	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
delta-BHC [1]	ND	0.0054	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
gamma-BHC (Lindane) [1]	ND	0.0022	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
Chlordane [1]	ND	0.022	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
4,4'-DDD [1]	ND	0.0043	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
4,4'-DDE [1]	ND	0.0043	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
4,4'-DDT [1]	ND	0.0043	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
Dieldrin [1]	ND	0.0043	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
Endosulfan I [1]	ND	0.0054	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
Endosulfan II [1]	ND	0.0086	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
Endosulfan sulfate [1]	ND	0.0086	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
Endrin [1]	ND	0.0086	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
Endrin ketone [1]	ND	0.0086	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
Heptachlor [1]	ND	0.0054	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
Heptachlor epoxide [1]	ND	0.0054	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
Hexachlorobenzene [1]	ND	0.0065	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG
Methoxychlor [1]	ND	0.054	mg/Kg dry	1		SW-846 8081B	3/10/16	3/12/16 5:52	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	83.2	30-150		3/12/16 5:52
Decachlorobiphenyl [2]	91.1	30-150		3/12/16 5:52
Tetrachloro-m-xylene [1]	87.6	30-150		3/12/16 5:52
Tetrachloro-m-xylene [2]	87.5	30-150		3/12/16 5:52

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0453
Date Received: 3/10/2016
Field Sample #: FO-1 BTM
Sampled: 3/10/2016 09:25
Sample ID: 16C0453-01
Sample Matrix: Soil

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	27	µg/kg dry	1		SW-846 8151A	3/11/16	3/11/16 18:48	KAL
2,4-DB [1]	ND	27	µg/kg dry	1		SW-846 8151A	3/11/16	3/11/16 18:48	KAL
2,4,5-TP (Silvex) [1]	ND	2.7	µg/kg dry	1		SW-846 8151A	3/11/16	3/11/16 18:48	KAL
2,4,5-T [1]	ND	2.7	µg/kg dry	1		SW-846 8151A	3/11/16	3/11/16 18:48	KAL
Dalalpon [1]	ND	68	µg/kg dry	1		SW-846 8151A	3/11/16	3/11/16 18:48	KAL
Dicamba [1]	ND	2.7	µg/kg dry	1		SW-846 8151A	3/11/16	3/11/16 18:48	KAL
Dichloroprop [1]	ND	27	µg/kg dry	1		SW-846 8151A	3/11/16	3/11/16 18:48	KAL
Dinoseb [1]	ND	14	µg/kg dry	1		SW-846 8151A	3/11/16	3/11/16 18:48	KAL
MCPA [1]	ND	2700	µg/kg dry	1		SW-846 8151A	3/11/16	3/11/16 18:48	KAL
MCPP [1]	ND	2700	µg/kg dry	1		SW-846 8151A	3/11/16	3/11/16 18:48	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	76.3	30-150		3/11/16 18:48
2,4-Dichlorophenylacetic acid [2]	76.4	30-150		3/11/16 18:48

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0453
Date Received: 3/10/2016
Field Sample #: FO-1 BTM
Sampled: 3/10/2016 09:25
Sample ID: 16C0453-01
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 16:16	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 16:16	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 16:16	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 16:16	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 16:16	KAL
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 16:16	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 16:16	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 16:16	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/10/16	3/11/16 16:16	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.4	30-150		3/11/16 16:16
Decachlorobiphenyl [2]	86.8	30-150		3/11/16 16:16
Tetrachloro-m-xylene [1]	91.5	30-150		3/11/16 16:16
Tetrachloro-m-xylene [2]	89.5	30-150		3/11/16 16:16

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0453

Date Received: 3/10/2016

Field Sample #: FO-1 BTM
Sampled: 3/10/2016 09:25

Sample ID: 16C0453-01

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	31	9.1	mg/Kg dry	1		SW-846 8100 Modified	3/11/16	3/14/16 10:50	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
o-Terphenyl	77.4	40-140		3/14/16 10:50

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0453
Date Received: 3/10/2016
Field Sample #: FO-1 BTM
Sampled: 3/10/2016 09:25
Sample ID: 16C0453-01
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - VPH

Soil/Methanol Preservation Ratio: 1.47

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	8.3	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:14	EEH
C5-C8 Aliphatics	ND	8.3	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:14	EEH
Unadjusted C9-C12 Aliphatics	ND	8.3	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:14	EEH
C9-C12 Aliphatics	ND	8.3	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:14	EEH
C9-C10 Aromatics	ND	8.3	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:14	EEH
Benzene	ND	0.042	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:14	EEH
Ethylbenzene	ND	0.042	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:14	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.042	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:14	EEH
Naphthalene	ND	0.21	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:14	EEH
Toluene	ND	0.042	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:14	EEH
m+p Xylene	ND	0.083	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:14	EEH
o-Xylene	ND	0.042	mg/Kg dry	1		MADEP-VPH-04-1.1	3/11/16	3/14/16 15:14	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	118	70-130		3/14/16 15:14
2,5-Dibromotoluene (PID)	104	70-130		3/14/16 15:14

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0453
Date Received: 3/10/2016
Field Sample #: FO-1 BTM
Sampled: 3/10/2016 09:25
Sample ID: 16C0453-01
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.5	mg/Kg dry	1		SW-846 6010C/D	3/11/16	3/12/16 19:12	AMP
Arsenic	7.0	2.5	mg/Kg dry	1		SW-846 6010C/D	3/11/16	3/12/16 19:12	AMP
Barium	30	2.5	mg/Kg dry	1		SW-846 6010C/D	3/11/16	3/12/16 19:12	AMP
Beryllium	ND	0.25	mg/Kg dry	1		SW-846 6010C/D	3/11/16	3/12/16 19:12	AMP
Cadmium	0.26	0.25	mg/Kg dry	1		SW-846 6010C/D	3/11/16	3/12/16 19:12	AMP
Chromium	20	0.50	mg/Kg dry	1		SW-846 6010C/D	3/11/16	3/12/16 19:12	AMP
Lead	6.3	0.75	mg/Kg dry	1		SW-846 6010C/D	3/11/16	3/12/16 19:12	AMP
Mercury	ND	0.026	mg/Kg dry	1		SW-846 7471B	3/12/16	3/14/16 13:21	TGW
Nickel	14	0.50	mg/Kg dry	1		SW-846 6010C/D	3/11/16	3/12/16 19:12	AMP
Selenium	ND	5.0	mg/Kg dry	1		SW-846 6010C/D	3/11/16	3/12/16 19:12	AMP
Silver	ND	0.50	mg/Kg dry	1		SW-846 6010C/D	3/11/16	3/12/16 19:12	AMP
Thallium	ND	2.5	mg/Kg dry	1		SW-846 6010C/D	3/11/16	3/12/16 19:12	AMP
Vanadium	29	1.0	mg/Kg dry	1		SW-846 6010C/D	3/11/16	3/12/16 19:12	AMP
Zinc	29	1.0	mg/Kg dry	1		SW-846 6010C/D	3/11/16	3/12/16 19:12	AMP

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0453

Date Received: 3/10/2016

Field Sample #: FO-1 BTM
Sampled: 3/10/2016 09:25

Sample ID: 16C0453-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.9		% Wt	1		SM 2540G	3/10/16	3/11/16 13:33	MJR

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0453

Date Received: 3/10/2016

Field Sample #: SP-1
Sampled: 3/10/2016 10:30

Sample ID: 16C0453-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexavalent Chromium	ND	4.9	mg/Kg dry	25	DL-03, MS-16	SW-846 7196A	3/11/16	3/14/16 10:45	LL
Oxidation/Reduction Potential	120		mV	1		SM2580 A	3/10/16	3/10/16 16:15	AMM
pH @24.1°C	7.4		pH Units	1		SW-846 9045C	3/10/16	3/10/16 16:15	AMM
% Solids	80.5		% Wt	1		SM 2540G	3/10/16	3/11/16 13:33	MJR

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: MA VPH-MADEP-VPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0453-01 [FO-1 BTM]	B144047	7.30	5.60	03/11/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C0453-01 [FO-1 BTM]	B144002	03/10/16
16C0453-02 [SP-1]	B144002	03/10/16

SM2580 A

Lab Number [Field ID]	Batch	Initial [g]	Date
16C0453-02 [SP-1]	B144005	20.0	03/10/16

Prep Method: SW-846 3050B-SW-846 6010C/D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0453-01 [FO-1 BTM]	B143754	1.09	50.0	03/11/16

SW-846 7196A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0453-02 [SP-1]	B144033	2.53	100	03/11/16

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0453-01 [FO-1 BTM]	B143996	0.623	50.0	03/12/16

Prep Method: SW-846 3546-SW-846 8081B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0453-01 [FO-1 BTM]	B144017	10.1	10.0	03/10/16

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0453-01 [FO-1 BTM]	B143995	10.0	10.0	03/10/16

Prep Method: SW-846 3546-SW-846 8100 Modified

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0453-01 [FO-1 BTM]	B144024	30.0	1.00	03/11/16

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 8151-SW-846 8151A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0453-01 [FO-1 BTM]	B144016	20.0	5.00	03/11/16

Prep Method: SW-846 5035-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0453-01 [FO-1 BTM]	B144055	7.17	10.0	03/11/16

Prep Method: SW-846 3546-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0453-01 [FO-1 BTM]	B144018	30.1	1.00	03/10/16

SW-846 9045C

Lab Number [Field ID]	Batch	Initial [g]	Date
16C0453-02 [SP-1]	B144006	20.0	03/10/16

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144055 - SW-846 5035										
Blank (B144055-BLK1)				Prepared & Analyzed: 03/11/16						
Acetone	ND	0.10	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.010	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							V-05
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							V-05
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0040	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							R-05
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0040	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							V-16
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							V-05
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.010	mg/Kg wet							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B144055 - SW-846 5035											
Blank (B144055-BLK1)				Prepared & Analyzed: 03/11/16							
n-Propylbenzene	ND	0.0020	mg/Kg wet								
Styrene	ND	0.0020	mg/Kg wet								
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet								
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet								
Tetrachloroethylene	ND	0.0020	mg/Kg wet								
Tetrahydrofuran	ND	0.010	mg/Kg wet							V-05	
Toluene	ND	0.0020	mg/Kg wet								
1,2,3-Trichlorobenzene	ND	0.0040	mg/Kg wet								
1,2,4-Trichlorobenzene	ND	0.0040	mg/Kg wet								
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet								
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet								
Trichloroethylene	ND	0.0020	mg/Kg wet								
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet								
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet								
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet								
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet								
Vinyl Chloride	ND	0.010	mg/Kg wet								
m+p Xylene	ND	0.0040	mg/Kg wet								
o-Xylene	ND	0.0020	mg/Kg wet								
Surrogate: 1,2-Dichloroethane-d4	*0.0449*		mg/Kg wet	0.0500		89.8	70-130				
Surrogate: Toluene-d8	*0.0470*		mg/Kg wet	0.0500		94.1	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0487*		mg/Kg wet	0.0500		97.4	70-130				
LCS (B144055-BS1)				Prepared & Analyzed: 03/11/16							
Acetone	0.249	0.10	mg/Kg wet	0.200		124	40-160				†
tert-Amyl Methyl Ether (TAME)	0.0180	0.0010	mg/Kg wet	0.0200		90.2	70-130				
Benzene	0.0182	0.0020	mg/Kg wet	0.0200		91.2	70-130				
Bromobenzene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130				
Bromochloromethane	0.0181	0.0020	mg/Kg wet	0.0200		90.4	70-130				
Bromodichloromethane	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-130				
Bromoform	0.0217	0.010	mg/Kg wet	0.0200		108	70-130				
Bromomethane	0.00826	0.010	mg/Kg wet	0.0200		41.3	40-160			L-14, V-05	†
2-Butanone (MEK)	0.197	0.040	mg/Kg wet	0.200		98.4	40-160				†
n-Butylbenzene	0.0219	0.0020	mg/Kg wet	0.0200		109	70-130				
sec-Butylbenzene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130				
tert-Butylbenzene	0.0221	0.0020	mg/Kg wet	0.0200		110	70-130				
tert-Butyl Ethyl Ether (TBEE)	0.0180	0.0010	mg/Kg wet	0.0200		90.0	70-130				
Carbon Disulfide	0.0158	0.0060	mg/Kg wet	0.0200		78.8	70-130				
Carbon Tetrachloride	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130				
Chlorobenzene	0.0232	0.0020	mg/Kg wet	0.0200		116	70-130				
Chlorodibromomethane	0.0207	0.0010	mg/Kg wet	0.0200		104	70-130				
Chloroethane	0.0180	0.010	mg/Kg wet	0.0200		90.2	70-130				
Chloroform	0.0185	0.0040	mg/Kg wet	0.0200		92.6	70-130				
Chloromethane	0.0114	0.010	mg/Kg wet	0.0200		57.0	40-160			L-14, V-05	†
2-Chlorotoluene	0.0227	0.0020	mg/Kg wet	0.0200		113	70-130				
4-Chlorotoluene	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0162	0.0040	mg/Kg wet	0.0200		81.0	70-130				
1,2-Dibromoethane (EDB)	0.0211	0.0010	mg/Kg wet	0.0200		105	70-130				
Dibromomethane	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130				
1,2-Dichlorobenzene	0.0213	0.0020	mg/Kg wet	0.0200		107	70-130				
1,3-Dichlorobenzene	0.0213	0.0020	mg/Kg wet	0.0200		107	70-130				
1,4-Dichlorobenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B144055 - SW-846 5035											
LCS (B144055-BS1)				Prepared & Analyzed: 03/11/16							
Dichlorodifluoromethane (Freon 12)	0.0125	0.010	mg/Kg wet	0.0200		62.6	40-160			L-14, R-05	†
1,1-Dichloroethane	0.0184	0.0020	mg/Kg wet	0.0200		92.2	70-130				
1,2-Dichloroethane	0.0196	0.0020	mg/Kg wet	0.0200		98.2	70-130				
1,1-Dichloroethylene	0.0159	0.0040	mg/Kg wet	0.0200		79.4	70-130				
cis-1,2-Dichloroethylene	0.0176	0.0020	mg/Kg wet	0.0200		88.1	70-130				
trans-1,2-Dichloroethylene	0.0172	0.0020	mg/Kg wet	0.0200		86.2	70-130				
1,2-Dichloropropane	0.0192	0.0020	mg/Kg wet	0.0200		96.0	70-130				
1,3-Dichloropropane	0.0190	0.0010	mg/Kg wet	0.0200		95.1	70-130				
2,2-Dichloropropane	0.0192	0.0020	mg/Kg wet	0.0200		95.9	70-130				
1,1-Dichloropropene	0.0194	0.0020	mg/Kg wet	0.0200		97.0	70-130				
cis-1,3-Dichloropropene	0.0185	0.0010	mg/Kg wet	0.0200		92.4	70-130				
trans-1,3-Dichloropropene	0.0184	0.0040	mg/Kg wet	0.0200		92.0	70-130				
Diethyl Ether	0.0171	0.010	mg/Kg wet	0.0200		85.7	70-130				
Diisopropyl Ether (DIPE)	0.0157	0.0010	mg/Kg wet	0.0200		78.4	70-130				
1,4-Dioxane	0.179	0.10	mg/Kg wet	0.200		89.6	40-160			V-16	†
Ethylbenzene	0.0235	0.0020	mg/Kg wet	0.0200		118	70-130				
Hexachlorobutadiene	0.0232	0.0020	mg/Kg wet	0.0200		116	70-130				
2-Hexanone (MBK)	0.194	0.020	mg/Kg wet	0.200		96.9	40-160				†
Isopropylbenzene (Cumene)	0.0241	0.0020	mg/Kg wet	0.0200		121	70-130				
p-Isopropyltoluene (p-Cymene)	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130				
Methyl tert-Butyl Ether (MTBE)	0.0178	0.0040	mg/Kg wet	0.0200		89.2	70-130				
Methylene Chloride	0.0151	0.010	mg/Kg wet	0.0200		75.4	70-130			V-05	
4-Methyl-2-pentanone (MIBK)	0.164	0.020	mg/Kg wet	0.200		82.0	40-160				†
Naphthalene	0.0160	0.010	mg/Kg wet	0.0200		80.1	70-130				
n-Propylbenzene	0.0233	0.0020	mg/Kg wet	0.0200		117	70-130				
Styrene	0.0232	0.0020	mg/Kg wet	0.0200		116	70-130				
1,1,1,2-Tetrachloroethane	0.0249	0.0020	mg/Kg wet	0.0200		125	70-130				
1,1,2,2-Tetrachloroethane	0.0213	0.0010	mg/Kg wet	0.0200		107	70-130				
Tetrachloroethylene	0.0246	0.0020	mg/Kg wet	0.0200		123	70-130				
Tetrahydrofuran	0.0167	0.010	mg/Kg wet	0.0200		83.3	70-130			V-05	
Toluene	0.0190	0.0020	mg/Kg wet	0.0200		94.9	70-130				
1,2,3-Trichlorobenzene	0.0178	0.0040	mg/Kg wet	0.0200		88.9	70-130				
1,2,4-Trichlorobenzene	0.0181	0.0040	mg/Kg wet	0.0200		90.7	70-130				
1,1,1-Trichloroethane	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-130				
1,1,2-Trichloroethane	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130				
Trichloroethylene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130				
Trichlorofluoromethane (Freon 11)	0.0173	0.010	mg/Kg wet	0.0200		86.6	70-130				
1,2,3-Trichloropropane	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130				
1,2,4-Trimethylbenzene	0.0219	0.0020	mg/Kg wet	0.0200		109	70-130				
1,3,5-Trimethylbenzene	0.0248	0.0020	mg/Kg wet	0.0200		124	70-130				
Vinyl Chloride	0.0149	0.010	mg/Kg wet	0.0200		74.3	70-130				
m+p Xylene	0.0454	0.0040	mg/Kg wet	0.0400		113	70-130				
o-Xylene	0.0223	0.0020	mg/Kg wet	0.0200		112	70-130				
Surrogate: 1,2-Dichloroethane-d4	*0.0447*		mg/Kg wet	0.0500		89.3	70-130				
Surrogate: Toluene-d8	*0.0474*		mg/Kg wet	0.0500		94.8	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0526*		mg/Kg wet	0.0500		105	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B144055 - SW-846 5035											
LCS Dup (B144055-BSD1)				Prepared & Analyzed: 03/11/16							
Acetone	0.250	0.10	mg/Kg wet	0.200		125	40-160	0.521	20		†
tert-Amyl Methyl Ether (TAME)	0.0169	0.0010	mg/Kg wet	0.0200		84.6	70-130	6.41	20		
Benzene	0.0176	0.0020	mg/Kg wet	0.0200		87.9	70-130	3.69	20		
Bromobenzene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	1.83	20		
Bromochloromethane	0.0171	0.0020	mg/Kg wet	0.0200		85.3	70-130	5.81	20		
Bromodichloromethane	0.0199	0.0020	mg/Kg wet	0.0200		99.5	70-130	0.605	20		
Bromoform	0.0210	0.010	mg/Kg wet	0.0200		105	70-130	3.38	20		
Bromomethane	0.00974	0.010	mg/Kg wet	0.0200		48.7	40-160	16.4	20	L-14, V-05	†
2-Butanone (MEK)	0.197	0.040	mg/Kg wet	0.200		98.4	40-160	0.0610	20		†
n-Butylbenzene	0.0215	0.0020	mg/Kg wet	0.0200		107	70-130	1.94	20		
sec-Butylbenzene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130	0.639	20		
tert-Butylbenzene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	3.31	20		
tert-Butyl Ethyl Ether (TBEE)	0.0172	0.0010	mg/Kg wet	0.0200		85.8	70-130	4.78	20		
Carbon Disulfide	0.0149	0.0060	mg/Kg wet	0.0200		74.4	70-130	5.74	20		
Carbon Tetrachloride	0.0199	0.0020	mg/Kg wet	0.0200		99.3	70-130	3.37	20		
Chlorobenzene	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130	2.62	20		
Chlorodibromomethane	0.0203	0.0010	mg/Kg wet	0.0200		102	70-130	1.85	20		
Chloroethane	0.0172	0.010	mg/Kg wet	0.0200		85.9	70-130	4.88	20		
Chloroform	0.0176	0.0040	mg/Kg wet	0.0200		88.2	70-130	4.87	20		
Chloromethane	0.0108	0.010	mg/Kg wet	0.0200		53.8	40-160	5.78	20	L-14, V-05	†
2-Chlorotoluene	0.0221	0.0020	mg/Kg wet	0.0200		111	70-130	2.32	20		
4-Chlorotoluene	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	1.65	20		
1,2-Dibromo-3-chloropropane (DBCP)	0.0148	0.0040	mg/Kg wet	0.0200		74.2	70-130	8.76	20		
1,2-Dibromoethane (EDB)	0.0217	0.0010	mg/Kg wet	0.0200		108	70-130	2.90	20		
Dibromomethane	0.0207	0.0020	mg/Kg wet	0.0200		103	70-130	1.56	20		
1,2-Dichlorobenzene	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130	0.282	20		
1,3-Dichlorobenzene	0.0211	0.0020	mg/Kg wet	0.0200		105	70-130	1.23	20		
1,4-Dichlorobenzene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130	1.47	20		
Dichlorodifluoromethane (Freon 12)	0.00816	0.010	mg/Kg wet	0.0200		40.8	40-160	**42.2** *	20	L-14, R-05	†
1,1-Dichloroethane	0.0176	0.0020	mg/Kg wet	0.0200		88.0	70-130	4.66	20		
1,2-Dichloroethane	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-130	0.710	20		
1,1-Dichloroethylene	0.0158	0.0040	mg/Kg wet	0.0200		79.1	70-130	0.379	20		
cis-1,2-Dichloroethylene	0.0164	0.0020	mg/Kg wet	0.0200		81.8	70-130	7.42	20		
trans-1,2-Dichloroethylene	0.0170	0.0020	mg/Kg wet	0.0200		85.0	70-130	1.40	20		
1,2-Dichloropropane	0.0185	0.0020	mg/Kg wet	0.0200		92.6	70-130	3.61	20		
1,3-Dichloropropane	0.0189	0.0010	mg/Kg wet	0.0200		94.3	70-130	0.845	20		
2,2-Dichloropropane	0.0178	0.0020	mg/Kg wet	0.0200		88.9	70-130	7.58	20		
1,1-Dichloropropene	0.0188	0.0020	mg/Kg wet	0.0200		94.1	70-130	3.04	20		
cis-1,3-Dichloropropene	0.0176	0.0010	mg/Kg wet	0.0200		88.1	70-130	4.76	20		
trans-1,3-Dichloropropene	0.0182	0.0040	mg/Kg wet	0.0200		91.0	70-130	1.09	20		
Diethyl Ether	0.0165	0.010	mg/Kg wet	0.0200		82.7	70-130	3.56	20		
Diisopropyl Ether (DIPE)	0.0147	0.0010	mg/Kg wet	0.0200		73.4	70-130	6.59	20		
1,4-Dioxane	0.151	0.10	mg/Kg wet	0.200		75.3	40-160	17.4	20	V-16	†
Ethylbenzene	0.0227	0.0020	mg/Kg wet	0.0200		113	70-130	3.64	20		
Hexachlorobutadiene	0.0233	0.0020	mg/Kg wet	0.0200		117	70-130	0.430	20		
2-Hexanone (MBK)	0.194	0.020	mg/Kg wet	0.200		96.8	40-160	0.0723	20		†
Isopropylbenzene (Cumene)	0.0235	0.0020	mg/Kg wet	0.0200		118	70-130	2.52	20		
p-Isopropyltoluene (p-Cymene)	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130	0.887	20		
Methyl tert-Butyl Ether (MTBE)	0.0178	0.0040	mg/Kg wet	0.0200		88.8	70-130	0.449	20		
Methylene Chloride	0.0144	0.010	mg/Kg wet	0.0200		72.1	70-130	4.47	20	V-05	
4-Methyl-2-pentanone (MIBK)	0.163	0.020	mg/Kg wet	0.200		81.7	40-160	0.330	20		†
Naphthalene	0.0165	0.010	mg/Kg wet	0.0200		82.7	70-130	3.19	20		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144055 - SW-846 5035										
LCS Dup (B144055-BSD1)				Prepared & Analyzed: 03/11/16						
n-Propylbenzene	0.0225	0.0020	mg/Kg wet	0.0200		112	70-130	3.66	20	
Styrene	0.0231	0.0020	mg/Kg wet	0.0200		116	70-130	0.0864	20	
1,1,1,2-Tetrachloroethane	0.0239	0.0020	mg/Kg wet	0.0200		120	70-130	4.09	20	
1,1,2,2-Tetrachloroethane	0.0205	0.0010	mg/Kg wet	0.0200		102	70-130	4.12	20	
Tetrachloroethylene	0.0239	0.0020	mg/Kg wet	0.0200		120	70-130	3.05	20	
Tetrahydrofuran	0.0151	0.010	mg/Kg wet	0.0200		75.7	70-130	9.56	20	V-05
Toluene	0.0185	0.0020	mg/Kg wet	0.0200		92.3	70-130	2.78	20	
1,2,3-Trichlorobenzene	0.0187	0.0040	mg/Kg wet	0.0200		93.3	70-130	4.83	20	
1,2,4-Trichlorobenzene	0.0192	0.0040	mg/Kg wet	0.0200		96.0	70-130	5.68	20	
1,1,1-Trichloroethane	0.0189	0.0020	mg/Kg wet	0.0200		94.7	70-130	4.34	20	
1,1,2-Trichloroethane	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130	6.73	20	
Trichloroethylene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	3.61	20	
Trichlorofluoromethane (Freon 11)	0.0166	0.010	mg/Kg wet	0.0200		82.9	70-130	4.37	20	
1,2,3-Trichloropropane	0.0199	0.0020	mg/Kg wet	0.0200		99.4	70-130	4.14	20	
1,2,4-Trimethylbenzene	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130	0.183	20	
1,3,5-Trimethylbenzene	0.0244	0.0020	mg/Kg wet	0.0200		122	70-130	1.54	20	
Vinyl Chloride	0.0143	0.010	mg/Kg wet	0.0200		71.6	70-130	3.70	20	
m+p Xylene	0.0444	0.0040	mg/Kg wet	0.0400		111	70-130	2.23	20	
o-Xylene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130	3.56	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0445*		mg/Kg wet	0.0500		88.9	70-130			
Surrogate: Toluene-d8	*0.0483*		mg/Kg wet	0.0500		96.7	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0517*		mg/Kg wet	0.0500		103	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144018 - SW-846 3546										
Blank (B144018-BLK1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Acetophenone	ND	0.34	mg/Kg wet							
Aniline	ND	0.34	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Bis(2-chloroethoxy)methane	ND	0.34	mg/Kg wet							
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg wet							
Bis(2-chloroisopropyl)ether	ND	0.34	mg/Kg wet							
Bis(2-Ethylhexyl)phthalate	ND	0.34	mg/Kg wet							
4-Bromophenylphenylether	ND	0.34	mg/Kg wet							
Butylbenzylphthalate	ND	0.34	mg/Kg wet							
4-Chloroaniline	ND	0.66	mg/Kg wet							
2-Chloronaphthalene	ND	0.34	mg/Kg wet							
2-Chlorophenol	ND	0.34	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Dibenzofuran	ND	0.34	mg/Kg wet							
Di-n-butylphthalate	ND	0.34	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.34	mg/Kg wet							
3,3-Dichlorobenzidine	ND	0.17	mg/Kg wet							
2,4-Dichlorophenol	ND	0.34	mg/Kg wet							
Diethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dimethylphenol	ND	0.34	mg/Kg wet							
Dimethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dinitrophenol	ND	0.66	mg/Kg wet							
2,4-Dinitrotoluene	ND	0.34	mg/Kg wet							
2,6-Dinitrotoluene	ND	0.34	mg/Kg wet							
Di-n-octylphthalate	ND	0.34	mg/Kg wet							
1,2-Diphenylhydrazine (as Azobenzene)	ND	0.34	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Hexachlorobenzene	ND	0.34	mg/Kg wet							
Hexachlorobutadiene	ND	0.34	mg/Kg wet							
Hexachloroethane	ND	0.34	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
Isophorone	ND	0.34	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylphenol	ND	0.34	mg/Kg wet							
3/4-Methylphenol	ND	0.34	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Nitrobenzene	ND	0.34	mg/Kg wet							
2-Nitrophenol	ND	0.34	mg/Kg wet							
4-Nitrophenol	ND	0.66	mg/Kg wet							
Pentachlorophenol	ND	0.34	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B144018 - SW-846 3546												
Blank (B144018-BLK1)				Prepared: 03/10/16 Analyzed: 03/11/16								
Phenol	ND	0.34	mg/Kg wet									
Pyrene	ND	0.17	mg/Kg wet									
Pyridine	ND	0.34	mg/Kg wet									
1,2,4-Trichlorobenzene	ND	0.34	mg/Kg wet									
2,4,5-Trichlorophenol	ND	0.34	mg/Kg wet									
2,4,6-Trichlorophenol	ND	0.34	mg/Kg wet									
Surrogate: 2-Fluorophenol	*5.94*		mg/Kg wet	6.67		89.1		30-130				
Surrogate: Phenol-d6	*6.30*		mg/Kg wet	6.67		94.5		30-130				
Surrogate: Nitrobenzene-d5	*3.15*		mg/Kg wet	3.33		94.5		30-130				
Surrogate: 2-Fluorobiphenyl	*3.37*		mg/Kg wet	3.33		101		30-130				
Surrogate: 2,4,6-Tribromophenol	*6.40*		mg/Kg wet	6.67		95.9		30-130				
Surrogate: p-Terphenyl-d14	*4.52*		mg/Kg wet	3.33		**136**	*	30-130			S-07	
LCS (B144018-BS1)				Prepared: 03/10/16 Analyzed: 03/11/16								
Acenaphthene	1.24	0.17	mg/Kg wet	1.67		74.4		40-140				
Acenaphthylene	1.27	0.17	mg/Kg wet	1.67		76.3		40-140				
Acetophenone	1.20	0.34	mg/Kg wet	1.67		72.3		40-140				
Aniline	0.809	0.34	mg/Kg wet	1.67		48.5		40-140				
Anthracene	1.30	0.17	mg/Kg wet	1.67		77.9		40-140				
Benzo(a)anthracene	1.31	0.17	mg/Kg wet	1.67		78.4		40-140				
Benzo(a)pyrene	1.30	0.17	mg/Kg wet	1.67		77.7		40-140				
Benzo(b)fluoranthene	1.27	0.17	mg/Kg wet	1.67		76.2		40-140				
Benzo(g,h,i)perylene	1.35	0.17	mg/Kg wet	1.67		80.9		40-140				
Benzo(k)fluoranthene	1.26	0.17	mg/Kg wet	1.67		75.7		40-140				
Bis(2-chloroethoxy)methane	1.34	0.34	mg/Kg wet	1.67		80.6		40-140				
Bis(2-chloroethyl)ether	1.26	0.34	mg/Kg wet	1.67		75.8		40-140				
Bis(2-chloroisopropyl)ether	1.23	0.34	mg/Kg wet	1.67		73.5		40-140				
Bis(2-Ethylhexyl)phthalate	1.50	0.34	mg/Kg wet	1.67		90.0		40-140				
4-Bromophenylphenylether	1.34	0.34	mg/Kg wet	1.67		80.5		40-140				
Butylbenzylphthalate	1.50	0.34	mg/Kg wet	1.67		89.7		40-140				
4-Chloroaniline	0.822	0.66	mg/Kg wet	1.67		49.3		15-140				†
2-Chloronaphthalene	1.25	0.34	mg/Kg wet	1.67		74.8		40-140				
2-Chlorophenol	1.20	0.34	mg/Kg wet	1.67		71.9		30-130				
Chrysene	1.28	0.17	mg/Kg wet	1.67		76.8		40-140				
Dibenz(a,h)anthracene	1.32	0.17	mg/Kg wet	1.67		79.3		40-140				
Dibenzofuran	1.29	0.34	mg/Kg wet	1.67		77.5		40-140				
Di-n-butylphthalate	1.33	0.34	mg/Kg wet	1.67		79.8		40-140				
1,2-Dichlorobenzene	1.12	0.34	mg/Kg wet	1.67		67.3		40-140				
1,3-Dichlorobenzene	1.09	0.34	mg/Kg wet	1.67		65.6		40-140				
1,4-Dichlorobenzene	1.10	0.34	mg/Kg wet	1.67		66.0		40-140				
3,3-Dichlorobenzidine	0.646	0.17	mg/Kg wet	1.67		**38.7**	*	40-140			L-07	
2,4-Dichlorophenol	1.23	0.34	mg/Kg wet	1.67		73.8		30-130				
Diethylphthalate	1.33	0.34	mg/Kg wet	1.67		79.9		40-140				
2,4-Dimethylphenol	1.28	0.34	mg/Kg wet	1.67		77.0		30-130				
Dimethylphthalate	1.33	0.34	mg/Kg wet	1.67		80.1		40-140				
2,4-Dinitrophenol	0.489	0.66	mg/Kg wet	1.67		29.3		15-140				†
2,4-Dinitrotoluene	1.32	0.34	mg/Kg wet	1.67		79.4		40-140				
2,6-Dinitrotoluene	1.41	0.34	mg/Kg wet	1.67		84.9		40-140				
Di-n-octylphthalate	1.50	0.34	mg/Kg wet	1.67		89.8		40-140				
1,2-Diphenylhydrazine (as Azobenzene)	1.40	0.34	mg/Kg wet	1.67		84.1		40-140				
Fluoranthene	1.22	0.17	mg/Kg wet	1.67		73.2		40-140				
Fluorene	1.32	0.17	mg/Kg wet	1.67		79.3		40-140				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144018 - SW-846 3546										
LCS (B144018-BS1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Hexachlorobenzene	1.31	0.34	mg/Kg wet	1.67		78.8	40-140			
Hexachlorobutadiene	1.22	0.34	mg/Kg wet	1.67		73.1	40-140			
Hexachloroethane	1.15	0.34	mg/Kg wet	1.67		69.1	40-140			
Indeno(1,2,3-cd)pyrene	1.30	0.17	mg/Kg wet	1.67		78.2	40-140			
Isophorone	1.38	0.34	mg/Kg wet	1.67		82.6	40-140			
2-Methylnaphthalene	1.28	0.17	mg/Kg wet	1.67		76.8	40-140			
2-Methylphenol	1.23	0.34	mg/Kg wet	1.67		74.0	30-130			
3/4-Methylphenol	1.27	0.34	mg/Kg wet	1.67		76.2	30-130			
Naphthalene	1.19	0.17	mg/Kg wet	1.67		71.4	40-140			
Nitrobenzene	1.24	0.34	mg/Kg wet	1.67		74.1	40-140			
2-Nitrophenol	1.20	0.34	mg/Kg wet	1.67		71.8	30-130			
4-Nitrophenol	1.27	0.66	mg/Kg wet	1.67		76.2	15-140			†
Pentachlorophenol	1.04	0.34	mg/Kg wet	1.67		62.5	30-130			
Phenanthrene	1.31	0.17	mg/Kg wet	1.67		78.9	40-140			
Phenol	1.19	0.34	mg/Kg wet	1.67		71.1	15-140			†
Pyrene	1.43	0.17	mg/Kg wet	1.67		85.9	40-140			
Pyridine	0.855	0.34	mg/Kg wet	1.67		51.3	30-140			†
1,2,4-Trichlorobenzene	1.21	0.34	mg/Kg wet	1.67		72.5	40-140			
2,4,5-Trichlorophenol	1.21	0.34	mg/Kg wet	1.67		72.7	30-130			
2,4,6-Trichlorophenol	1.26	0.34	mg/Kg wet	1.67		75.7	30-130			
Surrogate: 2-Fluorophenol	*5.09*		mg/Kg wet	6.67		76.4	30-130			
Surrogate: Phenol-d6	*5.26*		mg/Kg wet	6.67		78.9	30-130			
Surrogate: Nitrobenzene-d5	*2.73*		mg/Kg wet	3.33		81.8	30-130			
Surrogate: 2-Fluorobiphenyl	*2.92*		mg/Kg wet	3.33		87.5	30-130			
Surrogate: 2,4,6-Tribromophenol	*5.71*		mg/Kg wet	6.67		85.7	30-130			
Surrogate: p-Terphenyl-d14	*3.45*		mg/Kg wet	3.33		103	30-130			
LCS Dup (B144018-BSD1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Acenaphthene	1.42	0.17	mg/Kg wet	1.67		85.2	40-140	13.6	30	
Acenaphthylene	1.46	0.17	mg/Kg wet	1.67		87.4	40-140	13.5	30	
Acetophenone	1.32	0.34	mg/Kg wet	1.67		79.1	40-140	9.01	30	
Aniline	0.908	0.34	mg/Kg wet	1.67		54.5	40-140	11.6	30	
Anthracene	1.45	0.17	mg/Kg wet	1.67		87.1	40-140	11.2	30	
Benzo(a)anthracene	1.47	0.17	mg/Kg wet	1.67		88.1	40-140	11.6	30	
Benzo(a)pyrene	1.50	0.17	mg/Kg wet	1.67		90.2	40-140	14.8	30	
Benzo(b)fluoranthene	1.47	0.17	mg/Kg wet	1.67		88.2	40-140	14.7	30	
Benzo(g,h,i)perylene	1.57	0.17	mg/Kg wet	1.67		94.2	40-140	15.1	30	
Benzo(k)fluoranthene	1.46	0.17	mg/Kg wet	1.67		87.8	40-140	14.8	30	
Bis(2-chloroethoxy)methane	1.49	0.34	mg/Kg wet	1.67		89.3	40-140	10.2	30	
Bis(2-chloroethyl)ether	1.39	0.34	mg/Kg wet	1.67		83.1	40-140	9.26	30	
Bis(2-chloroisopropyl)ether	1.33	0.34	mg/Kg wet	1.67		79.6	40-140	7.89	30	
Bis(2-Ethylhexyl)phthalate	1.69	0.34	mg/Kg wet	1.67		102	40-140	12.1	30	
4-Bromophenylphenylether	1.52	0.34	mg/Kg wet	1.67		91.1	40-140	12.4	30	
Butylbenzylphthalate	1.68	0.34	mg/Kg wet	1.67		101	40-140	11.7	30	
4-Chloroaniline	0.981	0.66	mg/Kg wet	1.67		58.8	15-140	17.6	30	†
2-Chloronaphthalene	1.37	0.34	mg/Kg wet	1.67		82.0	40-140	9.11	30	
2-Chlorophenol	1.32	0.34	mg/Kg wet	1.67		79.1	30-130	9.43	30	
Chrysene	1.45	0.17	mg/Kg wet	1.67		86.8	40-140	12.3	30	
Dibenz(a,h)anthracene	1.52	0.17	mg/Kg wet	1.67		91.4	40-140	14.1	30	
Dibenzofuran	1.49	0.34	mg/Kg wet	1.67		89.3	40-140	14.2	30	
Di-n-butylphthalate	1.50	0.34	mg/Kg wet	1.67		90.2	40-140	12.2	30	
1,2-Dichlorobenzene	1.23	0.34	mg/Kg wet	1.67		73.8	40-140	9.19	30	

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144018 - SW-846 3546										
LCS Dup (B144018-BSD1)				Prepared: 03/10/16 Analyzed: 03/11/16						
1,3-Dichlorobenzene	1.20	0.34	mg/Kg wet	1.67		72.2	40-140	9.52	30	
1,4-Dichlorobenzene	1.21	0.34	mg/Kg wet	1.67		72.6	40-140	9.55	30	
3,3-Dichlorobenzidine	0.756	0.17	mg/Kg wet	1.67		45.4	40-140	15.8	30	
2,4-Dichlorophenol	1.40	0.34	mg/Kg wet	1.67		84.1	30-130	13.1	30	
Diethylphthalate	1.52	0.34	mg/Kg wet	1.67		91.0	40-140	13.0	30	
2,4-Dimethylphenol	1.50	0.34	mg/Kg wet	1.67		89.8	30-130	15.4	30	
Dimethylphthalate	1.49	0.34	mg/Kg wet	1.67		89.6	40-140	11.3	30	
2,4-Dinitrophenol	0.458	0.66	mg/Kg wet	1.67		27.5	15-140	6.47	30	†
2,4-Dinitrotoluene	1.50	0.34	mg/Kg wet	1.67		90.2	40-140	12.8	30	
2,6-Dinitrotoluene	1.63	0.34	mg/Kg wet	1.67		97.9	40-140	14.3	30	
Di-n-octylphthalate	1.69	0.34	mg/Kg wet	1.67		101	40-140	12.1	30	
1,2-Diphenylhydrazine (as Azobenzene)	1.57	0.34	mg/Kg wet	1.67		94.0	40-140	11.1	30	
Fluoranthene	1.39	0.17	mg/Kg wet	1.67		83.5	40-140	13.1	30	
Fluorene	1.50	0.17	mg/Kg wet	1.67		89.8	40-140	12.4	30	
Hexachlorobenzene	1.51	0.34	mg/Kg wet	1.67		90.8	40-140	14.2	30	
Hexachlorobutadiene	1.36	0.34	mg/Kg wet	1.67		81.8	40-140	11.2	30	
Hexachloroethane	1.25	0.34	mg/Kg wet	1.67		75.1	40-140	8.35	30	
Indeno(1,2,3-cd)pyrene	1.52	0.17	mg/Kg wet	1.67		91.2	40-140	15.3	30	
Isophorone	1.55	0.34	mg/Kg wet	1.67		93.1	40-140	11.9	30	
2-Methylnaphthalene	1.42	0.17	mg/Kg wet	1.67		85.2	40-140	10.3	30	
2-Methylphenol	1.35	0.34	mg/Kg wet	1.67		80.9	30-130	8.90	30	
3/4-Methylphenol	1.37	0.34	mg/Kg wet	1.67		82.2	30-130	7.55	30	
Naphthalene	1.33	0.17	mg/Kg wet	1.67		79.8	40-140	11.0	30	
Nitrobenzene	1.40	0.34	mg/Kg wet	1.67		83.8	40-140	12.3	30	
2-Nitrophenol	1.35	0.34	mg/Kg wet	1.67		81.0	30-130	12.0	30	
4-Nitrophenol	1.44	0.66	mg/Kg wet	1.67		86.7	15-140	12.9	30	†
Pentachlorophenol	1.11	0.34	mg/Kg wet	1.67		66.8	30-130	6.65	30	
Phenanthrene	1.49	0.17	mg/Kg wet	1.67		89.5	40-140	12.6	30	
Phenol	1.32	0.34	mg/Kg wet	1.67		79.4	15-140	10.9	30	†
Pyrene	1.60	0.17	mg/Kg wet	1.67		95.7	40-140	10.8	30	
Pyridine	0.944	0.34	mg/Kg wet	1.67		56.6	30-140	9.90	30	†
1,2,4-Trichlorobenzene	1.35	0.34	mg/Kg wet	1.67		80.7	40-140	10.7	30	
2,4,5-Trichlorophenol	1.41	0.34	mg/Kg wet	1.67		84.5	30-130	14.9	30	
2,4,6-Trichlorophenol	1.42	0.34	mg/Kg wet	1.67		85.1	30-130	11.6	30	
Surrogate: 2-Fluorophenol	*5.56*		mg/Kg wet	6.67		83.4	30-130			
Surrogate: Phenol-d6	*5.75*		mg/Kg wet	6.67		86.3	30-130			
Surrogate: Nitrobenzene-d5	*3.12*		mg/Kg wet	3.33		93.5	30-130			
Surrogate: 2-Fluorobiphenyl	*3.15*		mg/Kg wet	3.33		94.5	30-130			
Surrogate: 2,4,6-Tribromophenol	*6.32*		mg/Kg wet	6.67		94.7	30-130			
Surrogate: p-Terphenyl-d14	*3.72*		mg/Kg wet	3.33		111	30-130			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144017 - SW-846 3546										
Blank (B144017-BLK1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aldrin	ND	0.0050	mg/Kg wet							
Aldrin [2C]	ND	0.0050	mg/Kg wet							
alpha-BHC	ND	0.0050	mg/Kg wet							
alpha-BHC [2C]	ND	0.0050	mg/Kg wet							
beta-BHC	ND	0.0050	mg/Kg wet							
beta-BHC [2C]	ND	0.0050	mg/Kg wet							
delta-BHC	ND	0.0050	mg/Kg wet							
delta-BHC [2C]	ND	0.0050	mg/Kg wet							
gamma-BHC (Lindane)	ND	0.0020	mg/Kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0020	mg/Kg wet							
Chlordane	ND	0.020	mg/Kg wet							
Chlordane [2C]	ND	0.020	mg/Kg wet							
4,4'-DDD	ND	0.0040	mg/Kg wet							
4,4'-DDD [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDE	ND	0.0040	mg/Kg wet							
4,4'-DDE [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDT	ND	0.0040	mg/Kg wet							
4,4'-DDT [2C]	ND	0.0040	mg/Kg wet							
Dieldrin	ND	0.0040	mg/Kg wet							
Dieldrin [2C]	ND	0.0040	mg/Kg wet							
Endosulfan I	ND	0.0050	mg/Kg wet							
Endosulfan I [2C]	ND	0.0050	mg/Kg wet							
Endosulfan II	ND	0.0080	mg/Kg wet							
Endosulfan II [2C]	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate [2C]	ND	0.0080	mg/Kg wet							
Endrin	ND	0.0080	mg/Kg wet							
Endrin [2C]	ND	0.0080	mg/Kg wet							
Endrin Aldehyde	ND	0.0080	mg/Kg wet							
Endrin Aldehyde [2C]	ND	0.0080	mg/Kg wet							
Endrin Ketone	ND	0.0080	mg/Kg wet							
Endrin Ketone [2C]	ND	0.0080	mg/Kg wet							
Heptachlor	ND	0.0050	mg/Kg wet							
Heptachlor [2C]	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide [2C]	ND	0.0050	mg/Kg wet							
Hexachlorobenzene	ND	0.0060	mg/Kg wet							
Hexachlorobenzene [2C]	ND	0.0060	mg/Kg wet							
Methoxychlor	ND	0.050	mg/Kg wet							
Methoxychlor [2C]	ND	0.050	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.198*		mg/Kg wet	0.200		99.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.199*		mg/Kg wet	0.200		99.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.192*		mg/Kg wet	0.200		96.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.202*		mg/Kg wet	0.200		101	30-150			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144017 - SW-846 3546										
LCS (B144017-BS1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aldrin	0.11	0.0050	mg/Kg wet	0.100		106	40-140			
Aldrin [2C]	0.12	0.0050	mg/Kg wet	0.100		115	40-140			
alpha-BHC	0.11	0.0050	mg/Kg wet	0.100		107	40-140			
alpha-BHC [2C]	0.12	0.0050	mg/Kg wet	0.100		116	40-140			
beta-BHC	0.10	0.0050	mg/Kg wet	0.100		104	40-140			
beta-BHC [2C]	0.11	0.0050	mg/Kg wet	0.100		110	40-140			
delta-BHC	0.10	0.0050	mg/Kg wet	0.100		104	40-140			
delta-BHC [2C]	0.11	0.0050	mg/Kg wet	0.100		111	40-140			
gamma-BHC (Lindane)	0.11	0.0020	mg/Kg wet	0.100		108	40-140			
gamma-BHC (Lindane) [2C]	0.12	0.0020	mg/Kg wet	0.100		119	40-140			
4,4'-DDD	0.11	0.0040	mg/Kg wet	0.100		109	40-140			
4,4'-DDD [2C]	0.11	0.0040	mg/Kg wet	0.100		114	40-140			
4,4'-DDE	0.11	0.0040	mg/Kg wet	0.100		108	40-140			
4,4'-DDE [2C]	0.12	0.0040	mg/Kg wet	0.100		117	40-140			
4,4'-DDT	0.10	0.0040	mg/Kg wet	0.100		103	40-140			
4,4'-DDT [2C]	0.11	0.0040	mg/Kg wet	0.100		106	40-140			
Dieldrin	0.11	0.0040	mg/Kg wet	0.100		106	40-140			
Dieldrin [2C]	0.11	0.0040	mg/Kg wet	0.100		111	40-140			
Endosulfan I	0.10	0.0050	mg/Kg wet	0.100		105	40-140			
Endosulfan I [2C]	0.11	0.0050	mg/Kg wet	0.100		108	40-140			
Endosulfan II	0.11	0.0080	mg/Kg wet	0.100		106	40-140			
Endosulfan II [2C]	0.11	0.0080	mg/Kg wet	0.100		108	40-140			
Endosulfan Sulfate	0.11	0.0080	mg/Kg wet	0.100		106	40-140			
Endosulfan Sulfate [2C]	0.11	0.0080	mg/Kg wet	0.100		107	40-140			
Endrin	0.11	0.0080	mg/Kg wet	0.100		110	40-140			
Endrin [2C]	0.11	0.0080	mg/Kg wet	0.100		113	40-140			
Endrin Ketone	0.11	0.0080	mg/Kg wet	0.100		111	40-140			
Endrin Ketone [2C]	0.11	0.0080	mg/Kg wet	0.100		111	40-140			
Heptachlor	0.10	0.0050	mg/Kg wet	0.100		104	40-140			
Heptachlor [2C]	0.11	0.0050	mg/Kg wet	0.100		113	40-140			
Heptachlor Epoxide	0.10	0.0050	mg/Kg wet	0.100		104	40-140			
Heptachlor Epoxide [2C]	0.11	0.0050	mg/Kg wet	0.100		107	40-140			
Hexachlorobenzene	0.093	0.0060	mg/Kg wet	0.100		93.4	40-140			
Hexachlorobenzene [2C]	0.099	0.0060	mg/Kg wet	0.100		98.6	40-140			
Methoxychlor	0.10	0.050	mg/Kg wet	0.100		101	40-140			
Methoxychlor [2C]	0.10	0.050	mg/Kg wet	0.100		103	40-140			
Surrogate: Decachlorobiphenyl	*0.203*		mg/Kg wet	0.200		102	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.204*		mg/Kg wet	0.200		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.195*		mg/Kg wet	0.200		97.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.213*		mg/Kg wet	0.200		106	30-150			
LCS Dup (B144017-BSD1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aldrin	0.11	0.0050	mg/Kg wet	0.100		105	40-140	0.501	30	
Aldrin [2C]	0.11	0.0050	mg/Kg wet	0.100		114	40-140	0.913	30	
alpha-BHC	0.11	0.0050	mg/Kg wet	0.100		106	40-140	0.769	30	
alpha-BHC [2C]	0.11	0.0050	mg/Kg wet	0.100		112	40-140	4.04	30	
beta-BHC	0.10	0.0050	mg/Kg wet	0.100		103	40-140	1.33	30	
beta-BHC [2C]	0.11	0.0050	mg/Kg wet	0.100		111	40-140	0.603	30	
delta-BHC	0.11	0.0050	mg/Kg wet	0.100		106	40-140	1.81	30	
delta-BHC [2C]	0.11	0.0050	mg/Kg wet	0.100		112	40-140	0.591	30	
gamma-BHC (Lindane)	0.11	0.0020	mg/Kg wet	0.100		108	40-140	0.149	30	
gamma-BHC (Lindane) [2C]	0.12	0.0020	mg/Kg wet	0.100		117	40-140	2.35	30	

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144017 - SW-846 3546										
LCS Dup (B144017-BSD1)				Prepared: 03/10/16 Analyzed: 03/11/16						
4,4'-DDD	0.11	0.0040	mg/Kg wet	0.100		112	40-140	2.60	30	
4,4'-DDD [2C]	0.12	0.0040	mg/Kg wet	0.100		117	40-140	2.78	30	
4,4'-DDE	0.11	0.0040	mg/Kg wet	0.100		112	40-140	3.77	30	
4,4'-DDE [2C]	0.12	0.0040	mg/Kg wet	0.100		119	40-140	1.94	30	
4,4'-DDT	0.11	0.0040	mg/Kg wet	0.100		107	40-140	3.04	30	
4,4'-DDT [2C]	0.11	0.0040	mg/Kg wet	0.100		110	40-140	3.93	30	
Dieldrin	0.11	0.0040	mg/Kg wet	0.100		107	40-140	1.77	30	
Dieldrin [2C]	0.11	0.0040	mg/Kg wet	0.100		114	40-140	1.84	30	
Endosulfan I	0.11	0.0050	mg/Kg wet	0.100		106	40-140	1.25	30	
Endosulfan I [2C]	0.11	0.0050	mg/Kg wet	0.100		110	40-140	1.29	30	
Endosulfan II	0.11	0.0080	mg/Kg wet	0.100		108	40-140	1.90	30	
Endosulfan II [2C]	0.11	0.0080	mg/Kg wet	0.100		111	40-140	2.46	30	
Endosulfan Sulfate	0.11	0.0080	mg/Kg wet	0.100		109	40-140	2.29	30	
Endosulfan Sulfate [2C]	0.11	0.0080	mg/Kg wet	0.100		110	40-140	2.49	30	
Endrin	0.11	0.0080	mg/Kg wet	0.100		111	40-140	1.54	30	
Endrin [2C]	0.12	0.0080	mg/Kg wet	0.100		116	40-140	1.88	30	
Endrin Ketone	0.11	0.0080	mg/Kg wet	0.100		114	40-140	2.33	30	
Endrin Ketone [2C]	0.11	0.0080	mg/Kg wet	0.100		114	40-140	2.53	30	
Heptachlor	0.10	0.0050	mg/Kg wet	0.100		103	40-140	0.153	30	
Heptachlor [2C]	0.11	0.0050	mg/Kg wet	0.100		112	40-140	1.16	30	
Heptachlor Epoxide	0.10	0.0050	mg/Kg wet	0.100		105	40-140	1.20	30	
Heptachlor Epoxide [2C]	0.11	0.0050	mg/Kg wet	0.100		108	40-140	0.560	30	
Hexachlorobenzene	0.092	0.0060	mg/Kg wet	0.100		92.0	40-140	1.52	30	
Hexachlorobenzene [2C]	0.095	0.0060	mg/Kg wet	0.100		95.4	40-140	3.27	30	
Methoxychlor	0.10	0.050	mg/Kg wet	0.100		104	40-140	3.27	30	
Methoxychlor [2C]	0.11	0.050	mg/Kg wet	0.100		107	40-140	3.85	30	
Surrogate: Decachlorobiphenyl	*0.204*		mg/Kg wet	0.200		102	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.203*		mg/Kg wet	0.200		101	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg wet	0.200		92.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.196*		mg/Kg wet	0.200		98.1	30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144016 - SW-846 8151										
Blank (B144016-BLK1)				Prepared & Analyzed: 03/11/16						
2,4-D	ND	24	µg/kg wet							
2,4-D [2C]	ND	24	µg/kg wet							
2,4-DB	ND	24	µg/kg wet							
2,4-DB [2C]	ND	24	µg/kg wet							
2,4,5-TP (Silvex)	ND	2.4	µg/kg wet							
2,4,5-TP (Silvex) [2C]	ND	2.4	µg/kg wet							
2,4,5-T	ND	2.4	µg/kg wet							
2,4,5-T [2C]	ND	2.4	µg/kg wet							
Dalapon	ND	59	µg/kg wet							
Dalapon [2C]	ND	59	µg/kg wet							
Dicamba	ND	2.4	µg/kg wet							
Dicamba [2C]	ND	2.4	µg/kg wet							
Dichloroprop	ND	24	µg/kg wet							
Dichloroprop [2C]	ND	24	µg/kg wet							
Dinoseb	ND	12	µg/kg wet							
Dinoseb [2C]	ND	12	µg/kg wet							
MCPA	ND	2400	µg/kg wet							
MCPA [2C]	ND	2400	µg/kg wet							
MCPP	ND	2400	µg/kg wet							
MCPP [2C]	ND	2400	µg/kg wet							
Surrogate: 2,4-Dichlorophenylacetic acid	*56.1*		µg/kg wet	95.1		59.0	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*57.1*		µg/kg wet	95.1		60.0	30-150			
LCS (B144016-BS1)				Prepared & Analyzed: 03/11/16						
2,4-D	78.0	25	µg/kg wet	124		62.8	40-140			
2,4-D [2C]	69.2	25	µg/kg wet	124		55.7	40-140			
2,4-DB	81.3	25	µg/kg wet	124		65.4	40-140			
2,4-DB [2C]	74.8	25	µg/kg wet	124		60.2	40-140			
2,4,5-TP (Silvex)	8.15	2.5	µg/kg wet	12.4		65.6	40-140			
2,4,5-TP (Silvex) [2C]	7.76	2.5	µg/kg wet	12.4		62.5	40-140			
2,4,5-T	7.92	2.5	µg/kg wet	12.4		63.7	40-140			
2,4,5-T [2C]	7.78	2.5	µg/kg wet	12.4		62.6	40-140			
Dalapon	124	62	µg/kg wet	311		40.0	40-140			L-07
Dalapon [2C]	127	62	µg/kg wet	311		40.9	40-140			
Dicamba	8.41	2.5	µg/kg wet	12.4		67.7	40-140			
Dicamba [2C]	8.11	2.5	µg/kg wet	12.4		65.2	40-140			
Dichloroprop	94.8	25	µg/kg wet	124		76.3	40-140			
Dichloroprop [2C]	94.8	25	µg/kg wet	124		76.3	40-140			
Dinoseb	14.5	12	µg/kg wet	62.1		23.4	0-42.4			
Dinoseb [2C]	14.8	12	µg/kg wet	62.1		23.7	0-41.1			
MCPA	7640	2500	µg/kg wet	12400		61.5	40-140			
MCPA [2C]	7280	2500	µg/kg wet	12400		58.6	40-140			
MCPP	7500	2500	µg/kg wet	12400		60.4	40-140			
MCPP [2C]	7260	2500	µg/kg wet	12400		58.4	40-140			
Surrogate: 2,4-Dichlorophenylacetic acid	*73.0*		µg/kg wet	99.4		73.5	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*71.6*		µg/kg wet	99.4		72.0	30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144016 - SW-846 8151										
LCS Dup (B144016-BSD1)				Prepared & Analyzed: 03/11/16						
2,4-D	76.0	25	µg/kg wet	124		61.2	40-140	2.55	30	
2,4-D [2C]	68.0	25	µg/kg wet	124		54.7	40-140	1.78	30	
2,4-DB	79.3	25	µg/kg wet	124		63.8	40-140	2.54	30	
2,4-DB [2C]	72.7	25	µg/kg wet	124		58.5	40-140	2.74	30	
2,4,5-TP (Silvex)	7.94	2.5	µg/kg wet	12.4		63.9	40-140	2.61	30	
2,4,5-TP (Silvex) [2C]	7.60	2.5	µg/kg wet	12.4		61.1	40-140	2.14	30	
2,4,5-T	7.67	2.5	µg/kg wet	12.4		61.7	40-140	3.23	30	
2,4,5-T [2C]	7.35	2.5	µg/kg wet	12.4		59.1	40-140	5.68	30	
Dalapon	126	62	µg/kg wet	311		40.6	40-140	1.49	30	
Dalapon [2C]	128	62	µg/kg wet	311		41.3	40-140	0.991	30	
Dicamba	8.26	2.5	µg/kg wet	12.4		66.4	40-140	1.88	30	
Dicamba [2C]	7.85	2.5	µg/kg wet	12.4		63.1	40-140	3.22	30	
Dichloroprop	93.3	25	µg/kg wet	124		75.1	40-140	1.58	30	
Dichloroprop [2C]	93.4	25	µg/kg wet	124		75.1	40-140	1.46	30	
Dinoseb	12.1	12	µg/kg wet	62.2		19.5	0-42.4	18.1	30	
Dinoseb [2C]	12.2	12	µg/kg wet	62.2		19.7	0-41.1	18.8	30	
MCPA	7600	2500	µg/kg wet	12400		61.2	40-140	0.444	30	
MCPA [2C]	7250	2500	µg/kg wet	12400		58.3	40-140	0.425	30	
MCPP	7380	2500	µg/kg wet	12400		59.4	40-140	1.68	30	
MCPP [2C]	7070	2500	µg/kg wet	12400		56.9	40-140	2.62	30	
Surrogate: 2,4-Dichlorophenylacetic acid	*74.4*		µg/kg wet	99.5		74.8	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*70.7*		µg/kg wet	99.5		71.1	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143995 - SW-846 3540C										
Blank (B143995-BLK1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.181*		mg/Kg wet	0.200		90.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.194*		mg/Kg wet	0.200		97.2	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg wet	0.200		92.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.199*		mg/Kg wet	0.200		99.4	30-150			
LCS (B143995-BS1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aroclor-1016	0.19	0.020	mg/Kg wet	0.200		97.2	40-140			
Aroclor-1016 [2C]	0.19	0.020	mg/Kg wet	0.200		93.8	40-140			
Aroclor-1260	0.19	0.020	mg/Kg wet	0.200		93.8	40-140			
Aroclor-1260 [2C]	0.18	0.020	mg/Kg wet	0.200		90.3	40-140			
Surrogate: Decachlorobiphenyl	*0.181*		mg/Kg wet	0.200		90.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.195*		mg/Kg wet	0.200		97.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.188*		mg/Kg wet	0.200		93.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.201*		mg/Kg wet	0.200		100	30-150			
LCS Dup (B143995-BSD1)				Prepared: 03/10/16 Analyzed: 03/11/16						
Aroclor-1016	0.20	0.020	mg/Kg wet	0.200		97.7	40-140	0.539	30	
Aroclor-1016 [2C]	0.19	0.020	mg/Kg wet	0.200		94.4	40-140	0.632	30	
Aroclor-1260	0.19	0.020	mg/Kg wet	0.200		94.2	40-140	0.396	30	
Aroclor-1260 [2C]	0.18	0.020	mg/Kg wet	0.200		90.7	40-140	0.369	30	
Surrogate: Decachlorobiphenyl	*0.177*		mg/Kg wet	0.200		88.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.190*		mg/Kg wet	0.200		94.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg wet	0.200		92.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.198*		mg/Kg wet	0.200		99.0	30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144024 - SW-846 3546										
Blank (B144024-BLK1)				Prepared: 03/11/16 Analyzed: 03/14/16						
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: o-Terphenyl	*2.57*		mg/Kg wet	3.33		77.2	40-140			
LCS (B144024-BS1)				Prepared: 03/11/16 Analyzed: 03/14/16						
TPH (C9-C36)	20.5	8.3	mg/Kg wet	33.3		61.5	40-140			
Surrogate: o-Terphenyl	*2.35*		mg/Kg wet	3.33		70.4	40-140			
LCS Dup (B144024-BSD1)				Prepared: 03/11/16 Analyzed: 03/14/16						
TPH (C9-C36)	25.4	8.3	mg/Kg wet	33.3		76.3	40-140	21.4	30	
Surrogate: o-Terphenyl	*2.77*		mg/Kg wet	3.33		83.1	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144047 - MA VPH										
Blank (B144047-BLK1)				Prepared: 03/11/16 Analyzed: 03/14/16						
Unadjusted C5-C8 Aliphatics	ND	10	mg/Kg wet							
C5-C8 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C10 Aromatics	ND	10	mg/Kg wet							
Benzene	ND	0.050	mg/Kg wet							
Butylcyclohexane	ND	0.050	mg/Kg wet							
Decane	ND	0.050	mg/Kg wet							
Ethylbenzene	ND	0.050	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg wet							
2-Methylpentane	ND	0.050	mg/Kg wet							
Naphthalene	ND	0.25	mg/Kg wet							
Nonane	ND	0.050	mg/Kg wet							
Pentane	ND	0.050	mg/Kg wet							
Toluene	ND	0.050	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.050	mg/Kg wet							
2,2,4-Trimethylpentane	ND	0.050	mg/Kg wet							
m+p Xylene	ND	0.10	mg/Kg wet							
o-Xylene	ND	0.050	mg/Kg wet							
Surrogate: 2,5-Dibromotoluene (FID)	*0.0436*		mg/Kg wet	0.0400		109	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0403*		mg/Kg wet	0.0400		101	70-130			
LCS (B144047-BS1)				Prepared: 03/11/16 Analyzed: 03/14/16						
Benzene	0.0977	0.0010	mg/Kg wet	0.100		97.7	70-130			
Butylcyclohexane	0.0805	0.0010	mg/Kg wet	0.100		80.5	70-130			
Decane	0.0908	0.0010	mg/Kg wet	0.100		90.8	70-130			
Ethylbenzene	0.104	0.0010	mg/Kg wet	0.100		104	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0902	0.0010	mg/Kg wet	0.100		90.2	70-130			
2-Methylpentane	0.101	0.0010	mg/Kg wet	0.100		101	70-130			
Naphthalene	0.109	0.0050	mg/Kg wet	0.100		109	70-130			
Nonane	0.0800	0.0010	mg/Kg wet	0.100		80.0	30-130			
Pentane	0.106	0.0010	mg/Kg wet	0.100		106	70-130			
Toluene	0.0984	0.0010	mg/Kg wet	0.100		98.4	70-130			
1,2,4-Trimethylbenzene	0.112	0.0010	mg/Kg wet	0.100		112	70-130			
2,2,4-Trimethylpentane	0.0858	0.0010	mg/Kg wet	0.100		85.8	70-130			
m+p Xylene	0.218	0.0020	mg/Kg wet	0.200		109	70-130			
o-Xylene	0.107	0.0010	mg/Kg wet	0.100		107	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*0.0500*		mg/Kg wet	0.0400		125	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0483*		mg/Kg wet	0.0400		121	70-130			
LCS Dup (B144047-BSD1)				Prepared: 03/11/16 Analyzed: 03/14/16						
Benzene	0.0948	0.0010	mg/Kg wet	0.100		94.8	70-130	2.93	25	
Butylcyclohexane	0.0796	0.0010	mg/Kg wet	0.100		79.6	70-130	1.05	25	
Decane	0.0906	0.0010	mg/Kg wet	0.100		90.6	70-130	0.278	25	
Ethylbenzene	0.101	0.0010	mg/Kg wet	0.100		101	70-130	3.32	25	
Methyl tert-Butyl Ether (MTBE)	0.0910	0.0010	mg/Kg wet	0.100		91.0	70-130	0.851	25	
2-Methylpentane	0.0946	0.0010	mg/Kg wet	0.100		94.6	70-130	6.35	25	
Naphthalene	0.109	0.0050	mg/Kg wet	0.100		109	70-130	0.682	25	
Nonane	0.0799	0.0010	mg/Kg wet	0.100		79.9	30-130	0.0338	25	
Pentane	0.0860	0.0010	mg/Kg wet	0.100		86.0	70-130	20.5	25	
Toluene	0.0955	0.0010	mg/Kg wet	0.100		95.5	70-130	3.01	25	
1,2,4-Trimethylbenzene	0.108	0.0010	mg/Kg wet	0.100		108	70-130	3.52	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144047 - MA VPH										
LCS Dup (B144047-BSD1)				Prepared: 03/11/16 Analyzed: 03/14/16						
2,2,4-Trimethylpentane	0.0798	0.0010	mg/Kg wet	0.100		79.8	70-130	7.21	25	
m+p Xylene	0.211	0.0020	mg/Kg wet	0.200		105	70-130	3.24	25	
o-Xylene	0.103	0.0010	mg/Kg wet	0.100		103	70-130	3.16	25	
Surrogate: 2,5-Dibromotoluene (FID)	*0.0462*		mg/Kg wet	0.0400		115	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0461*		mg/Kg wet	0.0400		115	70-130			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B143754 - SW-846 3050B											
Blank (B143754-BLK1)				Prepared: 03/11/16 Analyzed: 03/12/16							
Antimony	ND	2.5	mg/Kg wet								
Arsenic	ND	2.5	mg/Kg wet								
Barium	ND	2.5	mg/Kg wet								
Beryllium	ND	0.25	mg/Kg wet								
Cadmium	ND	0.25	mg/Kg wet								
Chromium	ND	0.50	mg/Kg wet								
Lead	ND	0.75	mg/Kg wet								
Nickel	ND	0.50	mg/Kg wet								
Selenium	ND	5.0	mg/Kg wet								
Silver	ND	0.50	mg/Kg wet								
Thallium	ND	2.5	mg/Kg wet								
Vanadium	ND	1.0	mg/Kg wet								
Zinc	ND	1.0	mg/Kg wet								
LCS (B143754-BS1)				Prepared: 03/11/16 Analyzed: 03/12/16							
Antimony	88.1	5.0	mg/Kg wet	105		83.9		0-210.3			
Arsenic	89.4	5.0	mg/Kg wet	98.5		90.8		77.8-122.1			
Barium	268	5.0	mg/Kg wet	308		86.9		82-117.4			
Beryllium	61.6	0.50	mg/Kg wet	66.0		93.4		82.3-117.7			
Cadmium	132	0.50	mg/Kg wet	146		90.3		81.9-118.2			
Chromium	160	0.99	mg/Kg wet	182		87.6		78.7-120.6			
Lead	105	1.5	mg/Kg wet	130		**80.8**	*	82.4-117.8			L-07
Nickel	129	0.99	mg/Kg wet	149		86.4		82.2-117.8			
Selenium	136	9.9	mg/Kg wet	154		88.0		77.1-122.3			
Silver	33.0	0.99	mg/Kg wet	40.9		80.6		74.3-125.4			
Thallium	157	5.0	mg/Kg wet	175		89.7		78.2-121.6			
Vanadium	82.8	2.0	mg/Kg wet	96.7		85.6		64.8-135.2			
Zinc	170	2.0	mg/Kg wet	191		88.9		79.7-120.8			
LCS Dup (B143754-BSD1)				Prepared: 03/11/16 Analyzed: 03/12/16							
Antimony	94.3	5.0	mg/Kg wet	105		89.8		0-210.3	6.79	30	
Arsenic	92.9	5.0	mg/Kg wet	98.5		94.3		77.8-122.1	3.84	30	
Barium	274	5.0	mg/Kg wet	308		88.8		82-117.4	2.11	30	
Beryllium	65.7	0.50	mg/Kg wet	66.0		99.5		82.3-117.7	6.31	30	
Cadmium	138	0.50	mg/Kg wet	146		94.8		81.9-118.2	4.89	30	
Chromium	168	1.0	mg/Kg wet	182		92.6		78.7-120.6	5.45	30	
Lead	109	1.5	mg/Kg wet	130		84.1		82.4-117.8	3.97	30	
Nickel	137	1.0	mg/Kg wet	149		92.2		82.2-117.8	6.48	30	
Selenium	144	10	mg/Kg wet	154		93.2		77.1-122.3	5.69	30	
Silver	34.0	1.0	mg/Kg wet	40.9		83.0		74.3-125.4	2.92	30	
Thallium	163	5.0	mg/Kg wet	175		92.9		78.2-121.6	3.50	30	
Vanadium	88.0	2.0	mg/Kg wet	96.7		91.0		64.8-135.2	6.10	30	
Zinc	180	2.0	mg/Kg wet	191		94.2		79.7-120.8	5.76	30	

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B143754 - SW-846 3050B										
MRL Check (B143754-MRL1)				Prepared: 03/11/16 Analyzed: 03/12/16						
Lead	0.687	0.73	mg/Kg wet	0.730		94.0	80-120			
Batch B143996 - SW-846 7471										
Blank (B143996-BLK1)				Prepared: 03/12/16 Analyzed: 03/14/16						
Mercury	ND	0.025	mg/Kg wet							
LCS (B143996-BS1)				Prepared: 03/12/16 Analyzed: 03/14/16						
Mercury	6.73	0.79	mg/Kg wet	7.10		94.7	73.7-126.3			
LCS Dup (B143996-BSD1)				Prepared: 03/12/16 Analyzed: 03/14/16						
Mercury	7.17	0.79	mg/Kg wet	7.10		101	73.7-126.3	6.46	30	

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B144005 - SM2580 A											
Duplicate (B144005-DUP1)		**Source: 16C0453-02**		Prepared & Analyzed: 03/10/16							
Oxidation/Reduction Potential	117		mV		118				0.851	12.9	
Batch B144006 - SW-846 9045C											
LCS (B144006-BS1)				Prepared & Analyzed: 03/10/16							
pH	5.99		pH Units	6.00		99.8		98.6-102			
Duplicate (B144006-DUP1)		**Source: 16C0453-02**		Prepared & Analyzed: 03/10/16							
pH	7.4		pH Units		7.4				0.678	5	
Batch B144033 - SW-846 7196A											
Blank (B144033-BLK1)				Prepared: 03/11/16 Analyzed: 03/14/16							
Hexavalent Chromium	ND	0.16	mg/Kg wet								
LCS (B144033-BS1)				Prepared: 03/11/16 Analyzed: 03/14/16							
Hexavalent Chromium	96	4.0	mg/Kg wet	109		88.7		80-120			
LCS Dup (B144033-BSD1)				Prepared: 03/11/16 Analyzed: 03/14/16							
Hexavalent Chromium	100	4.0	mg/Kg wet	110		92.4		80-120	4.79	20	
Matrix Spike (B144033-MS1) Soluble MS		**Source: 16C0453-02**		Prepared: 03/11/16 Analyzed: 03/14/16							
Hexavalent Chromium	47	4.8	mg/Kg dry	47.9	4.2	89.4		75-125			
Matrix Spike (B144033-MS2) PDMS		**Source: 16C0453-02**		Prepared: 03/11/16 Analyzed: 03/14/16							
Hexavalent Chromium	50	5.0	mg/Kg dry	49.6	4.2	93.0		75-125			
Matrix Spike (B144033-MS3) Insoluble MS		**Source: 16C0453-02**		Prepared: 03/11/16 Analyzed: 03/14/16							
Hexavalent Chromium	470	9.9	mg/Kg dry	789	4.2	**59.5**	*	75-125			MS-16
Matrix Spike Dup (B144033-MSD1) Soluble MS Dup		**Source: 16C0453-02**		Prepared: 03/11/16 Analyzed: 03/14/16							
Hexavalent Chromium	52	4.8	mg/Kg dry	47.8	4.2	99.3		75-125	9.53	35	

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BREAKDOWN REPORT

Lab Sample ID: **S010929-PEM1** **Analyzed:** **03/11/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	2.97
Endrin [1]	3.73

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	3.47
Endrin [2]	3.81

BREAKDOWN REPORT

Lab Sample ID: **S010929-PEM2** **Analyzed:** **03/12/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	3.68
Endrin [1]	4.25

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	4.12
Endrin [2]	4.28

BREAKDOWN REPORT

Lab Sample ID: **S010929-PEM3** **Analyzed:** **03/12/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	4.02
Endrin [1]	3.75

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BREAKDOWN REPORT

Lab Sample ID: **S010929-PEM3** **Analyzed:** **03/12/2016**

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	4.40
Endrin [2]	3.74

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B143995-BS1

Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.19	
	2	0.00	-0.03	0.03	0.19	2
Aroclor-1260	1	0.00	-0.03	0.03	0.19	
	2	0.00	-0.03	0.03	0.18	4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B143995-BSD1

Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.19	3
Aroclor-1260	1	0.00	-0.03	0.03	0.19	
	2	0.00	-0.03	0.03	0.18	4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS

Lab Sample ID: B144016-BS1 Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	14.52	0.00	0.00	7.92	
	2	14.17	0.00	0.00	7.78	2
2,4,5-TP (Silvex)	1	13.93	0.00	0.00	8.15	
	2	13.37	0.00	0.00	7.76	5
2,4-D	1	12.19	0.00	0.00	78.0	
	2	11.75	0.00	0.00	69.2	12
2,4-DB	1	15.69	0.00	0.00	81.3	
	2	15.25	0.00	0.00	74.8	8
Dalapon	1	3.96	0.00	0.00	124	
	2	3.43	0.00	0.00	127	2
Dicamba	1	10.24	0.00	0.00	8.41	
	2	9.76	0.00	0.00	8.11	4
Dichloroprop	1	11.72	0.00	0.00	94.8	
	2	11.13	0.00	0.00	94.8	0
Dinoseb	1	17.14	0.00	0.00	14.5	
	2	15.85	0.00	0.00	14.8	2
MCPA	1	11.00	0.00	0.00	7640	
	2	10.51	0.00	0.00	7280	5
MCPP	1	10.70	0.00	0.00	7500	
	2	10.07	0.00	0.00	7260	3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS Dup

Lab Sample ID: B144016-BSD1 Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	14.52	0.00	0.00	7.67	
	2	14.17	0.00	0.00	7.35	4
2,4,5-TP (Silvex)	1	13.93	0.00	0.00	7.94	
	2	13.37	0.00	0.00	7.60	4
2,4-D	1	12.19	0.00	0.00	76.0	
	2	11.75	0.00	0.00	68.0	11
2,4-DB	1	15.69	0.00	0.00	79.3	
	2	15.25	0.00	0.00	72.7	9
Dalapon	1	3.95	0.00	0.00	126	
	2	3.43	0.00	0.00	128	2
Dicamba	1	10.24	0.00	0.00	8.26	
	2	9.76	0.00	0.00	7.85	5
Dichloroprop	1	11.72	0.00	0.00	93.3	
	2	11.13	0.00	0.00	93.4	0
Dinoseb	1	17.14	0.00	0.00	12.1	
	2	15.85	0.00	0.00	12.2	1
MCPA	1	11.00	0.00	0.00	7600	
	2	10.51	0.00	0.00	7250	5
MCPP	1	10.70	0.00	0.00	7380	
	2	10.07	0.00	0.00	7070	4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B144017-BS1 Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	6.89	0.00	0.00	0.11	
	2	7.00	0.00	0.00	0.11	1
4,4'-DDE	1	6.47	0.00	0.00	0.11	
	2	6.58	0.00	0.00	0.12	11
4,4'-DDT	1	7.10	0.00	0.00	0.10	
	2	7.24	0.00	0.00	0.11	7
Aldrin	1	5.84	0.00	0.00	0.11	
	2	5.84	0.00	0.00	0.12	12
alpha-BHC	1	5.19	0.00	0.00	0.11	
	2	5.19	0.00	0.00	0.12	12
beta-BHC	1	5.42	0.00	0.00	0.10	
	2	5.45	0.00	0.00	0.11	6
delta-BHC	1	5.52	0.00	0.00	0.10	
	2	5.62	0.00	0.00	0.11	6
Dieldrin	1	6.66	0.00	0.00	0.11	
	2	6.68	0.00	0.00	0.11	4
Endosulfan I	1	6.49	0.00	0.00	0.10	
	2	6.48	0.00	0.00	0.11	5
Endosulfan II	1	6.99	0.00	0.00	0.11	
	2	7.06	0.00	0.00	0.11	4
Endosulfan Sulfate	1	7.63	0.00	0.00	0.11	
	2	7.53	0.00	0.00	0.11	4
Endrin	1	6.83	0.00	0.00	0.11	
	2	6.90	0.00	0.00	0.11	0
Endrin Ketone	1	7.84	0.00	0.00	0.11	
	2	7.94	0.00	0.00	0.11	1
gamma-BHC (Lindane)	1	5.37	0.00	0.00	0.11	
	2	5.39	0.00	0.00	0.12	11
Heptachlor	1	5.65	0.00	0.00	0.10	
	2	5.65	0.00	0.00	0.11	6
Heptachlor Epoxide	1	6.23	0.00	0.00	0.10	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B144017-BS1

Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1): ECD6

Instrument ID (2): ECD6

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.22	0.00	0.00	0.11	6
Hexachlorobenzene	1	5.09	0.00	0.00	0.093	
	2	5.11	0.00	0.00	0.099	6
Methoxychlor	1	7.47	0.00	0.00	0.10	
	2	7.80	0.00	0.00	0.10	1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B144017-BSD1 Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	6.89	0.00	0.00	0.11	
	2	7.00	0.00	0.00	0.12	7
4,4'-DDE	1	6.47	0.00	0.00	0.11	
	2	6.58	0.00	0.00	0.12	7
4,4'-DDT	1	7.10	0.00	0.00	0.11	
	2	7.24	0.00	0.00	0.11	3
Aldrin	1	5.83	0.00	0.00	0.11	
	2	5.84	0.00	0.00	0.11	5
alpha-BHC	1	5.19	0.00	0.00	0.11	
	2	5.20	0.00	0.00	0.11	4
beta-BHC	1	5.42	0.00	0.00	0.10	
	2	5.45	0.00	0.00	0.11	7
delta-BHC	1	5.52	0.00	0.00	0.11	
	2	5.62	0.00	0.00	0.11	4
Dieldrin	1	6.66	0.00	0.00	0.11	
	2	6.68	0.00	0.00	0.11	3
Endosulfan I	1	6.50	0.00	0.00	0.11	
	2	6.48	0.00	0.00	0.11	4
Endosulfan II	1	6.99	0.00	0.00	0.11	
	2	7.06	0.00	0.00	0.11	2
Endosulfan Sulfate	1	7.63	0.00	0.00	0.11	
	2	7.53	0.00	0.00	0.11	1
Endrin	1	6.83	0.00	0.00	0.11	
	2	6.90	0.00	0.00	0.12	8
Endrin Ketone	1	7.84	0.00	0.00	0.11	
	2	7.94	0.00	0.00	0.11	4
gamma-BHC (Lindane)	1	5.37	0.00	0.00	0.11	
	2	5.39	0.00	0.00	0.12	11
Heptachlor	1	5.65	0.00	0.00	0.10	
	2	5.65	0.00	0.00	0.11	7
Heptachlor Epoxide	1	6.23	0.00	0.00	0.10	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B144017-BSD1 Date(s) Analyzed: 03/11/2016 03/11/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.22	0.00	0.00	0.11	5
Hexachlorobenzene	1	5.09	0.00	0.00	0.092	
	2	5.11	0.00	0.00	0.095	3
Methoxychlor	1	7.47	0.00	0.00	0.10	
	2	7.80	0.00	0.00	0.11	6

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
DL-03	Elevated reporting limit due to matrix.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
MS-16	For solid method SW846-7196A, the matrix spike is outside of control limits. pH and ORP results were indicative of reducing conditions. Reanalysis is not required. Analysis is in control based on LCS recoveries.
O-32	A dilution was performed as part of the standard analytical procedure.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
S-07	One associated surrogate standard recovery is outside of control limits but the other(s) is/are within limits. All recoveries are > 10%.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-VPH-04-1.1 in Soil	
Unadjusted C5-C8 Aliphatics	CT,NC,WA,ME,NH-P
C5-C8 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C9-C12 Aliphatics	CT,NC,WA,ME,NH-P
C9-C12 Aliphatics	CT,NC,WA,ME,NH-P
C9-C10 Aromatics	CT,NC,WA,ME,NH-P
Benzene	CT,NC,WA,ME,NH-P
Ethylbenzene	CT,NC,WA,ME,NH-P
Methyl tert-Butyl Ether (MTBE)	CT,NC,WA,ME,NH-P
Naphthalene	CT,NC,WA,ME,NH-P
Toluene	CT,NC,WA,ME,NH-P
m+p Xylene	CT,NC,WA,ME,NH-P
o-Xylene	CT,NC,WA,ME,NH-P
SW-846 6010C/D in Soil	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
SW-846 7196A in Soil	
Hexavalent Chromium	NY,CT,NH,NC,ME,VA
SW-846 7471B in Soil	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8081B in Soil	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Soil	
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8081B in Water	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Water	
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA
SW-846 8151A in Soil	
2,4-D	NY,ME,NC,NH,VA,CT
2,4-D [2C]	NY,ME,NC,NH,VA,CT
2,4-DB	NY,ME,NC,NH,VA,CT
2,4-DB [2C]	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex)	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex) [2C]	NY,ME,NC,NH,VA,CT
2,4,5-T	NY,ME,NC,NH,VA,CT
2,4,5-T [2C]	NY,ME,NC,NH,VA,CT
Dalapon	NY,ME,NC,NH,VA,CT

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8151A in Soil	
Dalapon [2C]	NY,ME,NC,NH,VA,CT
Dicamba	NY,ME,NC,NH,VA,CT
Dicamba [2C]	NY,ME,NC,NH,VA,CT
Dichloroprop	NY,ME,NC,NH,VA,CT
Dichloroprop [2C]	NY,ME,NC,NH,VA,CT
Dinoseb	NY,ME,NC,NH,VA,CT
Dinoseb [2C]	NY,ME,NC,NH,VA,CT
MCPA	NY,ME,NC,NH,VA,CT
MCPA [2C]	NY,ME,NC,NH,VA,CT
MCPP	NY,ME,NC,NH,VA,CT
MCPP [2C]	NY,ME,NC,NH,VA,CT
SW-846 8260C in Soil	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME

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CERTIFICATIONS

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Analyte	Certifications
SW-846 8260C in Soil	
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME
SW-846 8270D in Soil	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Acetophenone	NY,NH
Aniline	NY,NH
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH

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CERTIFICATIONS

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Analyte	Certifications
SW-846 8270D in Soil	
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	NY,NH
1,3-Dichlorobenzene	NY,NH
1,4-Dichlorobenzene	NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
1,2-Diphenylhydrazine (as Azobenzene)	NY,NH
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

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www.contestlabs.com

CHAIN OF CUSTODY RECORD

16CC453
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: afoley@golder
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER _____
○ "Enhanced Data Package"

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	PCBs	TPH	MA 14 metals	Pest/Herb	SVOC	VOC	pH/ORP	Hexavalent Chromium	VPH
01	FO-1 BTM	3/10/16	9:25		X	S	U	X	X	X	X	X	X	X			X
02	SP-1	3/10/16	10:30	X		S	U								X	X	X

ANALYSIS REQUESTED

# of Containers											
** Preservation											
***Container Code											

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Comments: 20X Rule

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 3/10/16	12:00
Received by: (signature) [signature] 3/10/16	12:00
Relinquished by: (signature) [signature] 3/10/16	2:25
Received by: (signature) [signature] 4.9C 3/10/16	1425

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☑ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Goldman **RECEIVED BY**: RLF **DATE**: 3/10/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 4.9

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** X **No** ____ RUSH

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	2
250 mL Amber (8oz amber)			4 oz amber/clear jar	2
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below	4		Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

40 mL vials:	# HCl		# Methanol	2
Doc# 277	# Bisulfate	2	# DI Water	
Rev. 4 August 2013	# Thiosulfate		Unpreserved	

Time and Date Frozen:

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	T	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	N/A	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	N/A	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** RLF **Date/Time: 3/10/16 14:25**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C0453
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C0453-01 thru 16C0453-02

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A (X)	8081 Pesticides CAM V B (X)	7196 Hex Cr CAM VI B (X)	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B (X)	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C (X)	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Tod Kopyscinski Position: Laboratory Director

Printed Name: Tod E. Kopyscinski Date: 03/14/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 17, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C0641

Enclosed are results of analyses for samples received by the laboratory on March 15, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/17/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C0641

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-5 (0-1')	16C0641-01	Soil		SM 2540G	
				SW-846 8082A	
B-5 (1-3')	16C0641-02	Soil		SM 2540G	
				SW-846 8082A	
B-5 (3-6')	16C0641-03	Soil		SM 2540G	
				SW-846 8082A	
B-5 (6-11')	16C0641-04	Soil		SM 2540G	
				SW-846 8082A	
B-7 (0-1')	16C0641-05	Soil		SM 2540G	
				SW-846 8082A	
B-7 (1-3')	16C0641-06	Soil		SM 2540G	
				SW-846 8082A	
B-7 (3-6')	16C0641-07	Soil		SM 2540G	
				SW-846 8082A	
B-7 (6-11')	16C0641-08	Soil		SM 2540G	
				SW-846 8082A	
B-8 (0-1')	16C0641-09	Soil		SM 2540G	
				SW-846 8082A	
B-8 (1-3')	16C0641-10	Soil		SM 2540G	
				SW-846 8082A	
B-8 (3-6')	16C0641-11	Soil		SM 2540G	
				SW-846 8082A	
B-8 (6-11')	16C0641-12	Soil		SM 2540G	
				SW-846 8082A	
B-9 (0-1')	16C0641-13	Soil		SM 2540G	
				SW-846 8082A	
B-9 (1-3')	16C0641-14	Soil		SM 2540G	
				SW-846 8082A	
B-9 (3-6')	16C0641-15	Soil		SM 2540G	
				SW-846 8082A	
B-9 (6-9')	16C0641-16	Soil		SM 2540G	
				SW-846 8082A	
B-10 (0-1')	16C0641-17	Soil		SM 2540G	
				SW-846 8082A	
B-10 (1-3')	16C0641-18	Soil		SM 2540G	
				SW-846 8082A	
B-10 (3-6')	16C0641-19	Soil		SM 2540G	
				SW-846 8082A	
B-10 (6-11')	16C0641-20	Soil		SM 2540G	
				SW-846 8082A	

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Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/17/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C0641

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-11 (0-1')	16C0641-21	Soil		SM 2540G	
				SW-846 8082A	
B-11 (1-3')	16C0641-22	Soil		SM 2540G	
				SW-846 8082A	
B-11 (3-6')	16C0641-23	Soil		SM 2540G	
				SW-846 8082A	
B-11 (6-11')	16C0641-24	Soil		SM 2540G	
				SW-846 8082A	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016
B144319-MS1, B144319-MSD1

Aroclor-1016 [2C]
B144319-MS1, B144319-MSD1

Aroclor-1260
B144319-MS1, B144319-MSD1

Aroclor-1260 [2C]
B144319-MS1, B144319-MSD1

O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

16C0641-08[B-7 (6-11')], 16C0641-10[B-8 (1-3')], 16C0641-11[B-8 (3-6')], 16C0641-12[B-8 (6-11')], 16C0641-15[B-9 (3-6')], 16C0641-16[B-9 (6-9')]

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl
16C0641-01[B-5 (0-1')], 16C0641-05[B-7 (0-1')], 16C0641-06[B-7 (1-3')], 16C0641-09[B-8 (0-1')], 16C0641-13[B-9 (0-1')], 16C0641-17[B-10 (0-1')], 16C0641-21[B- 11 (0-1')], 16C0641-24[B-11 (6-11')]

Decachlorobiphenyl [2C]
16C0641-01[B-5 (0-1')], 16C0641-05[B-7 (0-1')], 16C0641-06[B-7 (1-3')], 16C0641-09[B-8 (0-1')], 16C0641-13[B-9 (0-1')], 16C0641-17[B-10 (0-1')], 16C0641-21[B- 11 (0-1')], 16C0641-24[B-11 (6-11')]

Tetrachloro-m-xylene
16C0641-01[B-5 (0-1')], 16C0641-05[B-7 (0-1')], 16C0641-06[B-7 (1-3')], 16C0641-09[B-8 (0-1')], 16C0641-13[B-9 (0-1')], 16C0641-17[B-10 (0-1')], 16C0641-21[B- 11 (0-1')], 16C0641-24[B-11 (6-11')]

Tetrachloro-m-xylene [2C]
16C0641-01[B-5 (0-1')], 16C0641-05[B-7 (0-1')], 16C0641-06[B-7 (1-3')], 16C0641-09[B-8 (0-1')], 16C0641-13[B-9 (0-1')], 16C0641-17[B-10 (0-1')], 16C0641-21[B- 11 (0-1')], 16C0641-24[B-11 (6-11')]

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The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Tod E. Kopyscinski
Laboratory Director

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-5 (0-1')
Sampled: 3/14/2016 10:05
Sample ID: 16C0641-01
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:19	KAL
Aroclor-1221 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:19	KAL
Aroclor-1232 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:19	KAL
Aroclor-1242 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:19	KAL
Aroclor-1248 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:19	KAL
Aroclor-1254 [2]	7.0	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:19	KAL
Aroclor-1260 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:19	KAL
Aroclor-1262 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:19	KAL
Aroclor-1268 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:19	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/17/16 11:19
Decachlorobiphenyl [2]	*	30-150	S-01	3/17/16 11:19
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/17/16 11:19
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/17/16 11:19

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-5 (0-1')
Sampled: 3/14/2016 10:05
Sample ID: 16C0641-01
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.6		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

con-test® ANALYTICAL LABORATORY
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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-5 (1-3')
Sampled: 3/14/2016 10:15
Sample ID: 16C0641-02
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.56	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:32	KAL
Aroclor-1221 [1]	ND	0.56	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:32	KAL
Aroclor-1232 [1]	ND	0.56	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:32	KAL
Aroclor-1242 [1]	ND	0.56	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:32	KAL
Aroclor-1248 [1]	ND	0.56	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:32	KAL
Aroclor-1254 [2]	3.7	0.56	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:32	KAL
Aroclor-1260 [1]	ND	0.56	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:32	KAL
Aroclor-1262 [1]	ND	0.56	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:32	KAL
Aroclor-1268 [1]	ND	0.56	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:32	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.1	30-150		3/17/16 11:32
Decachlorobiphenyl [2]	103	30-150		3/17/16 11:32
Tetrachloro-m-xylene [1]	95.9	30-150		3/17/16 11:32
Tetrachloro-m-xylene [2]	91.0	30-150		3/17/16 11:32

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-5 (1-3')
Sampled: 3/14/2016 10:15

Sample ID: 16C0641-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.8		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

con-test® ANALYTICAL LABORATORY

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Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-5 (3-6')
Sampled: 3/14/2016 10:23

Sample ID: 16C0641-03

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:45	KAL
Aroclor-1221 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:45	KAL
Aroclor-1232 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:45	KAL
Aroclor-1242 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:45	KAL
Aroclor-1248 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:45	KAL
Aroclor-1254 [2]	3.8	0.57	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:45	KAL
Aroclor-1260 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:45	KAL
Aroclor-1262 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:45	KAL
Aroclor-1268 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 11:45	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.3	30-150		3/17/16 11:45
Decachlorobiphenyl [2]	112	30-150		3/17/16 11:45
Tetrachloro-m-xylene [1]	104	30-150		3/17/16 11:45
Tetrachloro-m-xylene [2]	97.6	30-150		3/17/16 11:45

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-5 (3-6')
Sampled: 3/14/2016 10:23
Sample ID: 16C0641-03
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.1		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-5 (6-11') | Sampled: 3/14/2016 10:30

Sample ID: 16C0641-04

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 2:43	KAL
Aroclor-1221 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 2:43	KAL
Aroclor-1232 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 2:43	KAL
Aroclor-1242 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 2:43	KAL
Aroclor-1248 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 2:43	KAL
Aroclor-1254 [2]	0.29	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 2:43	KAL
Aroclor-1260 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 2:43	KAL
Aroclor-1262 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 2:43	KAL
Aroclor-1268 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 2:43	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	64.8	30-150		3/17/16 2:43
Decachlorobiphenyl [2]	77.9	30-150		3/17/16 2:43
Tetrachloro-m-xylene [1]	74.4	30-150		3/17/16 2:43
Tetrachloro-m-xylene [2]	81.1	30-150		3/17/16 2:43

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-5 (6-11')
Sampled: 3/14/2016 10:30
Sample ID: 16C0641-04
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.4		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-7 (0-1')
Sampled: 3/14/2016 11:15
Sample ID: 16C0641-05
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:58	KAL
Aroclor-1221 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:58	KAL
Aroclor-1232 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:58	KAL
Aroclor-1242 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:58	KAL
Aroclor-1248 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:58	KAL
Aroclor-1254 [2]	8.5	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:58	KAL
Aroclor-1260 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:58	KAL
Aroclor-1262 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:58	KAL
Aroclor-1268 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 11:58	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/17/16 11:58
Decachlorobiphenyl [2]	*	30-150	S-01	3/17/16 11:58
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/17/16 11:58
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/17/16 11:58

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-7 (0-1')
Sampled: 3/14/2016 11:15
Sample ID: 16C0641-05
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.4		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-7 (1-3')
Sampled: 3/14/2016 11:17
Sample ID: 16C0641-06
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:11	KAL
Aroclor-1221 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:11	KAL
Aroclor-1232 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:11	KAL
Aroclor-1242 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:11	KAL
Aroclor-1248 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:11	KAL
Aroclor-1254 [2]	6.0	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:11	KAL
Aroclor-1260 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:11	KAL
Aroclor-1262 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:11	KAL
Aroclor-1268 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:11	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/17/16 12:11
Decachlorobiphenyl [2]	*	30-150	S-01	3/17/16 12:11
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/17/16 12:11
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/17/16 12:11

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-7 (1-3')
Sampled: 3/14/2016 11:17
Sample ID: 16C0641-06
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.7		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-7 (3-6')
Sampled: 3/14/2016 11:27

Sample ID: 16C0641-07

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.55	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 12:24	KAL
Aroclor-1221 [1]	ND	0.55	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 12:24	KAL
Aroclor-1232 [1]	ND	0.55	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 12:24	KAL
Aroclor-1242 [1]	ND	0.55	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 12:24	KAL
Aroclor-1248 [1]	ND	0.55	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 12:24	KAL
Aroclor-1254 [2]	2.2	0.55	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 12:24	KAL
Aroclor-1260 [1]	ND	0.55	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 12:24	KAL
Aroclor-1262 [1]	ND	0.55	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 12:24	KAL
Aroclor-1268 [1]	ND	0.55	mg/Kg dry	25		SW-846 8082A	3/15/16	3/17/16 12:24	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	97.3	30-150		3/17/16 12:24
Decachlorobiphenyl [2]	105	30-150		3/17/16 12:24
Tetrachloro-m-xylene [1]	102	30-150		3/17/16 12:24
Tetrachloro-m-xylene [2]	95.3	30-150		3/17/16 12:24

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-7 (3-6')
Sampled: 3/14/2016 11:27

Sample ID: 16C0641-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.3		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-7 (6-11')
Sampled: 3/14/2016 11:35
Sample ID: 16C0641-08
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 3:55	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 3:55	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 3:55	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 3:55	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 3:55	KAL
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 3:55	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 3:55	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 3:55	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 3:55	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	70.5	30-150		3/17/16 3:55
Decachlorobiphenyl [2]	77.5	30-150		3/17/16 3:55
Tetrachloro-m-xylene [1]	97.7	30-150		3/17/16 3:55
Tetrachloro-m-xylene [2]	96.2	30-150		3/17/16 3:55

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-7 (6-11')
Sampled: 3/14/2016 11:35

Sample ID: 16C0641-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.0		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-8 (0-1')
Sampled: 3/14/2016 12:15
Sample ID: 16C0641-09
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	6.0	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:37	KAL
Aroclor-1221 [1]	ND	6.0	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:37	KAL
Aroclor-1232 [1]	ND	6.0	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:37	KAL
Aroclor-1242 [1]	ND	6.0	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:37	KAL
Aroclor-1248 [1]	ND	6.0	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:37	KAL
Aroclor-1254 [2]	39	6.0	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:37	KAL
Aroclor-1260 [1]	ND	6.0	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:37	KAL
Aroclor-1262 [1]	ND	6.0	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:37	KAL
Aroclor-1268 [1]	ND	6.0	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:37	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/17/16 12:37
Decachlorobiphenyl [2]	*	30-150	S-01	3/17/16 12:37
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/17/16 12:37
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/17/16 12:37

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-8 (0-1')
Sampled: 3/14/2016 12:15

Sample ID: 16C0641-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	82.9		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-8 (1-3')
Sampled: 3/14/2016 12:23
Sample ID: 16C0641-10
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 4:30	KAL
Aroclor-1221 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 4:30	KAL
Aroclor-1232 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 4:30	KAL
Aroclor-1242 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 4:30	KAL
Aroclor-1248 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 4:30	KAL
Aroclor-1254 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 4:30	KAL
Aroclor-1260 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 4:30	KAL
Aroclor-1262 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 4:30	KAL
Aroclor-1268 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 4:30	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	76.5	30-150		3/17/16 4:30
Decachlorobiphenyl [2]	87.4	30-150		3/17/16 4:30
Tetrachloro-m-xylene [1]	100	30-150		3/17/16 4:30
Tetrachloro-m-xylene [2]	98.5	30-150		3/17/16 4:30

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-8 (1-3')
Sampled: 3/14/2016 12:23
Sample ID: 16C0641-10
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.9		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-8 (3-6')
Sampled: 3/14/2016 12:25

Sample ID: 16C0641-11

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:37	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:37	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:37	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:37	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:37	KAL
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:37	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:37	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:37	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:37	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.9	30-150		3/17/16 5:37
Decachlorobiphenyl [2]	90.8	30-150		3/17/16 5:37
Tetrachloro-m-xylene [1]	102	30-150		3/17/16 5:37
Tetrachloro-m-xylene [2]	100	30-150		3/17/16 5:37

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-8 (3-6')
Sampled: 3/14/2016 12:25
Sample ID: 16C0641-11
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.2		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-8 (6-11')
Sampled: 3/14/2016 12:37
Sample ID: 16C0641-12
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:55	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:55	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:55	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:55	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:55	KAL
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:55	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:55	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:55	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 5:55	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.7	30-150		3/17/16 5:55
Decachlorobiphenyl [2]	85.7	30-150		3/17/16 5:55
Tetrachloro-m-xylene [1]	97.1	30-150		3/17/16 5:55
Tetrachloro-m-xylene [2]	95.0	30-150		3/17/16 5:55

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-8 (6-11')
Sampled: 3/14/2016 12:37
Sample ID: 16C0641-12
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.2		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-9 (0-1')
Sampled: 3/14/2016 13:05
Sample ID: 16C0641-13
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	5.8	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:50	KAL
Aroclor-1221 [1]	ND	5.8	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:50	KAL
Aroclor-1232 [1]	ND	5.8	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:50	KAL
Aroclor-1242 [1]	ND	5.8	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:50	KAL
Aroclor-1248 [1]	ND	5.8	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:50	KAL
Aroclor-1254 [1]	42	5.8	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:50	KAL
Aroclor-1260 [1]	ND	5.8	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:50	KAL
Aroclor-1262 [1]	ND	5.8	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:50	KAL
Aroclor-1268 [1]	ND	5.8	mg/Kg dry	250		SW-846 8082A	3/15/16	3/17/16 12:50	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/17/16 12:50
Decachlorobiphenyl [2]	*	30-150	S-01	3/17/16 12:50
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/17/16 12:50
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/17/16 12:50

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-9 (0-1')
Sampled: 3/14/2016 13:05

Sample ID: 16C0641-13

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.1		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-9 (1-3') | Sampled: 3/14/2016 13:09

Sample ID: 16C0641-14

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:31	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:31	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:31	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:31	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:31	KAL
Aroclor-1254 [2]	1.1	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:31	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:31	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:31	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:31	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	75.9	30-150		3/17/16 6:31
Decachlorobiphenyl [2]	83.7	30-150		3/17/16 6:31
Tetrachloro-m-xylene [1]	93.5	30-150		3/17/16 6:31
Tetrachloro-m-xylene [2]	91.5	30-150		3/17/16 6:31

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Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-9 (1-3')
Sampled: 3/14/2016 13:09

Sample ID: 16C0641-14

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.5		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-9 (3-6')
Sampled: 3/14/2016 13:17
Sample ID: 16C0641-15
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:49	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:49	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:49	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:49	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:49	KAL
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:49	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:49	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:49	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 6:49	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	70.5	30-150		3/17/16 6:49
Decachlorobiphenyl [2]	88.0	30-150		3/17/16 6:49
Tetrachloro-m-xylene [1]	85.4	30-150		3/17/16 6:49
Tetrachloro-m-xylene [2]	84.5	30-150		3/17/16 6:49

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-9 (3-6')
Sampled: 3/14/2016 13:17
Sample ID: 16C0641-15
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.7		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-9 (6-9')
Sampled: 3/14/2016 13:23
Sample ID: 16C0641-16
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:07	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:07	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:07	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:07	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:07	KAL
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:07	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:07	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:07	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:07	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	77.9	30-150		3/17/16 7:07
Decachlorobiphenyl [2]	93.8	30-150		3/17/16 7:07
Tetrachloro-m-xylene [1]	87.6	30-150		3/17/16 7:07
Tetrachloro-m-xylene [2]	87.0	30-150		3/17/16 7:07

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-9 (6-9')
Sampled: 3/14/2016 13:23
Sample ID: 16C0641-16
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.8		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-10 (0-1')
Sampled: 3/14/2016 14:07
Sample ID: 16C0641-17
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/15/16	3/17/16 13:03	KAL
Aroclor-1221 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/15/16	3/17/16 13:03	KAL
Aroclor-1232 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/15/16	3/17/16 13:03	KAL
Aroclor-1242 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/15/16	3/17/16 13:03	KAL
Aroclor-1248 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/15/16	3/17/16 13:03	KAL
Aroclor-1254 [1]	21	2.5	mg/Kg dry	100		SW-846 8082A	3/15/16	3/17/16 13:03	KAL
Aroclor-1260 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/15/16	3/17/16 13:03	KAL
Aroclor-1262 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/15/16	3/17/16 13:03	KAL
Aroclor-1268 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/15/16	3/17/16 13:03	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/17/16 13:03
Decachlorobiphenyl [2]	*	30-150	S-01	3/17/16 13:03
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/17/16 13:03
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/17/16 13:03

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-10 (0-1')
Sampled: 3/14/2016 14:07
Sample ID: 16C0641-17
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	77.7		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-10 (1-3')
Sampled: 3/14/2016 14:17
Sample ID: 16C0641-18
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:43	KAL
Aroclor-1221 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:43	KAL
Aroclor-1232 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:43	KAL
Aroclor-1242 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:43	KAL
Aroclor-1248 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:43	KAL
Aroclor-1254 [2]	0.29	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:43	KAL
Aroclor-1260 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:43	KAL
Aroclor-1262 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:43	KAL
Aroclor-1268 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 7:43	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	80.3	30-150		3/17/16 7:43
Decachlorobiphenyl [2]	83.4	30-150		3/17/16 7:43
Tetrachloro-m-xylene [1]	95.7	30-150		3/17/16 7:43
Tetrachloro-m-xylene [2]	94.2	30-150		3/17/16 7:43

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Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-10 (1-3')
Sampled: 3/14/2016 14:17

Sample ID: 16C0641-18

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.2		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-10 (3-6')
Sampled: 3/14/2016 14:27
Sample ID: 16C0641-19
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:01	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:01	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:01	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:01	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:01	KAL
Aroclor-1254 [2]	0.79	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:01	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:01	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:01	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:01	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	82.9	30-150		3/17/16 8:01
Decachlorobiphenyl [2]	86.1	30-150		3/17/16 8:01
Tetrachloro-m-xylene [1]	97.1	30-150		3/17/16 8:01
Tetrachloro-m-xylene [2]	95.5	30-150		3/17/16 8:01

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Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-10 (3-6')
Sampled: 3/14/2016 14:27

Sample ID: 16C0641-19

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.7		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-10 (6-11')
Sampled: 3/14/2016 14:33
Sample ID: 16C0641-20
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:19	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:19	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:19	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:19	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:19	KAL
Aroclor-1254 [1]	0.22	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:19	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:19	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:19	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 8:19	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.9	30-150		3/17/16 8:19
Decachlorobiphenyl [2]	88.0	30-150		3/17/16 8:19
Tetrachloro-m-xylene [1]	96.1	30-150		3/17/16 8:19
Tetrachloro-m-xylene [2]	95.0	30-150		3/17/16 8:19

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-10 (6-11')
Sampled: 3/14/2016 14:33
Sample ID: 16C0641-20
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.3		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-11 (0-1')
Sampled: 3/14/2016 13:40
Sample ID: 16C0641-21
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	3/15/16	3/17/16 12:08	KAL
Aroclor-1221 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	3/15/16	3/17/16 12:08	KAL
Aroclor-1232 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	3/15/16	3/17/16 12:08	KAL
Aroclor-1242 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	3/15/16	3/17/16 12:08	KAL
Aroclor-1248 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	3/15/16	3/17/16 12:08	KAL
Aroclor-1254 [2]	100	13	mg/Kg dry	500		SW-846 8082A	3/15/16	3/17/16 12:08	KAL
Aroclor-1260 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	3/15/16	3/17/16 12:08	KAL
Aroclor-1262 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	3/15/16	3/17/16 12:08	KAL
Aroclor-1268 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	3/15/16	3/17/16 12:08	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/17/16 12:08
Decachlorobiphenyl [2]	*	30-150	S-01	3/17/16 12:08
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/17/16 12:08
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/17/16 12:08

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-11 (0-1')
Sampled: 3/14/2016 13:40

Sample ID: 16C0641-21

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	79.4		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-11 (1-3')
Sampled: 3/14/2016 13:45
Sample ID: 16C0641-22
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 1:56	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 1:56	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 1:56	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 1:56	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 1:56	KAL
Aroclor-1254 [2]	0.16	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 1:56	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 1:56	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 1:56	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/15/16	3/17/16 1:56	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	81.3	30-150		3/17/16 1:56
Decachlorobiphenyl [2]	97.9	30-150		3/17/16 1:56
Tetrachloro-m-xylene [1]	77.7	30-150		3/17/16 1:56
Tetrachloro-m-xylene [2]	71.8	30-150		3/17/16 1:56

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-11 (1-3')
Sampled: 3/14/2016 13:45
Sample ID: 16C0641-22
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.2		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-11 (3-6')
Sampled: 3/14/2016 14:00
Sample ID: 16C0641-23
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.23	mg/Kg dry	10		SW-846 8082A	3/15/16	3/17/16 12:21	KAL
Aroclor-1221 [1]	ND	0.23	mg/Kg dry	10		SW-846 8082A	3/15/16	3/17/16 12:21	KAL
Aroclor-1232 [1]	ND	0.23	mg/Kg dry	10		SW-846 8082A	3/15/16	3/17/16 12:21	KAL
Aroclor-1242 [1]	ND	0.23	mg/Kg dry	10		SW-846 8082A	3/15/16	3/17/16 12:21	KAL
Aroclor-1248 [1]	ND	0.23	mg/Kg dry	10		SW-846 8082A	3/15/16	3/17/16 12:21	KAL
Aroclor-1254 [2]	2.0	0.23	mg/Kg dry	10		SW-846 8082A	3/15/16	3/17/16 12:21	KAL
Aroclor-1260 [1]	ND	0.23	mg/Kg dry	10		SW-846 8082A	3/15/16	3/17/16 12:21	KAL
Aroclor-1262 [1]	ND	0.23	mg/Kg dry	10		SW-846 8082A	3/15/16	3/17/16 12:21	KAL
Aroclor-1268 [1]	ND	0.23	mg/Kg dry	10		SW-846 8082A	3/15/16	3/17/16 12:21	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	101	30-150		3/17/16 12:21
Decachlorobiphenyl [2]	106	30-150		3/17/16 12:21
Tetrachloro-m-xylene [1]	99.6	30-150		3/17/16 12:21
Tetrachloro-m-xylene [2]	94.0	30-150		3/17/16 12:21

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-11 (3-6')
Sampled: 3/14/2016 14:00

Sample ID: 16C0641-23

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.2		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0641
Date Received: 3/15/2016
Field Sample #: B-11 (6-11')
Sampled: 3/14/2016 14:07
Sample ID: 16C0641-24
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:34	KAL
Aroclor-1221 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:34	KAL
Aroclor-1232 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:34	KAL
Aroclor-1242 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:34	KAL
Aroclor-1248 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:34	KAL
Aroclor-1254 [2]	6.2	1.2	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:34	KAL
Aroclor-1260 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:34	KAL
Aroclor-1262 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:34	KAL
Aroclor-1268 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	3/15/16	3/17/16 12:34	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/17/16 12:34
Decachlorobiphenyl [2]	*	30-150	S-01	3/17/16 12:34
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/17/16 12:34
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/17/16 12:34

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Project Location: Lowell
Sample Description:
Work Order: 16C0641

Date Received: 3/15/2016

Field Sample #: B-11 (6-11')
Sampled: 3/14/2016 14:07

Sample ID: 16C0641-24

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.2		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C0641-01 [B-5 (0-1')]	B144313	03/15/16
16C0641-02 [B-5 (1-3')]	B144313	03/15/16
16C0641-03 [B-5 (3-6')]	B144313	03/15/16
16C0641-04 [B-5 (6-11')]	B144313	03/15/16
16C0641-05 [B-7 (0-1')]	B144313	03/15/16
16C0641-06 [B-7 (1-3')]	B144313	03/15/16
16C0641-07 [B-7 (3-6')]	B144313	03/15/16
16C0641-08 [B-7 (6-11')]	B144313	03/15/16
16C0641-09 [B-8 (0-1')]	B144313	03/15/16
16C0641-10 [B-8 (1-3')]	B144313	03/15/16
16C0641-11 [B-8 (3-6')]	B144313	03/15/16
16C0641-12 [B-8 (6-11')]	B144313	03/15/16
16C0641-13 [B-9 (0-1')]	B144313	03/15/16
16C0641-14 [B-9 (1-3')]	B144313	03/15/16
16C0641-15 [B-9 (3-6')]	B144313	03/15/16
16C0641-16 [B-9 (6-9')]	B144313	03/15/16
16C0641-17 [B-10 (0-1')]	B144313	03/15/16
16C0641-18 [B-10 (1-3')]	B144313	03/15/16
16C0641-19 [B-10 (3-6')]	B144313	03/15/16
16C0641-20 [B-10 (6-11')]	B144313	03/15/16
16C0641-21 [B-11 (0-1')]	B144313	03/15/16
16C0641-22 [B-11 (1-3')]	B144313	03/15/16
16C0641-23 [B-11 (3-6')]	B144313	03/15/16
16C0641-24 [B-11 (6-11')]	B144313	03/15/16

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0641-01 [B-5 (0-1')]	B144319	10.2	10.0	03/15/16
16C0641-02 [B-5 (1-3')]	B144319	10.0	10.0	03/15/16
16C0641-03 [B-5 (3-6')]	B144319	10.1	10.0	03/15/16
16C0641-04 [B-5 (6-11')]	B144319	10.1	10.0	03/15/16
16C0641-05 [B-7 (0-1')]	B144319	10.1	10.0	03/15/16
16C0641-06 [B-7 (1-3')]	B144319	10.2	10.0	03/15/16
16C0641-07 [B-7 (3-6')]	B144319	10.1	10.0	03/15/16
16C0641-08 [B-7 (6-11')]	B144319	10.2	10.0	03/15/16
16C0641-09 [B-8 (0-1')]	B144319	10.1	10.0	03/15/16
16C0641-10 [B-8 (1-3')]	B144319	10.2	10.0	03/15/16
16C0641-11 [B-8 (3-6')]	B144319	10.0	10.0	03/15/16
16C0641-12 [B-8 (6-11')]	B144319	10.1	10.0	03/15/16
16C0641-13 [B-9 (0-1')]	B144319	10.3	10.0	03/15/16
16C0641-14 [B-9 (1-3')]	B144319	10.1	10.0	03/15/16
16C0641-15 [B-9 (3-6')]	B144319	10.0	10.0	03/15/16
16C0641-16 [B-9 (6-9')]	B144319	10.0	10.0	03/15/16
16C0641-17 [B-10 (0-1')]	B144319	10.2	10.0	03/15/16
16C0641-18 [B-10 (1-3')]	B144319	10.1	10.0	03/15/16
16C0641-19 [B-10 (3-6')]	B144319	10.2	10.0	03/15/16
16C0641-20 [B-10 (6-11')]	B144319	10.3	10.0	03/15/16

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0641-21 [B-11 (0-1')]	B144320	10.0	10.0	03/15/16

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Sample Extraction Data

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0641-22 [B-11 (1-3')]	B144320	10.2	10.0	03/15/16
16C0641-23 [B-11 (3-6')]	B144320	10.2	10.0	03/15/16
16C0641-24 [B-11 (6-11')]	B144320	10.0	10.0	03/15/16

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144319 - SW-846 3540C										
Blank (B144319-BLK1)				Prepared: 03/15/16 Analyzed: 03/17/16						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.192*		mg/Kg wet	0.200		96.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.205*		mg/Kg wet	0.200		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.193*		mg/Kg wet	0.200		96.5	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.207*		mg/Kg wet	0.200		103	30-150			
LCS (B144319-BS1)				Prepared: 03/15/16 Analyzed: 03/17/16						
Aroclor-1016	0.19	0.020	mg/Kg wet	0.200		97.3	40-140			
Aroclor-1016 [2C]	0.18	0.020	mg/Kg wet	0.200		92.3	40-140			
Aroclor-1260	0.19	0.020	mg/Kg wet	0.200		92.6	40-140			
Aroclor-1260 [2C]	0.18	0.020	mg/Kg wet	0.200		89.8	40-140			
Surrogate: Decachlorobiphenyl	*0.181*		mg/Kg wet	0.200		90.6	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.195*		mg/Kg wet	0.200		97.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.194*		mg/Kg wet	0.200		97.2	30-150			
LCS Dup (B144319-BSD1)				Prepared: 03/15/16 Analyzed: 03/17/16						
Aroclor-1016	0.22	0.020	mg/Kg wet	0.200		108	40-140	10.7	30	
Aroclor-1016 [2C]	0.20	0.020	mg/Kg wet	0.200		99.6	40-140	7.65	30	
Aroclor-1260	0.20	0.020	mg/Kg wet	0.200		99.7	40-140	7.30	30	
Aroclor-1260 [2C]	0.19	0.020	mg/Kg wet	0.200		96.9	40-140	7.58	30	
Surrogate: Decachlorobiphenyl	*0.191*		mg/Kg wet	0.200		95.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.208*		mg/Kg wet	0.200		104	30-150			
Surrogate: Tetrachloro-m-xylene	*0.198*		mg/Kg wet	0.200		99.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.211*		mg/Kg wet	0.200		106	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B144319 - SW-846 3540C											
Matrix Spike (B144319-MS1)		**Source: 16C0641-01**		Prepared: 03/15/16 Analyzed: 03/17/16							
Aroclor-1016	0.67	0.11	mg/Kg dry	0.224	ND	**300**	*	40-140			MS-21
Aroclor-1016 [2C]	1.4	0.11	mg/Kg dry	0.224	ND	**640**	*	40-140			MS-21
Aroclor-1260	2.3	0.11	mg/Kg dry	0.224	ND	**1010**	*	40-140			MS-21
Aroclor-1260 [2C]	2.7	0.11	mg/Kg dry	0.224	ND	**1190**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg dry	0.224		78.0		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.235*		mg/Kg dry	0.224		105		30-150			
Surrogate: Tetrachloro-m-xylene	*0.207*		mg/Kg dry	0.224		92.4		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.207*		mg/Kg dry	0.224		92.2		30-150			
Matrix Spike Dup (B144319-MSD1)		**Source: 16C0641-01**		Prepared: 03/15/16 Analyzed: 03/17/16							
Aroclor-1016	0.79	0.11	mg/Kg dry	0.226	ND	**350**	*	40-140	15.8	50	MS-21
Aroclor-1016 [2C]	1.6	0.11	mg/Kg dry	0.226	ND	**724**	*	40-140	12.9	50	MS-21
Aroclor-1260	2.3	0.11	mg/Kg dry	0.226	ND	**1020**	*	40-140	1.43	50	MS-21
Aroclor-1260 [2C]	2.7	0.11	mg/Kg dry	0.226	ND	**1190**	*	40-140	0.700	50	MS-21
Surrogate: Decachlorobiphenyl	*0.157*		mg/Kg dry	0.226		69.6		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.214*		mg/Kg dry	0.226		95.1		30-150			
Surrogate: Tetrachloro-m-xylene	*0.188*		mg/Kg dry	0.226		83.4		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.189*		mg/Kg dry	0.226		83.7		30-150			
Batch B144320 - SW-846 3540C											
Blank (B144320-BLK1)				Prepared: 03/15/16 Analyzed: 03/17/16							
Aroclor-1016	ND	0.020	mg/Kg wet								
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1221	ND	0.020	mg/Kg wet								
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1232	ND	0.020	mg/Kg wet								
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1242	ND	0.020	mg/Kg wet								
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1248	ND	0.020	mg/Kg wet								
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1254	ND	0.020	mg/Kg wet								
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1260	ND	0.020	mg/Kg wet								
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1262	ND	0.020	mg/Kg wet								
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1268	ND	0.020	mg/Kg wet								
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet								
Surrogate: Decachlorobiphenyl	*0.199*		mg/Kg wet	0.200		99.7		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.202*		mg/Kg wet	0.200		101		30-150			
Surrogate: Tetrachloro-m-xylene	*0.186*		mg/Kg wet	0.200		92.8		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.179*		mg/Kg wet	0.200		89.3		30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144320 - SW-846 3540C										
LCS (B144320-BS1)				Prepared: 03/15/16 Analyzed: 03/17/16						
Aroclor-1016	0.20	0.020	mg/Kg wet	0.200		98.9	40-140			
Aroclor-1016 [2C]	0.19	0.020	mg/Kg wet	0.200		95.5	40-140			
Aroclor-1260	0.20	0.020	mg/Kg wet	0.200		98.8	40-140			
Aroclor-1260 [2C]	0.20	0.020	mg/Kg wet	0.200		99.2	40-140			
Surrogate: Decachlorobiphenyl	*0.215*		mg/Kg wet	0.200		108	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.219*		mg/Kg wet	0.200		109	30-150			
Surrogate: Tetrachloro-m-xylene	*0.200*		mg/Kg wet	0.200		99.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.193*		mg/Kg wet	0.200		96.3	30-150			
LCS Dup (B144320-BSD1)				Prepared: 03/15/16 Analyzed: 03/17/16						
Aroclor-1016	0.20	0.020	mg/Kg wet	0.200		99.0	40-140	0.0561	30	
Aroclor-1016 [2C]	0.19	0.020	mg/Kg wet	0.200		94.9	40-140	0.659	30	
Aroclor-1260	0.20	0.020	mg/Kg wet	0.200		99.5	40-140	0.706	30	
Aroclor-1260 [2C]	0.20	0.020	mg/Kg wet	0.200		98.0	40-140	1.19	30	
Surrogate: Decachlorobiphenyl	*0.211*		mg/Kg wet	0.200		105	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.213*		mg/Kg wet	0.200		107	30-150			
Surrogate: Tetrachloro-m-xylene	*0.201*		mg/Kg wet	0.200		100	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.192*		mg/Kg wet	0.200		96.2	30-150			
Matrix Spike (B144320-MS1)		**Source: 16C0641-22**		Prepared: 03/15/16 Analyzed: 03/17/16						
Aroclor-1016	0.25	0.11	mg/Kg dry	0.225	ND	110	40-140			
Aroclor-1016 [2C]	0.22	0.11	mg/Kg dry	0.225	ND	99.4	40-140			
Aroclor-1260	0.25	0.11	mg/Kg dry	0.225	ND	113	40-140			
Aroclor-1260 [2C]	0.24	0.11	mg/Kg dry	0.225	ND	108	40-140			
Surrogate: Decachlorobiphenyl	*0.221*		mg/Kg dry	0.225		97.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.226*		mg/Kg dry	0.225		100	30-150			
Surrogate: Tetrachloro-m-xylene	*0.220*		mg/Kg dry	0.225		97.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.207*		mg/Kg dry	0.225		91.6	30-150			
Matrix Spike Dup (B144320-MSD1)		**Source: 16C0641-22**		Prepared: 03/15/16 Analyzed: 03/17/16						
Aroclor-1016	0.26	0.11	mg/Kg dry	0.226	ND	115	40-140	4.09	50	
Aroclor-1016 [2C]	0.22	0.11	mg/Kg dry	0.226	ND	97.3	40-140	1.81	50	
Aroclor-1260	0.25	0.11	mg/Kg dry	0.226	ND	108	40-140	3.50	50	
Aroclor-1260 [2C]	0.24	0.11	mg/Kg dry	0.226	ND	105	40-140	2.63	50	
Surrogate: Decachlorobiphenyl	*0.212*		mg/Kg dry	0.226		93.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.215*		mg/Kg dry	0.226		95.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.221*		mg/Kg dry	0.226		97.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.207*		mg/Kg dry	0.226		91.5	30-150			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144313 - % Solids										
Duplicate (B144313-DUP1)		**Source: 16C0641-01**		Prepared: 03/15/16 Analyzed: 03/16/16						
% Solids	87.2		% Wt		88.6			1.59	20	
Duplicate (B144313-DUP2)		**Source: 16C0641-02**		Prepared: 03/15/16 Analyzed: 03/16/16						
% Solids	88.4		% Wt		88.8			0.451	20	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-5 (0-1')

Lab Sample ID: 16C0641-01 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	6.9	
	2	0.00	-0.03	0.03	7.0	1.3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-5 (1-3')

Lab Sample ID: 16C0641-02 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	3.6	
	2	0.00	-0.03	0.03	3.7	1.6

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-5 (3-6')

Lab Sample ID: 16C0641-03 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	3.8	
	2	0.00	-0.03	0.03	3.8	0.3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-5 (6-11')

Lab Sample ID: 16C0641-04 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.25	
	2	0.00	-0.03	0.03	0.29	16.8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-7 (0-1')

Lab Sample ID: 16C0641-05 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	8.3	
	2	0.00	-0.03	0.03	8.5	2.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-7 (1-3')

Lab Sample ID: 16C0641-06 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	5.9	
	2	0.00	-0.03	0.03	6.0	1.3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-7 (3-6')

Lab Sample ID: 16C0641-07 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	2.2	
	2	0.00	-0.03	0.03	2.2	0.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-8 (0-1')

Lab Sample ID: 16C0641-09 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	38	
	2	0.00	-0.03	0.03	39	1.8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-9 (0-1')

Lab Sample ID: 16C0641-13 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	42	
	2	0.00	-0.03	0.03	42	0.7

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-9 (1-3')

Lab Sample ID: 16C0641-14 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	1.0	
	2	0.00	-0.03	0.03	1.1	8.5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-10 (0-1')

Lab Sample ID: 16C0641-17 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	21	
	2	0.00	-0.03	0.03	20	3.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-10 (1-3')

Lab Sample ID: 16C0641-18 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.28	
	2	0.00	-0.03	0.03	0.29	3.5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-10 (3-6')

Lab Sample ID: 16C0641-19 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.78	
	2	0.00	-0.03	0.03	0.79	1.8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-10 (6-11')

Lab Sample ID: 16C0641-20 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.22	
	2	0.00	-0.03	0.03	0.22	1.8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-11 (0-1')

Lab Sample ID: 16C0641-21 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	97	
	2	0.00	-0.03	0.03	100	2.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-11 (1-3')

Lab Sample ID: 16C0641-22 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.14	
	2	0.00	-0.03	0.03	0.16	11.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-11 (3-6')

Lab Sample ID: 16C0641-23 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	1.9	
	2	0.00	-0.03	0.03	2.0	5.1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-11 (6-11')

Lab Sample ID: 16C0641-24 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	6.0	
	2	0.00	-0.03	0.03	6.2	3.3

con-test® ANALYTICAL LABORATORY

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B144319-BS1

Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.19	
	2	0.00	-0.03	0.03	0.18	8
Aroclor-1260	1	0.00	-0.03	0.03	0.19	
	2	0.00	-0.03	0.03	0.18	3

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B144319-BSD1 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.22	
	2	0.00	-0.03	0.03	0.20	8
Aroclor-1260	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.19	5

con-test® ANALYTICAL LABORATORY

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B144319-MS1 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.67	
	2	0.00	-0.03	0.03	1.4	70
Aroclor-1260	1	0.00	-0.03	0.03	2.3	
	2	0.00	-0.03	0.03	2.7	18

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B144319-MSD1 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.79	
	2	0.00	-0.03	0.03	1.6	68
Aroclor-1260	1	0.00	-0.03	0.03	2.3	
	2	0.00	-0.03	0.03	2.7	16

con-test® ANALYTICAL LABORATORY

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B144320-BS1

Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.19	4
Aroclor-1260	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.20	1

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B144320-BSD1 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.19	4
Aroclor-1260	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.20	1

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B144320-MS1 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.25	
	2	0.00	-0.03	0.03	0.22	12
Aroclor-1260	1	0.00	-0.03	0.03	0.25	
	2	0.00	-0.03	0.03	0.24	6

con-test® ANALYTICAL LABORATORY

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B144320-MSD1 Date(s) Analyzed 03/17/2016 03/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.26	
	2	0.00	-0.03	0.03	0.22	16
Aroclor-1260	1	0.00	-0.03	0.03	0.25	
	2	0.00	-0.03	0.03	0.24	2

con-test® ANALYTICAL LABORATORY

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
O-32	A dilution was performed as part of the standard analytical procedure.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

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Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16C0641
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@golder
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	Congeners	EPH w/ Targets	MA 14 metals	Pest/Herb
01	B-5 (0-1')	3/14/16	10:05		X	S	U	X	X			
	B-5 (0-3')		10:17	X						X	X	X
02	B-5 (1-3')		10:15		X			X				
03	B-5 (3-6')		10:23		X			X				
04	B-5 (6-11')		10:30		X			X				
	~~B-6 (0-1')~~		~~10:50~~		~~X~~							
	~~B-6 (1-3')~~											
	~~B-6 (3-6')~~											
	~~B-6 (6-11')~~											

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments: 20X rule (RUSH PCBs ONLY)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 3/14/16	16:30
Received by: (signature) Tom Mari 3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Mari 3/15/16	Date/Time: 1705
Received by: (signature) [signature] S.I 3/15/16	Date/Time: 1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other
RUSH †
☐ †24-Hr ☑ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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CHAIN OF CUSTODY RECORD

16C0641
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs, Soxhlet	Containers	EPH w/ Targets	MA 14	Pest/Herb								# of Containers / ** Preservation / ***Container Code
05	B-7 (0-1')	3/14/16	11:05		X	S	U	X												
	B-7 (0-3)		11:20	X							X	X								
06	B-7 (1-3)		11:17		X			X	X											
07	B-7 (3-6)		11:27		X			X												
08	B-7 (6-11')		11:35		X			X		X										
09	B-8 (0-1)		12:15		X			X												
10	B-8 (1-3)		12:23		X			X												
11	B-8 (3-6)		12:25		X			X												
12	B-8 (6-11')	↓	12:37		X	↓	↓	X												

Comments:
20x rule
(RUSH PCBs only)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Relinquished by: (signature)	Date/Time:
Chris Foley 3/14/16	16:30
Received by: (signature)	Date/Time:
Tom Marie 3/15/16	1435
Relinquished by: (signature)	Date/Time:
Tom Marie 3/15/16	1705
Received by: (signature)	Date/Time:
S.1 3/15/16	1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: 5-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

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CHAIN OF CUSTODY RECORD

16C0641

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location:
Sampled By:

Telephone:
Project # 185-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB	Cyanide	EPH w/ Tetra H	VPH	Rest / Hexa	# of Containers	** Preservation	***Container Code
13	B-9 (0-1')	3/14/16	1:05		X	S	U	X	X						
	B-9 (0-3)		1:13	X						X					
14	B-9 (1-3')		1:09		X			X							
15	B-9 (3-6)		1:17		X			X			X	X			
16	B-9 (6-9)		1:23		X			X							
17	B-10 (0-1)		2:07		X			X							
	B-10 (0-3')		2:20	X							X	X			
18	B-10 (1-3')		2:17		X			X							
19	B-10 (3-6')		2:21		X			X		X					
20	B-10 (6-11')		2:33		X			X							

Comments:
20X Rule
Rush PCBs

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Relinquished by: (signature)	Date/Time:
Andrew Foley 3/14/16	16:30
Received by: (signature) Tom Marr 3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Marr 3/15/16	Date/Time: 1705
Received by: (signature) 3/15/16	Date/Time: 170

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: N/A
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

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CHAIN OF CUSTODY RECORD

16C0641
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: afoley@golam
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	cogeners	MA 14 Metals	EPH w/ target	Pest/H2O
21	B-11 (0-1')	3/14/16	1:40		X	S	U					
22	B-11 (1-3')	↓	1:45		↓	↓	↓					
23	B-11 (3-6')	↓	2:00		↓	↓	↓					
24	B-11 (6-11')	↓	2:07		↓	↓	↓					

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments:
20x rule
RUSH PCBs only

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Anh Foley 3/14/16	Date/Time: 16:30
Received by: (signature)	Tom Mari 3/15/16	Date/Time: 1435
Relinquished by: (signature)	Tom Mari 3/15/16	Date/Time: 1705
Received by: (signature)	S.1 3/15/16	Date/Time: 1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Goldman **RECEIVED BY**: JDL **DATE**: 3/15/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 5.1

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** **RUSH** **No** ____

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	26
250 mL Amber (8oz amber)			4 oz amber/clear jar	
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below			Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

40 mL vials:	# HCl ____	# Methanol ____		**Time and Date Frozen:**
Doc# 277	# Bisulfate ____	# DI Water ____		
Rev. 4 August 2013	# Thiosulfate ____	Unpreserved ____		

Page 2 of 2

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JDL **3/15/16 1705**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C0641
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C0641-01 thru 16C0641-24

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Tod Kopyscinski Position: Laboratory Director

Printed Name: Tod E. Kopyscinski Date: 03/17/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 22, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C0644

Enclosed are results of analyses for samples received by the laboratory on March 15, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/22/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C0644

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-5 (0-3')	16C0644-01	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8151A	
B-7 (0-3')	16C0644-02	Soil		SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8151A	
B-7 (6-11')	16C0644-03	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
B-9 (0-3')	16C0644-04	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
B-9 (3-6')	16C0644-05	Soil		SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8151A	
B-10 (0-3')	16C0644-06	Soil		SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8151A	
B-10 (3-6')	16C0644-07	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
B-11 (3-6')	16C0644-08	Soil		SM 2540G	
				SW-846 6010C/D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8151A	
B-11 (6-11')	16C0644-09	Soil		MADEP-EPH-04-1.1	
				SM 2540G	

con-test® ANALYTICAL LABORATORY

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

MADEP-EPH-04-1.1

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

n-Decane
B144349-BSD1

n-Nonane
B144349-BSD1

SW-846 8081B

Qualifications:

P-08

Sample RPD between primary and confirmatory analysis exceeded 100%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.

Analyte & Samples(s) Qualified:

4,4'-DDT
16C0644-02[B-7 (0-3')], 16C0644-08[B-11 (3-6')]

RL-12

Elevated reporting limit due to matrix interference.

Analyte & Samples(s) Qualified:

16C0644-01[B-5 (0-3')], 16C0644-02[B-7 (0-3')], 16C0644-05[B-9 (3-6')], 16C0644-06[B-10 (0-3')], 16C0644-08[B-11 (3-6')]

S-02

The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl [2C]
16C0644-02[B-7 (0-3')]

SW-846 8151A

Qualifications:

L-04

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Dalapon
16C0644-01[B-5 (0-3')], 16C0644-02[B-7 (0-3')], 16C0644-05[B-9 (3-6')], 16C0644-06[B-10 (0-3')], 16C0644-08[B-11 (3-6')], B144348-BLK1, B144348-BS1, B144348-BSD1

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Dalapon [2C]
B144348-BSD1

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C 11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16C0644

Date Received: 3/15/2016

Field Sample #: B-5 (0-3') | Sampled: 3/14/2016 10:17

Sample ID: 16C0644-01

Sample Matrix: Soil

Sample Flags: RL-12

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
alpha-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
beta-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
delta-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
gamma-BHC (Lindane) [1]	ND	0.047	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
Chlordane [1]	ND	0.47	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
4,4'-DDD [1]	ND	0.094	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
4,4'-DDE [1]	ND	0.094	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
4,4'-DDT [1]	ND	0.094	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
Dieldrin [1]	ND	0.094	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
Endosulfan I [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
Endosulfan II [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
Endosulfan sulfate [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
Endrin [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
Endrin ketone [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
Heptachlor [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
Heptachlor epoxide [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
Hexachlorobenzene [1]	ND	0.14	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG
Methoxychlor [1]	ND	1.2	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:25	PJG

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.7		30-150		3/18/16 19:25
Decachlorobiphenyl [2]	**217**	*	30-150		3/18/16 19:25
Tetrachloro-m-xylene [1]	67.2		30-150		3/18/16 19:25
Tetrachloro-m-xylene [2]	67.3		30-150		3/18/16 19:25

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Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-5 (0-3')
Sampled: 3/14/2016 10:17
Sample ID: 16C0644-01
Sample Matrix: Soil

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	29	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 22:40	JMB
2,4-DB [1]	ND	29	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 22:40	JMB
2,4,5-TP (Silvex) [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 22:40	JMB
2,4,5-T [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 22:40	JMB
Dalapon [2]	ND	73	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 22:40	JMB
Dicamba [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 22:40	JMB
Dichloroprop [1]	ND	29	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 22:40	JMB
Dinoseb [1]	ND	15	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 22:40	JMB
MCPA [1]	ND	2900	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 22:40	JMB
MCPP [1]	ND	2900	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 22:40	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	69.3	30-150		3/18/16 22:40
2,4-Dichlorophenylacetic acid [2]	76.5	30-150		3/18/16 22:40

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Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-5 (0-3')
Sampled: 3/14/2016 10:17
Sample ID: 16C0644-01
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	24	23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
C19-C36 Aliphatics	160	23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Unadjusted C11-C22 Aromatics	420	23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
C11-C22 Aromatics	310	23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Acenaphthene	1.4	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Acenaphthylene	0.37	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Anthracene	3.4	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Benzo(a)anthracene	7.4	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Benzo(a)pyrene	6.5	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Benzo(b)fluoranthene	9.1	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Benzo(g,h,i)perylene	3.4	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Benzo(k)fluoranthene	3.0	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Chrysene	8.5	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Dibenz(a,h)anthracene	1.1	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Fluoranthene	18	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Fluorene	1.9	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Indeno(1,2,3-cd)pyrene	4.1	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
2-Methylnaphthalene	0.67	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Naphthalene	1.7	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Phenanthrene	15	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS
Pyrene	17	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:20	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	46.1	40-140		3/21/16 14:20
o-Terphenyl (OTP)	59.2	40-140		3/21/16 14:20
2-Bromonaphthalene	81.2	40-140		3/21/16 14:20
2-Fluorobiphenyl	84.0	40-140		3/21/16 14:20

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-5 (0-3')
Sampled: 3/14/2016 10:17
Sample ID: 16C0644-01
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:03	AME
Arsenic	11	2.7	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:03	AME
Barium	120	2.7	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:03	AME
Beryllium	1.4	0.27	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:03	AME
Cadmium	0.89	0.27	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:03	AME
Chromium	34	0.54	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:03	AME
Lead	100	0.81	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:03	AME
Mercury	0.16	0.027	mg/Kg dry	1		SW-846 7471B	3/16/16	3/17/16 12:07	TGW
Nickel	29	0.54	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:03	AME
Selenium	ND	5.4	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:03	AME
Silver	ND	0.54	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:03	AME
Thallium	ND	2.7	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:03	AME
Vanadium	110	1.1	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:03	AME
Zinc	200	1.1	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:03	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644

Date Received: 3/15/2016

Field Sample #: B-5 (0-3')
Sampled: 3/14/2016 10:17

Sample ID: 16C0644-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.3		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644

Date Received: 3/15/2016

Field Sample #: B-7 (0-3')
Sampled: 3/14/2016 11:20

Sample ID: 16C0644-02

Sample Matrix: Soil

Sample Flags: RL-12

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
alpha-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
beta-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
delta-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
gamma-BHC (Lindane) [1]	ND	0.047	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
Chlordane [1]	ND	0.47	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
4,4'-DDD [1]	ND	0.094	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
4,4'-DDE [1]	ND	0.094	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
4,4'-DDT [1]	0.11	0.094	mg/Kg dry	20	P-08	SW-846 8081B	3/16/16	3/18/16 19:48	PJG
Dieldrin [1]	ND	0.094	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
Endosulfan I [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
Endosulfan II [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
Endosulfan sulfate [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
Endrin [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
Endrin ketone [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
Heptachlor [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
Heptachlor epoxide [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
Hexachlorobenzene [1]	ND	0.14	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG
Methoxychlor [1]	ND	1.2	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 19:48	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	86.7	30-150		3/18/16 19:48
Decachlorobiphenyl [2]	**166** *	30-150	S-02	3/18/16 19:48
Tetrachloro-m-xylene [1]	70.3	30-150		3/18/16 19:48
Tetrachloro-m-xylene [2]	70.5	30-150		3/18/16 19:48

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-7 (0-3')
Sampled: 3/14/2016 11:20
Sample ID: 16C0644-02
Sample Matrix: Soil

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	29	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:19	JMB
2,4-DB [1]	ND	29	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:19	JMB
2,4,5-TP (Silvex) [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:19	JMB
2,4,5-T [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:19	JMB
Dalapon [2]	ND	73	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:19	JMB
Dicamba [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:19	JMB
Dichloroprop [1]	ND	29	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:19	JMB
Dinoseb [1]	ND	15	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:19	JMB
MCPA [1]	ND	2900	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:19	JMB
MCPP [1]	ND	2900	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:19	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	63.4	30-150		3/18/16 23:19
2,4-Dichlorophenylacetic acid [2]	66.3	30-150		3/18/16 23:19

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644

Date Received: 3/15/2016

Field Sample #: B-7 (0-3')
Sampled: 3/14/2016 11:20

Sample ID: 16C0644-02

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.8	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:07	AME
Arsenic	13	2.8	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:07	AME
Barium	91	2.8	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:07	AME
Beryllium	1.3	0.28	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:07	AME
Cadmium	1.2	0.28	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:07	AME
Chromium	50	0.57	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:07	AME
Lead	150	0.85	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:07	AME
Mercury	0.38	0.028	mg/Kg dry	1		SW-846 7471B	3/16/16	3/17/16 12:08	TGW
Nickel	26	0.57	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:07	AME
Selenium	ND	5.7	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:07	AME
Silver	ND	0.57	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:07	AME
Thallium	ND	2.8	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:07	AME
Vanadium	66	1.1	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:07	AME
Zinc	260	1.1	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:07	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644

Date Received: 3/15/2016

Field Sample #: B-7 (0-3')
Sampled: 3/14/2016 11:20

Sample ID: 16C0644-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.2		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-7 (6-11')
Sampled: 3/14/2016 11:35
Sample ID: 16C0644-03
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
C19-C36 Aliphatics	48	22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Unadjusted C11-C22 Aromatics	96	22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
C11-C22 Aromatics	83	22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Acenaphthene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Acenaphthylene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Anthracene	0.29	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Benzo(a)anthracene	1.2	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Benzo(a)pyrene	1.1	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Benzo(b)fluoranthene	1.3	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Benzo(g,h,i)perylene	0.66	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Benzo(k)fluoranthene	0.52	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Chrysene	1.3	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Dibenz(a,h)anthracene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Fluoranthene	2.3	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Fluorene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Indeno(1,2,3-cd)pyrene	0.56	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
2-Methylnaphthalene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Naphthalene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Phenanthrene	1.2	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS
Pyrene	2.4	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	3/18/16	3/21/16 14:41	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	52.6	40-140		3/21/16 14:41
o-Terphenyl (OTP)	78.5	40-140		3/21/16 14:41
2-Bromonaphthalene	104	40-140		3/21/16 14:41
2-Fluorobiphenyl	98.7	40-140		3/21/16 14:41

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-7 (6-11')
Sampled: 3/14/2016 11:35
Sample ID: 16C0644-03
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.0		% Wt	1		SM 2540G	3/15/16	3/16/16 10:37	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-9 (0-3')
Sampled: 3/14/2016 13:13
Sample ID: 16C0644-04
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
C19-C36 Aliphatics	ND	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Unadjusted C11-C22 Aromatics	39	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
C11-C22 Aromatics	37	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Acenaphthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Acenaphthylene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Anthracene	0.12	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Benzo(a)anthracene	0.21	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Benzo(a)pyrene	0.22	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Benzo(b)fluoranthene	0.35	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Benzo(g,h,i)perylene	0.13	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Benzo(k)fluoranthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Chrysene	0.30	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Dibenz(a,h)anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Fluoranthene	0.44	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Fluorene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Indeno(1,2,3-cd)pyrene	0.12	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
2-Methylnaphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Naphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Phenanthrene	0.51	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS
Pyrene	0.49	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 16:28	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	40.2	40-140		3/17/16 16:28
o-Terphenyl (OTP)	52.2	40-140		3/17/16 16:28
2-Bromonaphthalene	90.1	40-140		3/17/16 16:28
2-Fluorobiphenyl	88.4	40-140		3/17/16 16:28

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-9 (0-3')
Sampled: 3/14/2016 13:13
Sample ID: 16C0644-04
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.7		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-9 (3-6')
Sampled: 3/14/2016 13:17
Sample ID: 16C0644-05
Sample Matrix: Soil
Sample Flags: RL-12

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
alpha-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
beta-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
delta-BHC [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
gamma-BHC (Lindane) [1]	ND	0.046	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
Chlordane [1]	ND	0.46	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
4,4'-DDD [1]	ND	0.091	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
4,4'-DDE [1]	ND	0.091	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
4,4'-DDT [1]	ND	0.091	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
Dieldrin [1]	ND	0.091	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
Endosulfan I [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
Endosulfan II [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
Endosulfan sulfate [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
Endrin [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
Endrin ketone [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
Heptachlor [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
Heptachlor epoxide [1]	ND	0.11	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
Hexachlorobenzene [1]	ND	0.14	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG
Methoxychlor [1]	ND	1.1	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:11	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	74.0	30-150		3/18/16 20:11
Decachlorobiphenyl [2]	89.1	30-150		3/18/16 20:11
Tetrachloro-m-xylene [1]	62.7	30-150		3/18/16 20:11
Tetrachloro-m-xylene [2]	66.7	30-150		3/18/16 20:11

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-9 (3-6')
Sampled: 3/14/2016 13:17
Sample ID: 16C0644-05
Sample Matrix: Soil

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	28	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:59	JMB
2,4-DB [1]	ND	28	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:59	JMB
2,4,5-TP (Silvex) [1]	ND	2.8	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:59	JMB
2,4,5-T [1]	ND	2.8	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:59	JMB
Dalapon [2]	ND	71	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:59	JMB
Dicamba [1]	ND	2.8	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:59	JMB
Dichloroprop [1]	ND	28	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:59	JMB
Dinoseb [1]	ND	14	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:59	JMB
MCPA [1]	ND	2800	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:59	JMB
MCPP [1]	ND	2800	µg/kg dry	1		SW-846 8151A	3/16/16	3/18/16 23:59	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	70.8	30-150		3/18/16 23:59
2,4-Dichlorophenylacetic acid [2]	67.5	30-150		3/18/16 23:59

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-9 (3-6')
Sampled: 3/14/2016 13:17
Sample ID: 16C0644-05
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:13	AME
Arsenic	11	2.7	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:13	AME
Barium	30	2.7	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:13	AME
Beryllium	6.7	0.27	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:13	AME
Cadmium	0.97	0.27	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:13	AME
Chromium	14	0.54	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:13	AME
Lead	26	0.81	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:13	AME
Mercury	0.19	0.027	mg/Kg dry	1		SW-846 7471B	3/16/16	3/17/16 12:10	TGW
Nickel	42	0.54	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:13	AME
Selenium	ND	5.4	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:13	AME
Silver	ND	0.54	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:13	AME
Thallium	ND	2.7	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:13	AME
Vanadium	510	1.1	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:13	AME
Zinc	81	1.1	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:13	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644

Date Received: 3/15/2016

Field Sample #: B-9 (3-6')
Sampled: 3/14/2016 13:17

Sample ID: 16C0644-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.7		% Wt	1		SM 2540G	3/15/16	3/16/16 10:37	MRL

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-10 (0-3')
Sampled: 3/14/2016 14:20
Sample ID: 16C0644-06
Sample Matrix: Soil
Sample Flags: RL-12

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
alpha-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
beta-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
delta-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
gamma-BHC (Lindane) [1]	ND	0.046	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
Chlordane [1]	ND	0.46	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
4,4'-DDD [1]	ND	0.092	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
4,4'-DDE [1]	ND	0.092	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
4,4'-DDT [1]	ND	0.092	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
Dieldrin [1]	ND	0.092	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
Endosulfan I [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
Endosulfan II [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
Endosulfan sulfate [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
Endrin [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
Endrin ketone [1]	ND	0.18	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
Heptachlor [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
Heptachlor epoxide [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
Hexachlorobenzene [1]	ND	0.14	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG
Methoxychlor [1]	ND	1.2	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:34	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	73.2	30-150		3/18/16 20:34
Decachlorobiphenyl [2]	84.6	30-150		3/18/16 20:34
Tetrachloro-m-xylene [1]	61.4	30-150		3/18/16 20:34
Tetrachloro-m-xylene [2]	64.7	30-150		3/18/16 20:34

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-10 (0-3')
Sampled: 3/14/2016 14:20
Sample ID: 16C0644-06
Sample Matrix: Soil

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	29	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 0:38	JMB
2,4-DB [1]	ND	29	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 0:38	JMB
2,4,5-TP (Silvex) [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 0:38	JMB
2,4,5-T [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 0:38	JMB
Dalapon [2]	ND	72	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 0:38	JMB
Dicamba [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 0:38	JMB
Dichloroprop [1]	ND	29	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 0:38	JMB
Dinoseb [1]	ND	14	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 0:38	JMB
MCPA [1]	ND	2900	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 0:38	JMB
MCPP [1]	ND	2900	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 0:38	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	76.2	30-150		3/19/16 0:38
2,4-Dichlorophenylacetic acid [2]	78.2	30-150		3/19/16 0:38

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-10 (0-3')
Sampled: 3/14/2016 14:20
Sample ID: 16C0644-06
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.7	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:17	AME
Arsenic	10	2.7	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:17	AME
Barium	64	2.7	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:17	AME
Beryllium	25	0.27	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:17	AME
Cadmium	0.82	0.27	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:17	AME
Chromium	26	0.54	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:17	AME
Lead	68	0.80	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:17	AME
Mercury	0.13	0.027	mg/Kg dry	1		SW-846 7471B	3/16/16	3/17/16 12:11	TGW
Nickel	64	0.54	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:17	AME
Selenium	ND	5.4	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:17	AME
Silver	ND	0.54	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:17	AME
Thallium	ND	2.7	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:17	AME
Vanadium	2100	1.1	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:17	AME
Zinc	65	1.1	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:17	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644

Date Received: 3/15/2016

Field Sample #: B-10 (0-3')
Sampled: 3/14/2016 14:20

Sample ID: 16C0644-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.6		% Wt	1		SM 2540G	3/15/16	3/16/16 10:14	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-10 (3-6')
Sampled: 3/14/2016 14:27
Sample ID: 16C0644-07
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
C19-C36 Aliphatics	19	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Unadjusted C11-C22 Aromatics	35	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
C11-C22 Aromatics	31	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Benzo(a)anthracene	0.28	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Benzo(a)pyrene	0.29	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Benzo(b)fluoranthene	0.38	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Benzo(g,h,i)perylene	0.18	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Benzo(k)fluoranthene	0.15	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Chrysene	0.37	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Fluoranthene	0.61	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Indeno(1,2,3-cd)pyrene	0.18	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Phenanthrene	0.55	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS
Pyrene	0.71	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/18/16	3/21/16 15:02	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	43.1	40-140		3/21/16 15:02
o-Terphenyl (OTP)	61.9	40-140		3/21/16 15:02
2-Bromonaphthalene	86.4	40-140		3/21/16 15:02
2-Fluorobiphenyl	84.9	40-140		3/21/16 15:02

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644

Date Received: 3/15/2016

Field Sample #: B-10 (3-6')
Sampled: 3/14/2016 14:27

Sample ID: 16C0644-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.7		% Wt	1		SM 2540G	3/15/16	3/16/16 10:37	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-11 (3-6')
Sampled: 3/14/2016 14:00
Sample ID: 16C0644-08
Sample Matrix: Soil
Sample Flags: RL-12

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
alpha-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
beta-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
delta-BHC [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
gamma-BHC (Lindane) [1]	ND	0.047	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
Chlordane [1]	ND	0.47	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
4,4'-DDD [1]	ND	0.094	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
4,4'-DDE [1]	ND	0.094	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
4,4'-DDT [1]	0.16	0.094	mg/Kg dry	20	P-08	SW-846 8081B	3/16/16	3/18/16 20:56	PJG
Dieldrin [1]	ND	0.094	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
Endosulfan I [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
Endosulfan II [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
Endosulfan sulfate [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
Endrin [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
Endrin ketone [1]	ND	0.19	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
Heptachlor [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
Heptachlor epoxide [1]	ND	0.12	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
Hexachlorobenzene [1]	ND	0.14	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG
Methoxychlor [1]	ND	1.2	mg/Kg dry	20		SW-846 8081B	3/16/16	3/18/16 20:56	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	94.4	30-150		3/18/16 20:56
Decachlorobiphenyl [2]	114	30-150		3/18/16 20:56
Tetrachloro-m-xylene [1]	75.4	30-150		3/18/16 20:56
Tetrachloro-m-xylene [2]	78.3	30-150		3/18/16 20:56

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-11 (3-6')
Sampled: 3/14/2016 14:00
Sample ID: 16C0644-08
Sample Matrix: Soil

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	29	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 1:18	JMB
2,4-DB [1]	ND	29	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 1:18	JMB
2,4,5-TP (Silvex) [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 1:18	JMB
2,4,5-T [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 1:18	JMB
Dalapon [2]	ND	73	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 1:18	JMB
Dicamba [1]	ND	2.9	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 1:18	JMB
Dichloroprop [1]	ND	29	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 1:18	JMB
Dinoseb [1]	ND	15	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 1:18	JMB
MCPA [1]	ND	2900	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 1:18	JMB
MCPP [1]	ND	2900	µg/kg dry	1		SW-846 8151A	3/16/16	3/19/16 1:18	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	71.1	30-150		3/19/16 1:18
2,4-Dichlorophenylacetic acid [2]	76.0	30-150		3/19/16 1:18

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-11 (3-6')
Sampled: 3/14/2016 14:00
Sample ID: 16C0644-08
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.8	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:21	AME
Arsenic	9.2	2.8	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:21	AME
Barium	160	2.8	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:21	AME
Beryllium	11	0.28	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:21	AME
Cadmium	1.3	0.28	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:21	AME
Chromium	33	0.56	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:21	AME
Lead	200	0.84	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:21	AME
Mercury	1.2	0.14	mg/Kg dry	5		SW-846 7471B	3/16/16	3/17/16 13:49	TGW
Nickel	85	0.56	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:21	AME
Selenium	ND	5.6	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:21	AME
Silver	ND	0.56	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:21	AME
Thallium	ND	2.8	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:21	AME
Vanadium	900	1.1	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:21	AME
Zinc	180	1.1	mg/Kg dry	1		SW-846 6010C/D	3/15/16	3/17/16 22:21	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644

Date Received: 3/15/2016

Field Sample #: B-11 (3-6')
Sampled: 3/14/2016 14:00

Sample ID: 16C0644-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.2		% Wt	1		SM 2540G	3/15/16	3/16/16 10:37	MRL

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644
Date Received: 3/15/2016
Field Sample #: B-11 (6-11')
Sampled: 3/14/2016 14:07
Sample ID: 16C0644-09
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
C19-C36 Aliphatics	46	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Unadjusted C11-C22 Aromatics	58	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
C11-C22 Aromatics	51	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Acenaphthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Acenaphthylene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Anthracene	0.24	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Benzo(a)anthracene	0.54	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Benzo(a)pyrene	0.54	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Benzo(b)fluoranthene	0.68	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Benzo(g,h,i)perylene	0.24	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Benzo(k)fluoranthene	0.25	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Chrysene	0.61	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Dibenz(a,h)anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Fluoranthene	1.3	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Fluorene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Indeno(1,2,3-cd)pyrene	0.32	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
2-Methylnaphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Naphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Phenanthrene	1.1	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS
Pyrene	1.4	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/16/16	3/17/16 17:32	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	56.7	40-140		3/17/16 17:32
o-Terphenyl (OTP)	72.8	40-140		3/17/16 17:32
2-Bromonaphthalene	93.5	40-140		3/17/16 17:32
2-Fluorobiphenyl	88.2	40-140		3/17/16 17:32

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0644

Date Received: 3/15/2016

Field Sample #: B-11 (6-11')
Sampled: 3/14/2016 14:07

Sample ID: 16C0644-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.2		% Wt	1		SM 2540G	3/15/16	3/16/16 10:37	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0644-04 [B-9 (0-3')]	B144349	20.0	2.00	03/16/16
16C0644-09 [B-11 (6-11')]	B144349	20.1	2.00	03/16/16

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0644-01RE1 [B-5 (0-3')]	B144561	20.3	2.00	03/18/16
16C0644-03RE1 [B-7 (6-11')]	B144561	20.1	2.00	03/18/16
16C0644-07RE1 [B-10 (3-6')]	B144561	20.2	2.00	03/18/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C0644-01 [B-5 (0-3')]	B144313	03/15/16
16C0644-02 [B-7 (0-3')]	B144313	03/15/16
16C0644-03 [B-7 (6-11')]	B144313	03/15/16
16C0644-04 [B-9 (0-3')]	B144313	03/15/16
16C0644-05 [B-9 (3-6')]	B144313	03/15/16
16C0644-06 [B-10 (0-3')]	B144313	03/15/16
16C0644-07 [B-10 (3-6')]	B144313	03/15/16
16C0644-08 [B-11 (3-6')]	B144313	03/15/16
16C0644-09 [B-11 (6-11')]	B144313	03/15/16

Prep Method: SW-846 3050B-SW-846 6010C/D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0644-01 [B-5 (0-3')]	B144322	1.09	50.0	03/15/16
16C0644-02 [B-7 (0-3')]	B144322	1.04	50.0	03/15/16
16C0644-05 [B-9 (3-6')]	B144322	1.06	50.0	03/15/16
16C0644-06 [B-10 (0-3')]	B144322	1.08	50.0	03/15/16
16C0644-08 [B-11 (3-6')]	B144322	1.05	50.0	03/15/16

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0644-01 [B-5 (0-3')]	B144337	0.662	50.0	03/16/16
16C0644-02 [B-7 (0-3')]	B144337	0.628	50.0	03/16/16
16C0644-05 [B-9 (3-6')]	B144337	0.626	50.0	03/16/16
16C0644-06 [B-10 (0-3')]	B144337	0.638	50.0	03/16/16
16C0644-08 [B-11 (3-6')]	B144337	0.625	50.0	03/16/16

Prep Method: SW-846 3546-SW-846 8081B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0644-01 [B-5 (0-3')]	B144345	10.0	10.0	03/16/16
16C0644-02 [B-7 (0-3')]	B144345	10.0	10.0	03/16/16
16C0644-05 [B-9 (3-6')]	B144345	10.0	10.0	03/16/16
16C0644-06 [B-10 (0-3')]	B144345	10.0	10.0	03/16/16
16C0644-08 [B-11 (3-6')]	B144345	10.0	10.0	03/16/16

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 8151-SW-846 8151A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0644-01 [B-5 (0-3')]	B144348	20.0	5.00	03/16/16
16C0644-02 [B-7 (0-3')]	B144348	20.1	5.00	03/16/16
16C0644-05 [B-9 (3-6')]	B144348	20.2	5.00	03/16/16
16C0644-06 [B-10 (0-3')]	B144348	20.1	5.00	03/16/16
16C0644-08 [B-11 (3-6')]	B144348	20.1	5.00	03/16/16

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144345 - SW-846 3546										
Blank (B144345-BLK1)				Prepared: 03/16/16 Analyzed: 03/18/16						
Aldrin	ND	0.0050	mg/Kg wet							
Aldrin [2C]	ND	0.0050	mg/Kg wet							
alpha-BHC	ND	0.0050	mg/Kg wet							
alpha-BHC [2C]	ND	0.0050	mg/Kg wet							
beta-BHC	ND	0.0050	mg/Kg wet							
beta-BHC [2C]	ND	0.0050	mg/Kg wet							
delta-BHC	ND	0.0050	mg/Kg wet							
delta-BHC [2C]	ND	0.0050	mg/Kg wet							
gamma-BHC (Lindane)	ND	0.0020	mg/Kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0020	mg/Kg wet							
Chlordane	ND	0.020	mg/Kg wet							
Chlordane [2C]	ND	0.020	mg/Kg wet							
4,4'-DDD	ND	0.0040	mg/Kg wet							
4,4'-DDD [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDE	ND	0.0040	mg/Kg wet							
4,4'-DDE [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDT	ND	0.0040	mg/Kg wet							
4,4'-DDT [2C]	ND	0.0040	mg/Kg wet							
Dieldrin	ND	0.0040	mg/Kg wet							
Dieldrin [2C]	ND	0.0040	mg/Kg wet							
Endosulfan I	ND	0.0050	mg/Kg wet							
Endosulfan I [2C]	ND	0.0050	mg/Kg wet							
Endosulfan II	ND	0.0080	mg/Kg wet							
Endosulfan II [2C]	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate [2C]	ND	0.0080	mg/Kg wet							
Endrin	ND	0.0080	mg/Kg wet							
Endrin [2C]	ND	0.0080	mg/Kg wet							
Endrin Aldehyde	ND	0.0080	mg/Kg wet							
Endrin Aldehyde [2C]	ND	0.0080	mg/Kg wet							
Endrin Ketone	ND	0.0080	mg/Kg wet							
Endrin Ketone [2C]	ND	0.0080	mg/Kg wet							
Heptachlor	ND	0.0050	mg/Kg wet							
Heptachlor [2C]	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide [2C]	ND	0.0050	mg/Kg wet							
Hexachlorobenzene	ND	0.0060	mg/Kg wet							
Hexachlorobenzene [2C]	ND	0.0060	mg/Kg wet							
Methoxychlor	ND	0.050	mg/Kg wet							
Methoxychlor [2C]	ND	0.050	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.213*		mg/Kg wet	0.200		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.228*		mg/Kg wet	0.200		114	30-150			
Surrogate: Tetrachloro-m-xylene	*0.193*		mg/Kg wet	0.200		96.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.185*		mg/Kg wet	0.200		92.3	30-150			

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144345 - SW-846 3546										
LCS (B144345-BS1)				Prepared: 03/16/16 Analyzed: 03/18/16						
Aldrin	0.10	0.0050	mg/Kg wet	0.100		104	40-140			
Aldrin [2C]	0.10	0.0050	mg/Kg wet	0.100		105	40-140			
alpha-BHC	0.11	0.0050	mg/Kg wet	0.100		110	40-140			
alpha-BHC [2C]	0.10	0.0050	mg/Kg wet	0.100		104	40-140			
beta-BHC	0.11	0.0050	mg/Kg wet	0.100		108	40-140			
beta-BHC [2C]	0.10	0.0050	mg/Kg wet	0.100		101	40-140			
delta-BHC	0.11	0.0050	mg/Kg wet	0.100		112	40-140			
delta-BHC [2C]	0.10	0.0050	mg/Kg wet	0.100		104	40-140			
gamma-BHC (Lindane)	0.12	0.0020	mg/Kg wet	0.100		116	40-140			
gamma-BHC (Lindane) [2C]	0.11	0.0020	mg/Kg wet	0.100		107	40-140			
4,4'-DDD	0.12	0.0040	mg/Kg wet	0.100		123	40-140			
4,4'-DDD [2C]	0.12	0.0040	mg/Kg wet	0.100		123	40-140			
4,4'-DDE	0.12	0.0040	mg/Kg wet	0.100		116	40-140			
4,4'-DDE [2C]	0.12	0.0040	mg/Kg wet	0.100		118	40-140			
4,4'-DDT	0.12	0.0040	mg/Kg wet	0.100		124	40-140			
4,4'-DDT [2C]	0.12	0.0040	mg/Kg wet	0.100		125	40-140			
Dieldrin	0.11	0.0040	mg/Kg wet	0.100		110	40-140			
Dieldrin [2C]	0.11	0.0040	mg/Kg wet	0.100		109	40-140			
Endosulfan I	0.11	0.0050	mg/Kg wet	0.100		108	40-140			
Endosulfan I [2C]	0.11	0.0050	mg/Kg wet	0.100		110	40-140			
Endosulfan II	0.11	0.0080	mg/Kg wet	0.100		114	40-140			
Endosulfan II [2C]	0.12	0.0080	mg/Kg wet	0.100		118	40-140			
Endosulfan Sulfate	0.12	0.0080	mg/Kg wet	0.100		117	40-140			
Endosulfan Sulfate [2C]	0.12	0.0080	mg/Kg wet	0.100		120	40-140			
Endrin	0.12	0.0080	mg/Kg wet	0.100		115	40-140			
Endrin [2C]	0.12	0.0080	mg/Kg wet	0.100		116	40-140			
Endrin Ketone	0.13	0.0080	mg/Kg wet	0.100		126	40-140			
Endrin Ketone [2C]	0.13	0.0080	mg/Kg wet	0.100		129	40-140			
Heptachlor	0.11	0.0050	mg/Kg wet	0.100		105	40-140			
Heptachlor [2C]	0.11	0.0050	mg/Kg wet	0.100		107	40-140			
Heptachlor Epoxide	0.10	0.0050	mg/Kg wet	0.100		105	40-140			
Heptachlor Epoxide [2C]	0.11	0.0050	mg/Kg wet	0.100		105	40-140			
Hexachlorobenzene	0.093	0.0060	mg/Kg wet	0.100		93.4	40-140			
Hexachlorobenzene [2C]	0.091	0.0060	mg/Kg wet	0.100		91.2	40-140			
Methoxychlor	0.12	0.050	mg/Kg wet	0.100		121	40-140			
Methoxychlor [2C]	0.13	0.050	mg/Kg wet	0.100		128	40-140			
Surrogate: Decachlorobiphenyl	*0.215*		mg/Kg wet	0.200		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.232*		mg/Kg wet	0.200		116	30-150			
Surrogate: Tetrachloro-m-xylene	*0.192*		mg/Kg wet	0.200		95.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.6	30-150			
LCS Dup (B144345-BSD1)				Prepared: 03/16/16 Analyzed: 03/18/16						
Aldrin	0.10	0.0050	mg/Kg wet	0.100		105	40-140	0.724	30	
Aldrin [2C]	0.11	0.0050	mg/Kg wet	0.100		105	40-140	0.844	30	
alpha-BHC	0.11	0.0050	mg/Kg wet	0.100		110	40-140	0.278	30	
alpha-BHC [2C]	0.10	0.0050	mg/Kg wet	0.100		104	40-140	0.706	30	
beta-BHC	0.11	0.0050	mg/Kg wet	0.100		108	40-140	0.150	30	
beta-BHC [2C]	0.10	0.0050	mg/Kg wet	0.100		101	40-140	0.130	30	
delta-BHC	0.11	0.0050	mg/Kg wet	0.100		113	40-140	0.706	30	
delta-BHC [2C]	0.10	0.0050	mg/Kg wet	0.100		104	40-140	0.0135	30	
gamma-BHC (Lindane)	0.12	0.0020	mg/Kg wet	0.100		116	40-140	0.354	30	
gamma-BHC (Lindane) [2C]	0.11	0.0020	mg/Kg wet	0.100		108	40-140	0.632	30	

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144345 - SW-846 3546										
LCS Dup (B144345-BSD1)				Prepared: 03/16/16 Analyzed: 03/18/16						
4,4'-DDD	0.12	0.0040	mg/Kg wet	0.100		124	40-140	0.608	30	
4,4'-DDD [2C]	0.12	0.0040	mg/Kg wet	0.100		123	40-140	0.631	30	
4,4'-DDE	0.12	0.0040	mg/Kg wet	0.100		116	40-140	0.430	30	
4,4'-DDE [2C]	0.12	0.0040	mg/Kg wet	0.100		119	40-140	0.416	30	
4,4'-DDT	0.13	0.0040	mg/Kg wet	0.100		125	40-140	0.610	30	
4,4'-DDT [2C]	0.13	0.0040	mg/Kg wet	0.100		125	40-140	0.522	30	
Dieldrin	0.11	0.0040	mg/Kg wet	0.100		111	40-140	0.563	30	
Dieldrin [2C]	0.11	0.0040	mg/Kg wet	0.100		109	40-140	0.537	30	
Endosulfan I	0.11	0.0050	mg/Kg wet	0.100		108	40-140	0.682	30	
Endosulfan I [2C]	0.11	0.0050	mg/Kg wet	0.100		110	40-140	0.161	30	
Endosulfan II	0.11	0.0080	mg/Kg wet	0.100		115	40-140	0.401	30	
Endosulfan II [2C]	0.12	0.0080	mg/Kg wet	0.100		119	40-140	0.364	30	
Endosulfan Sulfate	0.12	0.0080	mg/Kg wet	0.100		117	40-140	0.273	30	
Endosulfan Sulfate [2C]	0.12	0.0080	mg/Kg wet	0.100		120	40-140	0.438	30	
Endrin	0.12	0.0080	mg/Kg wet	0.100		117	40-140	1.13	30	
Endrin [2C]	0.12	0.0080	mg/Kg wet	0.100		118	40-140	1.03	30	
Endrin Ketone	0.13	0.0080	mg/Kg wet	0.100		126	40-140	0.511	30	
Endrin Ketone [2C]	0.13	0.0080	mg/Kg wet	0.100		129	40-140	0.158	30	
Heptachlor	0.11	0.0050	mg/Kg wet	0.100		106	40-140	0.364	30	
Heptachlor [2C]	0.11	0.0050	mg/Kg wet	0.100		107	40-140	0.603	30	
Heptachlor Epoxide	0.11	0.0050	mg/Kg wet	0.100		106	40-140	0.702	30	
Heptachlor Epoxide [2C]	0.11	0.0050	mg/Kg wet	0.100		106	40-140	0.691	30	
Hexachlorobenzene	0.094	0.0060	mg/Kg wet	0.100		93.7	40-140	0.291	30	
Hexachlorobenzene [2C]	0.092	0.0060	mg/Kg wet	0.100		91.8	40-140	0.601	30	
Methoxychlor	0.12	0.050	mg/Kg wet	0.100		122	40-140	1.07	30	
Methoxychlor [2C]	0.13	0.050	mg/Kg wet	0.100		129	40-140	0.788	30	
Surrogate: Decachlorobiphenyl	*0.217*		mg/Kg wet	0.200		108	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.232*		mg/Kg wet	0.200		116	30-150			
Surrogate: Tetrachloro-m-xylene	*0.191*		mg/Kg wet	0.200		95.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.184*		mg/Kg wet	0.200		91.9	30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B144348 - SW-846 8151											
Blank (B144348-BLK1)				Prepared: 03/16/16 Analyzed: 03/18/16							
2,4-D	ND	24	µg/kg wet								
2,4-D [2C]	ND	24	µg/kg wet								
2,4-DB	ND	24	µg/kg wet								
2,4-DB [2C]	ND	24	µg/kg wet								
2,4,5-TP (Silvex)	ND	2.4	µg/kg wet								
2,4,5-TP (Silvex) [2C]	ND	2.4	µg/kg wet								
2,4,5-T	ND	2.4	µg/kg wet								
2,4,5-T [2C]	ND	2.4	µg/kg wet								
Dalapon	ND	59	µg/kg wet								L-04
Dalapon [2C]	ND	59	µg/kg wet								
Dicamba	ND	2.4	µg/kg wet								
Dicamba [2C]	ND	2.4	µg/kg wet								
Dichloroprop	ND	24	µg/kg wet								
Dichloroprop [2C]	ND	24	µg/kg wet								
Dinoseb	ND	12	µg/kg wet								
Dinoseb [2C]	ND	12	µg/kg wet								
MCPA	ND	2400	µg/kg wet								
MCPA [2C]	ND	2400	µg/kg wet								
MCPP	ND	2400	µg/kg wet								
MCPP [2C]	ND	2400	µg/kg wet								
Surrogate: 2,4-Dichlorophenylacetic acid	*62.7*		µg/kg wet	95.0		66.0		30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*60.5*		µg/kg wet	95.0		63.8		30-150			
LCS (B144348-BS1)				Prepared: 03/16/16 Analyzed: 03/18/16							
2,4-D	86.2	25	µg/kg wet	125		69.1		40-140			
2,4-D [2C]	79.8	25	µg/kg wet	125		63.9		40-140			
2,4-DB	98.0	25	µg/kg wet	125		78.5		40-140			
2,4-DB [2C]	87.0	25	µg/kg wet	125		69.7		40-140			
2,4,5-TP (Silvex)	8.98	2.5	µg/kg wet	12.5		71.9		40-140			
2,4,5-TP (Silvex) [2C]	8.86	2.5	µg/kg wet	12.5		71.0		40-140			
2,4,5-T	8.91	2.5	µg/kg wet	12.5		71.4		40-140			
2,4,5-T [2C]	9.64	2.5	µg/kg wet	12.5		77.2		40-140			
Dalapon	116	62	µg/kg wet	312		**37.3**	*	40-140			L-04
Dalapon [2C]	126	62	µg/kg wet	312		40.5		40-140			
Dicamba	9.13	2.5	µg/kg wet	12.5		73.2		40-140			
Dicamba [2C]	9.21	2.5	µg/kg wet	12.5		73.8		40-140			
Dichloroprop	109	25	µg/kg wet	125		87.3		40-140			
Dichloroprop [2C]	108	25	µg/kg wet	125		86.7		40-140			
Dinoseb	16.2	12	µg/kg wet	62.4		25.9		0-42.4			
Dinoseb [2C]	15.7	12	µg/kg wet	62.4		25.1		0-41.1			
MCPA	8430	2500	µg/kg wet	12500		67.6		40-140			
MCPA [2C]	8680	2500	µg/kg wet	12500		69.5		40-140			
MCPP	8610	2500	µg/kg wet	12500		69.0		40-140			
MCPP [2C]	8370	2500	µg/kg wet	12500		67.1		40-140			
Surrogate: 2,4-Dichlorophenylacetic acid	*74.5*		µg/kg wet	99.9		74.6		30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*72.1*		µg/kg wet	99.9		72.2		30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B144348 - SW-846 8151											
LCS Dup (B144348-BSD1)				Prepared: 03/16/16 Analyzed: 03/18/16							
2,4-D	80.9	25	µg/kg wet	125		64.8		40-140	6.44	30	
2,4-D [2C]	74.8	25	µg/kg wet	125		59.9		40-140	6.53	30	
2,4-DB	91.5	25	µg/kg wet	125		73.3		40-140	6.93	30	
2,4-DB [2C]	78.6	25	µg/kg wet	125		63.0		40-140	10.1	30	
2,4,5-TP (Silvex)	8.43	2.5	µg/kg wet	12.5		67.6		40-140	6.24	30	
2,4,5-TP (Silvex) [2C]	8.27	2.5	µg/kg wet	12.5		66.3		40-140	6.90	30	
2,4,5-T	8.19	2.5	µg/kg wet	12.5		65.6		40-140	8.42	30	
2,4,5-T [2C]	8.90	2.5	µg/kg wet	12.5		71.3		40-140	7.96	30	
Dalapon	106	62	µg/kg wet	312		**33.9**	*	40-140	9.40	30	L-04
Dalapon [2C]	111	62	µg/kg wet	312		**35.4**	*	40-140	13.2	30	L-07
Dicamba	8.94	2.5	µg/kg wet	12.5		71.6		40-140	2.15	30	
Dicamba [2C]	9.03	2.5	µg/kg wet	12.5		72.3		40-140	2.01	30	
Dichloroprop	103	25	µg/kg wet	125		82.7		40-140	5.52	30	
Dichloroprop [2C]	102	25	µg/kg wet	125		81.8		40-140	5.92	30	
Dinoseb	13.8	12	µg/kg wet	62.4		22.1		0-42.4	16.1	30	
Dinoseb [2C]	13.6	12	µg/kg wet	62.4		21.8		0-41.1	14.3	30	
MCPA	7930	2500	µg/kg wet	12500		63.6		40-140	6.09	30	
MCPA [2C]	8200	2500	µg/kg wet	12500		65.7		40-140	5.69	30	
MCPP	8120	2500	µg/kg wet	12500		65.1		40-140	5.82	30	
MCPP [2C]	7830	2500	µg/kg wet	12500		62.7		40-140	6.68	30	
Surrogate: 2,4-Dichlorophenylacetic acid	*73.1*		µg/kg wet	99.9		73.2		30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*69.5*		µg/kg wet	99.9		69.6		30-150			
Matrix Spike (B144348-MS1)	**Source: 16C0644-05**			Prepared: 03/16/16 Analyzed: 03/19/16							
2,4-D	90.8	28	µg/kg dry	142	ND	64.0		30-150			
2,4-D [2C]	85.3	28	µg/kg dry	142	ND	60.1		30-150			
2,4-DB	95.9	28	µg/kg dry	142	ND	67.7		30-150			
2,4-DB [2C]	109	28	µg/kg dry	142	ND	76.6		30-150			
2,4,5-TP (Silvex)	9.43	2.8	µg/kg dry	14.2	ND	66.5		30-150			
2,4,5-TP (Silvex) [2C]	8.87	2.8	µg/kg dry	14.2	ND	62.6		30-150			
2,4,5-T	9.14	2.8	µg/kg dry	14.2	ND	64.4		30-150			
2,4,5-T [2C]	9.68	2.8	µg/kg dry	14.2	ND	68.3		30-150			
Dalapon	115	71	µg/kg dry	355	ND	32.6		30-150			
Dalapon [2C]	125	71	µg/kg dry	355	ND	35.4		30-150			
Dicamba	9.81	2.8	µg/kg dry	14.2	ND	69.2		30-150			
Dicamba [2C]	9.96	2.8	µg/kg dry	14.2	ND	70.2		30-150			
Dichloroprop	118	28	µg/kg dry	142	ND	83.3		30-150			
Dichloroprop [2C]	114	28	µg/kg dry	142	ND	80.6		30-150			
Dinoseb	21.9	14	µg/kg dry	70.9	ND	30.9		10-150			
Dinoseb [2C]	18.3	14	µg/kg dry	70.9	ND	25.8		10-150			
MCPA	9310	2800	µg/kg dry	14200	ND	65.7		30-150			
MCPA [2C]	9880	2800	µg/kg dry	14200	ND	69.7		30-150			
MCPP	9390	2800	µg/kg dry	14200	ND	66.2		30-150			
MCPP [2C]	9290	2800	µg/kg dry	14200	ND	65.5		30-150			
Surrogate: 2,4-Dichlorophenylacetic acid	*84.2*		µg/kg dry	113		74.2		30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*81.4*		µg/kg dry	113		71.7		30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144348 - SW-846 8151										
Matrix Spike Dup (B144348-MSD1)		**Source: 16C0644-05**		Prepared: 03/16/16 Analyzed: 03/19/16						
2,4-D	90.9	28	µg/kg dry	141	ND	64.2	30-150	0.0525	30	
2,4-D [2C]	85.5	28	µg/kg dry	141	ND	60.4	30-150	0.246	30	
2,4-DB	99.5	28	µg/kg dry	141	ND	70.3	30-150	3.61	30	
2,4-DB [2C]	110	28	µg/kg dry	141	ND	77.5	30-150	0.991	30	
2,4,5-TP (Silvex)	9.44	2.8	µg/kg dry	14.1	ND	66.7	30-150	0.151	30	
2,4,5-TP (Silvex) [2C]	8.96	2.8	µg/kg dry	14.1	ND	63.4	30-150	1.04	30	
2,4,5-T	9.14	2.8	µg/kg dry	14.1	ND	64.6	30-150	0.0398	30	
2,4,5-T [2C]	9.66	2.8	µg/kg dry	14.1	ND	68.3	30-150	0.257	30	
Dalapon	119	71	µg/kg dry	354	ND	33.6	30-150	2.92	30	
Dalapon [2C]	126	71	µg/kg dry	354	ND	35.5	30-150	0.204	30	
Dicamba	9.70	2.8	µg/kg dry	14.1	ND	68.6	30-150	1.10	30	
Dicamba [2C]	9.80	2.8	µg/kg dry	14.1	ND	69.3	30-150	1.65	30	
Dichloroprop	118	28	µg/kg dry	141	ND	83.2	30-150	0.370	30	
Dichloroprop [2C]	117	28	µg/kg dry	141	ND	82.7	30-150	2.33	30	
Dinoseb	20.9	14	µg/kg dry	70.7	ND	29.6	10-150	4.56	30	
Dinoseb [2C]	17.2	14	µg/kg dry	70.7	ND	24.4	10-150	6.07	30	
MCPA	8970	2800	µg/kg dry	14100	ND	63.4	30-150	3.80	30	
MCPA [2C]	10100	2800	µg/kg dry	14100	ND	71.1	30-150	1.74	30	
MCPP	9380	2800	µg/kg dry	14100	ND	66.3	30-150	0.0435	30	
MCPP [2C]	9310	2800	µg/kg dry	14100	ND	65.8	30-150	0.196	30	
Surrogate: 2,4-Dichlorophenylacetic acid	*83.2*		µg/kg dry	113		73.5	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*82.1*		µg/kg dry	113		72.5	30-150			
Reference (B144348-SRM1) 8151 R.L. Annual Verification, Re-ex				Prepared: 03/16/16 Analyzed: 03/18/16						
2,4-D	13.3	25	µg/kg wet	24.9		53.4	0-200			
2,4-D [2C]	13.7	25	µg/kg wet	24.9		55.2	0-200			
2,4-DB	15.0	25	µg/kg wet	24.9		60.1	0-200			
2,4-DB [2C]	14.6	25	µg/kg wet	24.9		58.8	0-200			
2,4,5-TP (Silvex)	1.34	2.5	µg/kg wet	2.49		53.8	0-200			
2,4,5-TP (Silvex) [2C]	1.34	2.5	µg/kg wet	2.49		53.9	0-200			
2,4,5-T	1.27	2.5	µg/kg wet	2.49		51.0	0-200			
2,4,5-T [2C]	1.68	2.5	µg/kg wet	2.49		67.6	0-200			
Dalapon	18.0	62	µg/kg wet	62.3		28.9	0-200			
Dalapon [2C]	18.9	62	µg/kg wet	62.3		30.4	0-200			
Dicamba	1.44	2.5	µg/kg wet	2.49		57.7	0-200			
Dicamba [2C]	1.94	2.5	µg/kg wet	2.49		77.7	0-200			
Dichloroprop	19.6	25	µg/kg wet	24.9		78.6	0-200			
Dichloroprop [2C]	19.0	25	µg/kg wet	24.9		76.2	0-200			
Dinoseb	1.81	12	µg/kg wet	12.5		14.5	0-200			
Dinoseb [2C]	1.77	12	µg/kg wet	12.5		14.2	0-200			
MCPA	1370	2500	µg/kg wet	2490		54.9	0-200			
MCPA [2C]	1510	2500	µg/kg wet	2490		60.5	0-200			
MCPP	1190	2500	µg/kg wet	2490		47.8	0-200			
MCPP [2C]	1060	2500	µg/kg wet	2490		42.4	0-200			
Surrogate: 2,4-Dichlorophenylacetic acid	*53.8*		µg/kg wet	99.6		54.0	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*52.7*		µg/kg wet	99.6		52.9	30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144349 - SW-846 3546										
Blank (B144349-BLK1)				Prepared: 03/16/16 Analyzed: 03/17/16						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*2.67*		mg/Kg wet	4.99		53.6	40-140			
Surrogate: o-Terphenyl (OTP)	*2.94*		mg/Kg wet	5.00		58.8	40-140			
Surrogate: 2-Bromonaphthalene	*3.96*		mg/Kg wet	5.00		79.3	40-140			
Surrogate: 2-Fluorobiphenyl	*3.77*		mg/Kg wet	5.00		75.4	40-140			
LCS (B144349-BS1)				Prepared: 03/16/16 Analyzed: 03/22/16						
Acenaphthene	3.31	0.10	mg/Kg wet	5.00		66.2	40-140			
Acenaphthylene	3.23	0.10	mg/Kg wet	5.00		64.5	40-140			
Anthracene	3.45	0.10	mg/Kg wet	5.00		69.0	40-140			
Benzo(a)anthracene	3.54	0.10	mg/Kg wet	5.00		70.7	40-140			
Benzo(a)pyrene	3.48	0.10	mg/Kg wet	5.00		69.6	40-140			
Benzo(b)fluoranthene	3.42	0.10	mg/Kg wet	5.00		68.5	40-140			
Benzo(g,h,i)perylene	3.35	0.10	mg/Kg wet	5.00		67.0	40-140			
Benzo(k)fluoranthene	3.51	0.10	mg/Kg wet	5.00		70.3	40-140			
Chrysene	3.67	0.10	mg/Kg wet	5.00		73.5	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B144349 - SW-846 3546											
LCS (B144349-BS1)				Prepared: 03/16/16 Analyzed: 03/22/16							
Dibenz(a,h)anthracene	3.67	0.10	mg/Kg wet	5.00		73.3		40-140			
Fluoranthene	3.57	0.10	mg/Kg wet	5.00		71.3		40-140			
Fluorene	3.38	0.10	mg/Kg wet	5.00		67.6		40-140			
Indeno(1,2,3-cd)pyrene	3.33	0.10	mg/Kg wet	5.00		66.6		40-140			
2-Methylnaphthalene	2.96	0.10	mg/Kg wet	5.00		59.3		40-140			
Naphthalene	2.78	0.10	mg/Kg wet	5.00		55.6		40-140			
Phenanthrene	3.58	0.10	mg/Kg wet	5.00		71.7		40-140			
Pyrene	3.57	0.10	mg/Kg wet	5.00		71.4		40-140			
n-Decane	2.32	0.10	mg/Kg wet	5.00		46.3		40-140			
n-Docosane	3.48	0.10	mg/Kg wet	5.00		69.5		40-140			
n-Dodecane	2.97	0.10	mg/Kg wet	5.00		59.5		40-140			
n-Eicosane	3.63	0.10	mg/Kg wet	5.00		72.6		40-140			
n-Hexacosane	3.63	0.10	mg/Kg wet	5.00		72.6		40-140			
n-Hexadecane	3.62	0.10	mg/Kg wet	5.00		72.4		40-140			
n-Hexatriacontane	3.60	0.10	mg/Kg wet	5.00		72.1		40-140			
n-Nonadecane	3.66	0.10	mg/Kg wet	5.00		73.2		40-140			
n-Nonane	1.56	0.10	mg/Kg wet	5.00		31.2		30-140			
n-Octacosane	3.60	0.10	mg/Kg wet	5.00		72.1		40-140			
n-Octadecane	3.66	0.10	mg/Kg wet	5.00		73.2		40-140			
n-Tetracosane	3.90	0.10	mg/Kg wet	5.00		77.9		40-140			
n-Tetradecane	3.33	0.10	mg/Kg wet	5.00		66.7		40-140			
n-Triacontane	3.53	0.10	mg/Kg wet	5.00		70.5		40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
Surrogate: Chlorooctadecane (COD)	*3.18*		mg/Kg wet	4.99		63.8		40-140			
Surrogate: o-Terphenyl (OTP)	*3.32*		mg/Kg wet	5.00		66.4		40-140			
Surrogate: 2-Bromonaphthalene	*5.32*		mg/Kg wet	5.00		106		40-140			
Surrogate: 2-Fluorobiphenyl	*5.40*		mg/Kg wet	5.00		108		40-140			
LCS Dup (B144349-BSD1)				Prepared: 03/16/16 Analyzed: 03/22/16							
Acenaphthene	2.98	0.10	mg/Kg wet	5.00		59.6		40-140	10.4	25	
Acenaphthylene	2.87	0.10	mg/Kg wet	5.00		57.4		40-140	11.7	25	
Anthracene	3.33	0.10	mg/Kg wet	5.00		66.6		40-140	3.43	25	
Benzo(a)anthracene	3.32	0.10	mg/Kg wet	5.00		66.4		40-140	6.39	25	
Benzo(a)pyrene	3.27	0.10	mg/Kg wet	5.00		65.3		40-140	6.40	25	
Benzo(b)fluoranthene	3.24	0.10	mg/Kg wet	5.00		64.8		40-140	5.53	25	
Benzo(g,h,i)perylene	3.18	0.10	mg/Kg wet	5.00		63.5		40-140	5.29	25	
Benzo(k)fluoranthene	3.27	0.10	mg/Kg wet	5.00		65.4		40-140	7.11	25	
Chrysene	3.39	0.10	mg/Kg wet	5.00		67.8		40-140	7.97	25	
Dibenz(a,h)anthracene	3.40	0.10	mg/Kg wet	5.00		67.9		40-140	7.66	25	
Fluoranthene	3.40	0.10	mg/Kg wet	5.00		67.9		40-140	4.95	25	
Fluorene	3.11	0.10	mg/Kg wet	5.00		62.3		40-140	8.14	25	
Indeno(1,2,3-cd)pyrene	3.13	0.10	mg/Kg wet	5.00		62.6		40-140	6.07	25	
2-Methylnaphthalene	2.55	0.10	mg/Kg wet	5.00		51.0		40-140	15.0	25	
Naphthalene	2.33	0.10	mg/Kg wet	5.00		46.5		40-140	17.8	25	
Phenanthrene	3.40	0.10	mg/Kg wet	5.00		68.1		40-140	5.18	25	
Pyrene	3.40	0.10	mg/Kg wet	5.00		68.0		40-140	4.93	25	
n-Decane	1.81	0.10	mg/Kg wet	5.00		**36.3**	*	40-140	24.3	25	L-07
n-Docosane	3.03	0.10	mg/Kg wet	5.00		60.6		40-140	13.8	25	
n-Dodecane	2.38	0.10	mg/Kg wet	5.00		47.6		40-140	22.1	25	
n-Eicosane	3.23	0.10	mg/Kg wet	5.00		64.6		40-140	11.6	25	
n-Hexacosane	3.10	0.10	mg/Kg wet	5.00		62.0		40-140	15.9	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B144349 - SW-846 3546											
LCS Dup (B144349-BSD1)				Prepared: 03/16/16 Analyzed: 03/22/16							
n-Hexadecane	3.17	0.10	mg/Kg wet	5.00		63.4		40-140	13.3	25	
n-Hexatriacontane	3.25	0.10	mg/Kg wet	5.00		64.9		40-140	10.4	25	
n-Nonadecane	3.25	0.10	mg/Kg wet	5.00		65.1		40-140	11.8	25	
n-Nonane	1.26	0.10	mg/Kg wet	5.00		**25.2**	*	30-140	21.3	25	L-07
n-Octacosane	3.09	0.10	mg/Kg wet	5.00		61.8		40-140	15.3	25	
n-Octadecane	3.26	0.10	mg/Kg wet	5.00		65.2		40-140	11.5	25	
n-Tetracosane	3.41	0.10	mg/Kg wet	5.00		68.1		40-140	13.5	25	
n-Tetradecane	2.83	0.10	mg/Kg wet	5.00		56.6		40-140	16.3	25	
n-Triacontane	3.08	0.10	mg/Kg wet	5.00		61.6		40-140	13.5	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
Surrogate: Chlorooctadecane (COD)	*2.74*		mg/Kg wet	4.99		55.0		40-140			
Surrogate: o-Terphenyl (OTP)	*3.14*		mg/Kg wet	5.00		62.9		40-140			
Surrogate: 2-Bromonaphthalene	*5.02*		mg/Kg wet	5.00		100		40-140			
Surrogate: 2-Fluorobiphenyl	*5.15*		mg/Kg wet	5.00		103		40-140			
Batch B144561 - SW-846 3546											
Blank (B144561-BLK1)				Prepared: 03/18/16 Analyzed: 03/21/16							
C9-C18 Aliphatics	ND	10	mg/Kg wet								
C19-C36 Aliphatics	ND	10	mg/Kg wet								
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet								
C11-C22 Aromatics	ND	10	mg/Kg wet								
Acenaphthene	ND	0.10	mg/Kg wet								
Acenaphthylene	ND	0.10	mg/Kg wet								
Anthracene	ND	0.10	mg/Kg wet								
Benzo(a)anthracene	ND	0.10	mg/Kg wet								
Benzo(a)pyrene	ND	0.10	mg/Kg wet								
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet								
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet								
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet								
Chrysene	ND	0.10	mg/Kg wet								
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet								
Fluoranthene	ND	0.10	mg/Kg wet								
Fluorene	ND	0.10	mg/Kg wet								
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet								
2-Methylnaphthalene	ND	0.10	mg/Kg wet								
Naphthalene	ND	0.10	mg/Kg wet								
Phenanthrene	ND	0.10	mg/Kg wet								
Pyrene	ND	0.10	mg/Kg wet								
n-Decane	ND	0.10	mg/Kg wet								
n-Docosane	ND	0.10	mg/Kg wet								
n-Dodecane	ND	0.10	mg/Kg wet								
n-Eicosane	ND	0.10	mg/Kg wet								
n-Hexacosane	ND	0.10	mg/Kg wet								
n-Hexadecane	ND	0.10	mg/Kg wet								
n-Hexatriacontane	ND	0.10	mg/Kg wet								
n-Nonadecane	ND	0.10	mg/Kg wet								
n-Nonane	ND	0.10	mg/Kg wet								
n-Octacosane	ND	0.10	mg/Kg wet								
n-Octadecane	ND	0.10	mg/Kg wet								
n-Tetracosane	ND	0.10	mg/Kg wet								
n-Tetradecane	ND	0.10	mg/Kg wet								

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144561 - SW-846 3546										
Blank (B144561-BLK1)				Prepared: 03/18/16 Analyzed: 03/21/16						
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*2.98*		mg/Kg wet	4.99		59.8	40-140			
Surrogate: o-Terphenyl (OTP)	*3.61*		mg/Kg wet	5.00		72.2	40-140			
Surrogate: 2-Bromonaphthalene	*3.76*		mg/Kg wet	5.00		75.1	40-140			
Surrogate: 2-Fluorobiphenyl	*3.70*		mg/Kg wet	5.00		74.0	40-140			
LCS (B144561-BS1)				Prepared: 03/18/16 Analyzed: 03/21/16						
Acenaphthene	3.81	0.10	mg/Kg wet	5.00		76.2	40-140			
Acenaphthylene	3.59	0.10	mg/Kg wet	5.00		71.7	40-140			
Anthracene	4.58	0.10	mg/Kg wet	5.00		91.5	40-140			
Benzo(a)anthracene	4.07	0.10	mg/Kg wet	5.00		81.3	40-140			
Benzo(a)pyrene	3.98	0.10	mg/Kg wet	5.00		79.7	40-140			
Benzo(b)fluoranthene	3.99	0.10	mg/Kg wet	5.00		79.8	40-140			
Benzo(g,h,i)perylene	3.85	0.10	mg/Kg wet	5.00		76.9	40-140			
Benzo(k)fluoranthene	4.04	0.10	mg/Kg wet	5.00		80.9	40-140			
Chrysene	4.13	0.10	mg/Kg wet	5.00		82.5	40-140			
Dibenz(a,h)anthracene	4.10	0.10	mg/Kg wet	5.00		82.0	40-140			
Fluoranthene	4.10	0.10	mg/Kg wet	5.00		82.0	40-140			
Fluorene	3.84	0.10	mg/Kg wet	5.00		76.9	40-140			
Indeno(1,2,3-cd)pyrene	3.80	0.10	mg/Kg wet	5.00		76.0	40-140			
2-Methylnaphthalene	3.32	0.10	mg/Kg wet	5.00		66.4	40-140			
Naphthalene	3.22	0.10	mg/Kg wet	5.00		64.4	40-140			
Phenanthrene	4.03	0.10	mg/Kg wet	5.00		80.6	40-140			
Pyrene	4.12	0.10	mg/Kg wet	5.00		82.4	40-140			
n-Decane	2.51	0.10	mg/Kg wet	5.00		50.2	40-140			
n-Docosane	3.88	0.10	mg/Kg wet	5.00		77.6	40-140			
n-Dodecane	2.94	0.10	mg/Kg wet	5.00		58.8	40-140			
n-Eicosane	3.99	0.10	mg/Kg wet	5.00		79.8	40-140			
n-Hexacosane	4.13	0.10	mg/Kg wet	5.00		82.7	40-140			
n-Hexadecane	3.73	0.10	mg/Kg wet	5.00		74.5	40-140			
n-Hexatriacontane	3.99	0.10	mg/Kg wet	5.00		79.7	40-140			
n-Nonadecane	3.93	0.10	mg/Kg wet	5.00		78.6	40-140			
n-Nonane	1.97	0.10	mg/Kg wet	5.00		39.3	30-140			
n-Octacosane	4.15	0.10	mg/Kg wet	5.00		83.0	40-140			
n-Octadecane	3.89	0.10	mg/Kg wet	5.00		77.9	40-140			
n-Tetracosane	4.39	0.10	mg/Kg wet	5.00		87.9	40-140			
n-Tetradecane	3.32	0.10	mg/Kg wet	5.00		66.4	40-140			
n-Triacontane	4.20	0.10	mg/Kg wet	5.00		84.0	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.29*		mg/Kg wet	4.99		66.0	40-140			
Surrogate: o-Terphenyl (OTP)	*4.16*		mg/Kg wet	5.00		83.1	40-140			
Surrogate: 2-Bromonaphthalene	*4.24*		mg/Kg wet	5.00		84.8	40-140			
Surrogate: 2-Fluorobiphenyl	*4.21*		mg/Kg wet	5.00		84.1	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144561 - SW-846 3546										
LCS Dup (B144561-BSD1)				Prepared: 03/18/16 Analyzed: 03/21/16						
Acenaphthene	3.56	0.10	mg/Kg wet	5.00		71.2	40-140	6.87	25	
Acenaphthylene	3.30	0.10	mg/Kg wet	5.00		66.0	40-140	8.39	25	
Anthracene	4.31	0.10	mg/Kg wet	5.00		86.2	40-140	6.01	25	
Benzo(a)anthracene	3.87	0.10	mg/Kg wet	5.00		77.4	40-140	4.97	25	
Benzo(a)pyrene	3.86	0.10	mg/Kg wet	5.00		77.2	40-140	3.14	25	
Benzo(b)fluoranthene	3.86	0.10	mg/Kg wet	5.00		77.2	40-140	3.34	25	
Benzo(g,h,i)perylene	3.78	0.10	mg/Kg wet	5.00		75.6	40-140	1.68	25	
Benzo(k)fluoranthene	3.89	0.10	mg/Kg wet	5.00		77.8	40-140	3.82	25	
Chrysene	3.92	0.10	mg/Kg wet	5.00		78.4	40-140	5.06	25	
Dibenz(a,h)anthracene	4.04	0.10	mg/Kg wet	5.00		80.7	40-140	1.64	25	
Fluoranthene	3.88	0.10	mg/Kg wet	5.00		77.7	40-140	5.45	25	
Fluorene	3.67	0.10	mg/Kg wet	5.00		73.5	40-140	4.54	25	
Indeno(1,2,3-cd)pyrene	3.74	0.10	mg/Kg wet	5.00		74.9	40-140	1.50	25	
2-Methylnaphthalene	3.07	0.10	mg/Kg wet	5.00		61.4	40-140	7.80	25	
Naphthalene	2.95	0.10	mg/Kg wet	5.00		59.1	40-140	8.61	25	
Phenanthrene	3.80	0.10	mg/Kg wet	5.00		75.9	40-140	5.99	25	
Pyrene	3.90	0.10	mg/Kg wet	5.00		77.9	40-140	5.63	25	
n-Decane	2.48	0.10	mg/Kg wet	5.00		49.6	40-140	1.27	25	
n-Docosane	3.88	0.10	mg/Kg wet	5.00		77.5	40-140	0.152	25	
n-Dodecane	2.89	0.10	mg/Kg wet	5.00		57.9	40-140	1.54	25	
n-Eicosane	3.91	0.10	mg/Kg wet	5.00		78.2	40-140	1.91	25	
n-Hexacosane	4.07	0.10	mg/Kg wet	5.00		81.4	40-140	1.47	25	
n-Hexadecane	3.65	0.10	mg/Kg wet	5.00		73.0	40-140	2.00	25	
n-Hexatriacontane	3.91	0.10	mg/Kg wet	5.00		78.2	40-140	1.89	25	
n-Nonadecane	3.86	0.10	mg/Kg wet	5.00		77.2	40-140	1.71	25	
n-Nonane	1.94	0.10	mg/Kg wet	5.00		38.7	30-140	1.53	25	
n-Octacosane	4.09	0.10	mg/Kg wet	5.00		81.7	40-140	1.51	25	
n-Octadecane	3.83	0.10	mg/Kg wet	5.00		76.7	40-140	1.59	25	
n-Tetracosane	4.33	0.10	mg/Kg wet	5.00		86.5	40-140	1.50	25	
n-Tetradecane	3.25	0.10	mg/Kg wet	5.00		65.0	40-140	2.08	25	
n-Triacontane	4.13	0.10	mg/Kg wet	5.00		82.6	40-140	1.65	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.25*		mg/Kg wet	4.99		65.2	40-140			
Surrogate: o-Terphenyl (OTP)	*3.94*		mg/Kg wet	5.00		78.9	40-140			
Surrogate: 2-Bromonaphthalene	*3.95*		mg/Kg wet	5.00		79.1	40-140			
Surrogate: 2-Fluorobiphenyl	*3.91*		mg/Kg wet	5.00		78.2	40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144322 - SW-846 3050B										
Blank (B144322-BLK1)				Prepared: 03/15/16 Analyzed: 03/17/16						
Antimony	ND	2.5	mg/Kg wet							
Arsenic	ND	2.5	mg/Kg wet							
Barium	ND	2.5	mg/Kg wet							
Beryllium	ND	0.25	mg/Kg wet							
Cadmium	ND	0.25	mg/Kg wet							
Chromium	ND	0.50	mg/Kg wet							
Lead	ND	0.75	mg/Kg wet							
Nickel	ND	0.50	mg/Kg wet							
Selenium	ND	5.0	mg/Kg wet							
Silver	ND	0.50	mg/Kg wet							
Thallium	ND	2.5	mg/Kg wet							
Vanadium	ND	1.0	mg/Kg wet							
Zinc	ND	1.0	mg/Kg wet							
LCS (B144322-BS1)				Prepared: 03/15/16 Analyzed: 03/17/16						
Antimony	114	4.7	mg/Kg wet	105		109	0-210.3			
Arsenic	90.8	4.7	mg/Kg wet	98.5		92.2	77.8-122.1			
Barium	302	4.7	mg/Kg wet	308		98.1	82-117.4			
Beryllium	71.8	0.47	mg/Kg wet	66.0		109	82.3-117.7			
Cadmium	163	0.47	mg/Kg wet	146		112	81.9-118.2			
Chromium	186	0.94	mg/Kg wet	182		102	78.7-120.6			
Lead	114	1.4	mg/Kg wet	130		88.0	82.4-117.8			
Nickel	160	0.94	mg/Kg wet	149		107	82.2-117.8			
Selenium	143	9.4	mg/Kg wet	154		92.7	77.1-122.3			
Silver	38.6	0.94	mg/Kg wet	40.9		94.3	74.3-125.4			
Thallium	201	4.7	mg/Kg wet	175		115	78.2-121.6			
Vanadium	101	1.9	mg/Kg wet	96.7		104	64.8-135.2			
Zinc	182	1.9	mg/Kg wet	191		95.4	79.7-120.8			
LCS Dup (B144322-BSD1)				Prepared: 03/15/16 Analyzed: 03/17/16						
Antimony	98.7	4.9	mg/Kg wet	105		94.0	0-210.3	14.5	30	
Arsenic	92.2	4.9	mg/Kg wet	98.5		93.6	77.8-122.1	1.51	30	
Barium	295	4.9	mg/Kg wet	308		95.9	82-117.4	2.33	30	
Beryllium	67.7	0.49	mg/Kg wet	66.0		103	82.3-117.7	5.83	30	
Cadmium	146	0.49	mg/Kg wet	146		100	81.9-118.2	11.1	30	
Chromium	178	0.98	mg/Kg wet	182		97.8	78.7-120.6	4.38	30	
Lead	112	1.5	mg/Kg wet	130		86.3	82.4-117.8	1.85	30	
Nickel	145	0.98	mg/Kg wet	149		97.2	82.2-117.8	9.79	30	
Selenium	136	9.8	mg/Kg wet	154		88.0	77.1-122.3	5.19	30	
Silver	38.3	0.98	mg/Kg wet	40.9		93.6	74.3-125.4	0.738	30	
Thallium	182	4.9	mg/Kg wet	175		104	78.2-121.6	9.93	30	
Vanadium	94.6	2.0	mg/Kg wet	96.7		97.8	64.8-135.2	6.60	30	
Zinc	176	2.0	mg/Kg wet	191		92.3	79.7-120.8	3.26	30	

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144322 - SW-846 3050B										
MRL Check (B144322-MRL1)				Prepared: 03/15/16 Analyzed: 03/21/16						
Lead	0.694	0.73	mg/Kg wet	0.730		95.2	80-120			
Batch B144337 - SW-846 7471										
Blank (B144337-BLK1)				Prepared: 03/16/16 Analyzed: 03/17/16						
Mercury	ND	0.025	mg/Kg wet							
LCS (B144337-BS1)				Prepared: 03/16/16 Analyzed: 03/17/16						
Mercury	8.11	0.83	mg/Kg wet	7.10		114	73.7-126.3			
LCS Dup (B144337-BSD1)				Prepared: 03/16/16 Analyzed: 03/17/16						
Mercury	7.52	0.78	mg/Kg wet	7.10		106	73.7-126.3	7.50	30	

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144313 - % Solids										
Duplicate (B144313-DUP3)		**Source: 16C0644-01**		Prepared: 03/15/16 Analyzed: 03/16/16						
% Solids	86.0		% Wt		85.3			0.817	20	

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BREAKDOWN REPORT

Lab Sample ID: **S010985-PEM1** **Analyzed:** **03/18/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	0.31
Endrin [1]	4.21

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	0.18
Endrin [2]	4.03

BREAKDOWN REPORT

Lab Sample ID: **S010985-PEM2** **Analyzed:** **03/18/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	0.26
Endrin [1]	3.94

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	0.19
Endrin [2]	3.84

BREAKDOWN REPORT

Lab Sample ID: **S010985-PEM3** **Analyzed:** **03/19/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	1.16
Endrin [1]	3.51

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BREAKDOWN REPORT

Lab Sample ID: **S010985-PEM3** **Analyzed:** **03/19/2016**

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	1.34
Endrin [2]	3.55

BREAKDOWN REPORT

Lab Sample ID: **S010985-PEM4** **Analyzed:** **03/19/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	1.25
Endrin [1]	3.78

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	1.48
Endrin [2]	3.74

BREAKDOWN REPORT

Lab Sample ID: **S010985-PEM5** **Analyzed:** **03/19/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	1.41
Endrin [1]	3.74

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	1.63
Endrin [2]	3.68

BREAKDOWN REPORT

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BREAKDOWN REPORT

Lab Sample ID: **S010985-PEM6** **Analyzed:** **03/19/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	1.62
Endrin [1]	4.12

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	2.07
Endrin [2]	4.14

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

B-7 (0-3')

Lab Sample ID: 16C0644-02 Date(s) Analyzed 03/18/2016 03/18/2016

Instrument ID (1): ECD2 Instrument ID (2): ECD2

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDT	1	7.76	0.00	0.00	0.11	
	2	7.80	0.00	0.00	0.64	142.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

B-11 (3-6')

Lab Sample ID: 16C0644-08 Date(s) Analyzed 03/18/2016 03/18/2016

Instrument ID (1): ECD2 Instrument ID (2): ECD2

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDT	1	7.76	0.00	0.00	0.16	
	2	7.80	0.00	0.00	0.75	129.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B144345-BS1 Date(s) Analyzed 03/18/2016 03/18/2016

Instrument ID (1): ECD2 Instrument ID (2): ECD2

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	7.55	0.00	0.00	0.12	
	2	7.55	0.00	0.00	0.12	2
4,4'-DDE	1	7.09	0.00	0.00	0.12	
	2	7.11	0.00	0.00	0.12	3
4,4'-DDT	1	7.77	0.00	0.00	0.12	
	2	7.80	0.00	0.00	0.12	3
Aldrin	1	6.41	0.00	0.00	0.10	
	2	6.32	0.00	0.00	0.10	4
alpha-BHC	1	5.65	0.00	0.00	0.11	
	2	5.58	0.00	0.00	0.10	10
beta-BHC	1	5.92	0.00	0.00	0.11	
	2	5.86	0.00	0.00	0.10	8
delta-BHC	1	6.05	0.00	0.00	0.11	
	2	6.06	0.00	0.00	0.10	11
Dieldrin	1	7.32	0.00	0.00	0.11	
	2	7.23	0.00	0.00	0.11	0
Endosulfan I	1	7.14	0.00	0.00	0.11	
	2	7.02	0.00	0.00	0.11	2
Endosulfan II	1	7.68	0.00	0.00	0.11	
	2	7.63	0.00	0.00	0.12	5
Endosulfan Sulfate	1	8.31	0.00	0.00	0.12	
	2	8.10	0.00	0.00	0.12	3
Endrin	1	7.50	0.00	0.00	0.12	
	2	7.46	0.00	0.00	0.12	4
Endrin Ketone	1	8.50	0.00	0.00	0.13	
	2	8.46	0.00	0.00	0.13	3
gamma-BHC (Lindane)	1	5.87	0.00	0.00	0.12	
	2	5.81	0.00	0.00	0.11	5
Heptachlor	1	6.19	0.00	0.00	0.11	
	2	6.10	0.00	0.00	0.11	5
Heptachlor Epoxide	1	6.85	0.00	0.00	0.10	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B144345-BS1 Date(s) Analyzed 03/18/2016 03/18/2016

Instrument ID (1): ECD2 Instrument ID (2): ECD2

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.73	0.00	0.00	0.11	5
Hexachlorobenzene	1	5.54	0.00	0.00	0.093	
	2	5.48	0.00	0.00	0.091	3
Methoxychlor	1	8.13	0.00	0.00	0.12	
	2	8.31	0.00	0.00	0.13	7

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B144345-BSD1 Date(s) Analyzed 03/18/2016 03/18/2016

Instrument ID (1): ECD2 Instrument ID (2): ECD2

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	7.55	0.00	0.00	0.12	
	2	7.55	0.00	0.00	0.12	3
4,4'-DDE	1	7.09	0.00	0.00	0.12	
	2	7.11	0.00	0.00	0.12	3
4,4'-DDT	1	7.77	0.00	0.00	0.13	
	2	7.80	0.00	0.00	0.13	4
Aldrin	1	6.41	0.00	0.00	0.10	
	2	6.32	0.00	0.00	0.11	5
alpha-BHC	1	5.66	0.00	0.00	0.11	
	2	5.58	0.00	0.00	0.10	10
beta-BHC	1	5.92	0.00	0.00	0.11	
	2	5.86	0.00	0.00	0.10	8
delta-BHC	1	6.05	0.00	0.00	0.11	
	2	6.06	0.00	0.00	0.10	12
Dieldrin	1	7.32	0.00	0.00	0.11	
	2	7.23	0.00	0.00	0.11	1
Endosulfan I	1	7.14	0.00	0.00	0.11	
	2	7.02	0.00	0.00	0.11	2
Endosulfan II	1	7.68	0.00	0.00	0.11	
	2	7.63	0.00	0.00	0.12	4
Endosulfan Sulfate	1	8.31	0.00	0.00	0.12	
	2	8.10	0.00	0.00	0.12	3
Endrin	1	7.50	0.00	0.00	0.12	
	2	7.46	0.00	0.00	0.12	3
Endrin Ketone	1	8.50	0.00	0.00	0.13	
	2	8.46	0.00	0.00	0.13	3
gamma-BHC (Lindane)	1	5.87	0.00	0.00	0.12	
	2	5.81	0.00	0.00	0.11	5
Heptachlor	1	6.19	0.00	0.00	0.11	
	2	6.10	0.00	0.00	0.11	4
Heptachlor Epoxide	1	6.85	0.00	0.00	0.11	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B144345-BSD1 Date(s) Analyzed 03/18/2016 03/18/2016

Instrument ID (1): ECD2 Instrument ID (2): ECD2

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.73	0.00	0.00	0.11	4
Hexachlorobenzene	1	5.54	0.00	0.00	0.094	
	2	5.48	0.00	0.00	0.092	2
Methoxychlor	1	8.13	0.00	0.00	0.12	
	2	8.31	0.00	0.00	0.13	6

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS

Lab Sample ID: B144348-BS1 Date(s) Analyzed 03/18/2016 03/19/2016

Instrument ID (1): A Instrument ID (2): B

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	14.22	0.00	0.00	8.91	
	2	13.85	0.00	0.00	9.64	8
2,4,5-TP (Silvex)	1	13.64	0.00	0.00	8.98	
	2	13.06	0.00	0.00	8.86	1
2,4-D	1	11.92	0.00	0.00	86.2	
	2	11.47	0.00	0.00	79.8	8
2,4-DB	1	15.38	0.00	0.00	98.0	
	2	14.92	0.00	0.00	87.0	12
Dalapon	1	3.86	0.00	0.00	116	
	2	3.33	0.00	0.00	126	8
Dicamba	1	10.01	0.00	0.00	9.13	
	2	9.52	0.00	0.00	9.21	1
Dichloroprop	1	11.46	0.00	0.00	109	
	2	10.86	0.00	0.00	108	1
Dinoseb	1	17.02	0.00	0.00	16.2	
	2	15.51	0.00	0.00	15.7	3
MCPA	1	10.76	0.00	0.00	8430	
	2	10.26	0.00	0.00	8680	3
MCPP	1	10.46	0.00	0.00	8610	
	2	9.83	0.00	0.00	8370	3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS Dup

Lab Sample ID: B144348-BSD1 Date(s) Analyzed 03/18/2016 03/18/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	14.22	0.00	0.00	8.19	
	2	13.85	0.00	0.00	8.90	8
2,4,5-TP (Silvex)	1	13.64	0.00	0.00	8.43	
	2	13.05	0.00	0.00	8.27	2
2,4-D	1	11.92	0.00	0.00	80.9	
	2	11.47	0.00	0.00	74.8	8
2,4-DB	1	15.38	0.00	0.00	91.5	
	2	14.92	0.00	0.00	78.6	15
Dalapon	1	3.86	0.00	0.00	106	
	2	3.33	0.00	0.00	111	5
Dicamba	1	10.01	0.00	0.00	8.94	
	2	9.52	0.00	0.00	9.03	1
Dichloroprop	1	11.46	0.00	0.00	103	
	2	10.86	0.00	0.00	102	1
Dinoseb	1	17.02	0.00	0.00	13.8	
	2	15.52	0.00	0.00	13.6	1
MCPA	1	10.76	0.00	0.00	7930	
	2	10.26	0.00	0.00	8200	3
MCPP	1	10.46	0.00	0.00	8120	
	2	9.83	0.00	0.00	7830	4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

Matrix Spike

Lab Sample ID: B144348-MS1 Date(s) Analyzed 03/19/2016 03/19/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	14.22	0.00	0.00	9.14	
	2	13.85	0.00	0.00	9.68	6
2,4,5-TP (Silvex)	1	13.64	0.00	0.00	9.43	
	2	13.06	0.00	0.00	8.87	6
2,4-D	1	11.92	0.00	0.00	90.8	
	2	11.47	0.00	0.00	85.3	6
2,4-DB	1	15.38	0.00	0.00	95.9	
	2	14.92	0.00	0.00	109	13
Dalapon	1	3.86	0.00	0.00	115	
	2	3.33	0.00	0.00	125	8
Dicamba	1	10.01	0.00	0.00	9.81	
	2	9.52	0.00	0.00	9.96	2
Dichloroprop	1	11.46	0.00	0.00	118	
	2	10.86	0.00	0.00	114	3
Dinoseb	1	17.02	0.00	0.00	21.9	
	2	15.52	0.00	0.00	18.3	18
MCPA	1	10.76	0.00	0.00	9310	
	2	10.26	0.00	0.00	9880	6
MCPP	1	10.46	0.00	0.00	9390	
	2	9.83	0.00	0.00	9290	1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

Matrix Spike Dup

Lab Sample ID: B144348-MSD1 Date(s) Analyzed 03/19/2016 03/19/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	14.22	0.00	0.00	9.14	
	2	13.86	0.00	0.00	9.66	6
2,4,5-TP (Silvex)	1	13.64	0.00	0.00	9.44	
	2	13.06	0.00	0.00	8.96	5
2,4-D	1	11.92	0.00	0.00	90.9	
	2	11.47	0.00	0.00	85.5	6
2,4-DB	1	15.38	0.00	0.00	99.5	
	2	14.92	0.00	0.00	110	10
Dalapon	1	3.86	0.00	0.00	119	
	2	3.33	0.00	0.00	126	6
Dicamba	1	10.01	0.00	0.00	9.70	
	2	9.52	0.00	0.00	9.80	1
Dichloroprop	1	11.46	0.00	0.00	118	
	2	10.86	0.00	0.00	117	1
Dinoseb	1	17.02	0.00	0.00	20.9	
	2	15.52	0.00	0.00	17.2	19
MCPA	1	10.76	0.00	0.00	8970	
	2	10.26	0.00	0.00	10100	12
MCPP	1	10.46	0.00	0.00	9380	
	2	9.83	0.00	0.00	9310	1

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level

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

No results have been blank subtracted unless specified in the case narrative section.

L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
P-08	Sample RPD between primary and confirmatory analysis exceeded 100%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.
RL-12	Elevated reporting limit due to matrix interference.
S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,WA,ME,NH-P
C19-C36 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME,NH-P
C11-C22 Aromatics	CT,NC,WA,ME,NH-P
Acenaphthene	CT,NC,WA,ME,NH-P
Acenaphthylene	CT,NC,WA,ME,NH-P
Anthracene	CT,NC,WA,ME,NH-P
Benzo(a)anthracene	CT,NC,WA,ME,NH-P
Benzo(a)pyrene	CT,NC,WA,ME,NH-P
Benzo(b)fluoranthene	CT,NC,WA,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,WA,ME,NH-P
Benzo(k)fluoranthene	CT,NC,WA,ME,NH-P
Chrysene	CT,NC,WA,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,WA,ME,NH-P
Fluoranthene	CT,NC,WA,ME,NH-P
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME,NH-P
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME,NH-P
Phenanthrene	CT,NC,WA,ME,NH-P
Pyrene	CT,NC,WA,ME,NH-P
SW-846 6010C/D in Soil	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
SW-846 7471B in Soil	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8081B in Soil	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Soil	
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8081B in Water	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Water	
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8151A in Soil	
2,4-D	NY,ME,NC,NH,VA,CT
2,4-D [2C]	NY,ME,NC,NH,VA,CT
2,4-DB	NY,ME,NC,NH,VA,CT
2,4-DB [2C]	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex)	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex) [2C]	NY,ME,NC,NH,VA,CT
2,4,5-T	NY,ME,NC,NH,VA,CT
2,4,5-T [2C]	NY,ME,NC,NH,VA,CT
Dalapon	NY,ME,NC,NH,VA,CT
Dalapon [2C]	NY,ME,NC,NH,VA,CT
Dicamba	NY,ME,NC,NH,VA,CT
Dicamba [2C]	NY,ME,NC,NH,VA,CT
Dichloroprop	NY,ME,NC,NH,VA,CT
Dichloroprop [2C]	NY,ME,NC,NH,VA,CT
Dinoseb	NY,ME,NC,NH,VA,CT
Dinoseb [2C]	NY,ME,NC,NH,VA,CT
MCPA	NY,ME,NC,NH,VA,CT
MCPA [2C]	NY,ME,NC,NH,VA,CT
MCPP	NY,ME,NC,NH,VA,CT
MCPP [2C]	NY,ME,NC,NH,VA,CT

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

con-test® ANALYTICAL LABORATORY
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Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16C0644
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@gadder
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	Cogeners	EPH w/ Targets	MA 14 metals	Pest/Herb						
	B-5 (0-1')	3/14/16	10:05		X	S	U	X	X									
01	B-5 (0-3')	↓	10:17	X		↓	↓			X	X	X						
	B-5 (1-3')	↓	10:15		X	↓	↓	X										
	B-5 (3-6')	↓	10:23		X	↓	↓	X										
	B-5 (6-11')	↓	10:30		X	↓	↓	X										
	~~B-6 (0-1')~~	↓	~~10:50~~		~~X~~	↓	↓											
	~~B-6 (1-3')~~	↓				↓	↓											
	~~B-6 (3-6')~~	↓				↓	↓											
	~~B-6 (6-11')~~	↓				↓	↓											
						↓	↓											

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments: 20X rule (RUSH PCBs ONLY)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 3/14/16	16:30
Received by: (signature)	Date/Time:
Tom Mari 3/15/16	1435
Relinquished by: (signature)	Date/Time:
Tom Mari 3/15/16	1705
Received by: (signature)	Date/Time:
[signature] S.I 3/15/16	1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☑ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16C0644
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 7785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@
Format: ⊘ PDF ⊘ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs Soxhlet	Cajeners	EPH w/ Targets	MA 14	Pest/Herb						
	B-7 (0-1')	3/14/16	11:05		X	S	U	X										
02	B-7 (0-3)		11:20	X							X	X						
	B-7 (1-3)		11:17		X			X	X									
	B-7 (3-6)		11:27		X			X										
03	B-7 (6-11')		11:35		X			X		X								
	B-8 (0-1)		12:15		X			X										
	B-8 (1-3)		12:23		X			X										
	B-8 (3-6')		12:25		X			X										
	B-8 (6-11')		12:37		X			X										

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments: 20x rule (RUSH PCBs only)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
Anh Foley 3/14/16	16:30
Received by: (signature) Tom Marie 3/15/16	1435
Relinquished by: (signature) Tom Marie 3/15/16	1705
Received by: (signature) [signature] S.1 3/15/16	1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP?
⊘ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifi

† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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www.contestlabs.com

CHAIN OF CUSTODY RECORD

160644

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location:
Sampled By:

Telephone:
Project # 185-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB	Cu, Pb, Zn	PFH w/ Tests	MA 14	Pest / Herb								# of Containers
	B-9 (0-1')	3/14/16	1:05		X	S	U	X	X											** Preservation
04	B-9 (0-3)		1:13	X						X										***Container Code
	B-9 (1-3')		1:09		X			X												
05	B-9 (3-6)		1:17		X			X			X	X								
	B-9 (6-9)		1:23		X			X												
	B-10 (0-1)		2:07		X			X												
06	B-10 (0-3')		2:20	X							X	X								
	B-10 (1-3')		2:17		X			X												
07	B-10 (3-6')		2:27		X			X		X										
	B-10 (6-11')		2:33		X			X												

Comments:
20X Rule
Rush PCBs

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Relinquished by: (signature)	Date/Time:
Andrew Foley 3/14/16	16:30
Received by: (signature) Tom Marr 3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Marr 3/15/16	Date/Time: 1705
Received by: (signature) 3/15/16	Date/Time: 1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
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CHAIN OF CUSTODY RECORD

16C0644
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: afoley@golam
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	cogeners	MA 14 Metals	EPH w/ target	Rest/Help						
	B-11 (0-1')	3/14/16	1:40		X	S	U											
	B-11 (1-3')	↓	1:45		↓	↓	↓											
08	B-11 (3-6')	↓	2:00		↓	↓	↓			X		X						
09	B-11 (6-11')	↓	2:07		↓	↓	↓				X							

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
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X = Na hydroxide
T = Na thiosulfate
O = Other

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GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments:
20x rule
RUSH PCBs only

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Relinquished by: (signature)	Date/Time:
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Relinquished by: (signature) Tom Mari 3/15/16	1705
Received by: (signature) S.1 3/15/16	1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
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○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC
Accredited
WBE/DBE Certif

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Goldman **RECEIVED BY**: JDL **DATE**: 3/15/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 5.1

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	12
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		SOC Kit	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials:	# HCl		# Methanol	**Time and Date Frozen:**
Doc# 277	# Bisulfate		# DI Water	
Rev. 4 August 2013	# Thiosulfate		Unpreserved	

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JDL **3/15/16 1705**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C0644
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C0644-01 thru 16C0644-09

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B (X)	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C (X)	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Position: Laboratory Manager

Printed Name: Daren J. Damboragian Date: 03/22/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 25, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C0665

Enclosed are results of analyses for samples received by the laboratory on March 16, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/25/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C0665

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-5 (0-1')	16C0665-01	Soil		SM 2540G	
				SW846-8270M	
B-7 (1-3')	16C0665-02	Soil		SM 2540G	
				SW846-8270M	
B-9 (0-1')	16C0665-03	Soil		SM 2540G	
				SW846-8270M	
B-11 (1-3)	16C0665-04	Soil		SM 2540G	
				SW846-8270M	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW846-8270M

Qualifications:

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Tetrachloro-m-xylene

16C0665-01[B-5 (0-1')], 16C0665-02[B-7 (1-3')], 16C0665-02RE1[B-7 (1-3')], 16C0665-03[B-9 (0-1')], 16C0665-03RE1[B-9 (0-1')]

S-17

Surrogate recovery is outside of control limits. Data validation is not affected since all associated results are less than the reporting limit and bias is on the high side.

Analyte & Samples(s) Qualified:

Tetrachloro-m-xylene

B144472-BLK1

S-23

Surrogate recovery outside of control limits in BS/MS spiked sample, all reported analytes are within control criteria, data not significantly affected.

Analyte & Samples(s) Qualified:

Tetrachloro-m-xylene

B144472-BS1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Cl1-BZ#1

16C0665-01[B-5 (0-1')], 16C0665-02[B-7 (1-3')], 16C0665-03[B-9 (0-1')], 16C0665-04[B-11 (1-3)], B144472-BLK1

Cl1-BZ#2

16C0665-01[B-5 (0-1')], 16C0665-02[B-7 (1-3')], 16C0665-03[B-9 (0-1')], 16C0665-04[B-11 (1-3)], B144472-BLK1

Cl1-BZ#3

16C0665-01[B-5 (0-1')], 16C0665-02[B-7 (1-3')], 16C0665-03[B-9 (0-1')], 16C0665-04[B-11 (1-3)], B144472-BLK1

Z-01

Matrix spike and matrix spike duplicate results out of control limits due to dilution required for analysis and high levels of target analytes. Analysis in control based on blank spike and blank spike duplicate recovery.

Analyte & Samples(s) Qualified:

16C0665-02[B-7 (1-3')], 16C0665-02RE1[B-7 (1-3')], B144472-MS1, B144472-MSD1

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The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-5 (0-1')
Sampled: 3/14/2016 10:05
Sample ID: 16C0665-01
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl1-BZ#1	ND	1.9	µg/kg dry	25	V-20	SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl1-BZ#2	ND	1.9	µg/kg dry	25	V-20	SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl1-BZ#3	ND	1.9	µg/kg dry	25	V-20	SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl2-BZ#4/#10	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl2-BZ#9	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl2-BZ#7	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl2-BZ#6	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl2-BZ#5	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl2-BZ#8	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#19	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl2-BZ#14	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#30	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#18	3.5	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl2-BZ#11	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#17	1.9	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl2-BZ#12	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#27	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl2-BZ#13	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#24	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#16	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#32	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl2-BZ#15	2.1	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#34	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#54	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#23	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#29	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#50	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#26	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#25	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#53	4.1	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#31	3.5	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#28	5.4	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#33/#21/#20	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#51	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#45	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#22	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#46	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#73	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#69	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#43	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#36	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#52	91	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#48	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#49	19	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-5 (0-1')
Sampled: 3/14/2016 10:05
Sample ID: 16C0665-01
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl5-BZ#104	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#47/#65/#62	ND	11	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#75	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#39	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#38	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#44	42	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#59	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#42	5.4	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#71	4.7	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#35	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#41	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#96	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#72	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#103	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#64	9.9	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#40/#68	ND	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl3-BZ#37	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#100	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#94	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#57	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#67/#58	ND	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#102	5.9	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#61	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#98	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#93	ND	19	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#76	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#63	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#88/#95	210	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#121	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#74	9.3	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#155	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#70	41	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#91	34	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#66	15	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#80/#55	ND	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#92	53	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#89/#84	80	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#56	8.0	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#90/#101	290	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#113	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#60	4.3	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#99	100	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#150	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#152	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-5 (0-1')
Sampled: 3/14/2016 10:05
Sample ID: 16C0665-01
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl5-BZ#119/#83	17	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#125/#112/#86	ND	11	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#109	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#145	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#97	99	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#148	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#79	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#116	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#87	130	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#78	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#154/#136	33	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#111/#117/#115	ND	11	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#85	42	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#120/#110	340	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#81	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#151	34	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#135	29	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#82	32	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#144	11	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#147/#149	180	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl4-BZ#77	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#143/#139	ND	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#140	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#124	11	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#108	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#123/#107	14	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#188	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#134	19	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#106	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#142	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#133/#131	10	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#118	210	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#184	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#165	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#146	32	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#122	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#161	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#114	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#168	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#153	190	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#132	110	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#179	6.6	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#141	49	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#176	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-5 (0-1')
Sampled: 3/14/2016 10:05
Sample ID: 16C0665-01
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl5-BZ#105	59	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#137	22	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#186	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#127	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#130/#164	40	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#178	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#138	250	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#160/#129/#163	81	11	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#158	32	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#182/#175	ND	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#187	18	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#183	12	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#166	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#159	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl5-BZ#126	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#185	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#128/#162	58	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#174	19	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl8-BZ#202	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#167	13	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#181	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#177	13	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl8-BZ#200/#204	ND	11	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#171	8.4	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#173	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl8-BZ#197	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#172	ND	11	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#156	28	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#192	ND	7.5	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#157	8.8	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#180	49	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#193	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl8-BZ#199	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#191	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl8-BZ#198	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl8-BZ#201	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#170	28	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl7-BZ#190	4.5	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl8-BZ#196	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl8-BZ#203	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl6-BZ#169	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl9-BZ#208	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl9-BZ#207	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-5 (0-1')
Sampled: 3/14/2016 10:05
Sample ID: 16C0665-01
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl7-BZ#189	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl8-BZ#195	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl8-BZ#194	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl8-BZ#205	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl9-BZ#206	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM
Cl10-BZ#209	ND	5.6	µg/kg dry	25		SW846-8270M	3/18/16	3/22/16 22:18	CJM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Tetrachloro-m-xylene	*	40-140	S-01	3/22/16 22:18

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665

Date Received: 3/16/2016

Field Sample #: B-5 (0-1')
Sampled: 3/14/2016 10:05

Sample ID: 16C0665-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.6		% Wt	1		SM 2540G	3/15/16	3/16/16 12:03	MRL

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665

Date Received: 3/16/2016

Field Sample #: B-7 (1-3')
Sampled: 3/14/2016 11:17

Sample ID: 16C0665-02

Sample Matrix: Soil

Sample Flags: Z-01

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl1-BZ#1	ND	1.9	µg/kg dry	25	V-20	SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl1-BZ#2	ND	1.9	µg/kg dry	25	V-20	SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl1-BZ#3	ND	1.9	µg/kg dry	25	V-20	SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl2-BZ#4/#10	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl2-BZ#9	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl2-BZ#7	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl2-BZ#6	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl2-BZ#5	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl2-BZ#8	3.5	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#19	2.4	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl2-BZ#14	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#30	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#18	12	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl2-BZ#11	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#17	4.6	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl2-BZ#12	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#27	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl2-BZ#13	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#24	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#16	4.6	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#32	5.7	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl2-BZ#15	4.9	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#34	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#54	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#23	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#29	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#50	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#26	2.5	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#25	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#53	9.0	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#31	11	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#28	13	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#33/#21/#20	ND	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#51	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#45	6.3	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#22	4.3	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#46	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#73	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#69	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#43	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#36	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#52	240	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#48	5.1	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#49	52	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-7 (1-3')
Sampled: 3/14/2016 11:17
Sample ID: 16C0665-02
Sample Matrix: Soil
Sample Flags: Z-01

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl5-BZ#104	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#47/#65/#62	ND	11	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#75	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#39	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#38	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#44	120	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#59	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#42	13	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#71	13	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#35	ND	1.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#41	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#96	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#72	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#103	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#64	31	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#40/#68	ND	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl3-BZ#37	6.6	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#100	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#94	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#57	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#67/#58	ND	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#102	9.9	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#61	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#98	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#93	ND	19	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#76	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#63	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#88/#95	390	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#121	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#74	28	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#155	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#70	130	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#91	60	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#66	48	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#80/#55	ND	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#92	100	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#89/#84	160	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#56	24	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#90/#101	610	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#113	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#60	9.8	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#99	200	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#150	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#152	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665

Date Received: 3/16/2016

Field Sample #: B-7 (1-3')
Sampled: 3/14/2016 11:17

Sample ID: 16C0665-02

Sample Matrix: Soil

Sample Flags: Z-01

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl5-BZ#119/#83	32	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#125/#112/#86	ND	11	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#109	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#145	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#97	200	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#148	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#79	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#116	4.3	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#87	280	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#78	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#154/#136	60	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#111/#117/#115	20	11	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#85	79	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#120/#110	640	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#81	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#151	61	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#135	49	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#82	60	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#144	20	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#147/#149	320	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl4-BZ#77	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#143/#139	11	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#140	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#124	21	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#108	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#123/#107	32	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#188	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#134	34	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#106	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#142	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#133/#131	16	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#118	450	38	µg/kg dry	250		SW846-8270M	3/18/16	3/24/16 18:21	CJM
Cl7-BZ#184	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#165	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#146	53	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#122	6.4	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#161	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#114	8.8	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#168	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#153	340	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#132	190	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#179	11	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#141	86	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#176	4.7	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-7 (1-3')
Sampled: 3/14/2016 11:17
Sample ID: 16C0665-02
Sample Matrix: Soil
Sample Flags: Z-01

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl5-BZ#105	150	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#137	38	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#186	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#127	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#130/#164	69	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#178	5.1	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#138	400	38	µg/kg dry	250		SW846-8270M	3/18/16	3/24/16 18:21	CJM
Cl6-BZ#160/#129/#163	140	11	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#158	58	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#182/#175	ND	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#187	30	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#183	20	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#166	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#159	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl5-BZ#126	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#185	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#128/#162	100	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#174	34	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl8-BZ#202	ND	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#167	22	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#181	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#177	22	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl8-BZ#200/#204	ND	11	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#171	14	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#173	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl8-BZ#197	ND	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#172	ND	11	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#156	60	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#192	ND	7.6	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#157	17	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#180	83	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#193	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl8-BZ#199	ND	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#191	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl8-BZ#198	ND	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl8-BZ#201	8.4	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#170	46	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl7-BZ#190	8.6	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl8-BZ#196	ND	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl8-BZ#203	ND	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl6-BZ#169	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl9-BZ#208	ND	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl9-BZ#207	ND	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16C0665

Date Received: 3/16/2016

Field Sample #: B-7 (1-3') | Sampled: 3/14/2016 11:17

Sample ID: 16C0665-02

Sample Matrix: Soil

Sample Flags: Z-01

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl7-BZ#189	ND	3.8	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl8-BZ#195	ND	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl8-BZ#194	6.6	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl8-BZ#205	ND	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl9-BZ#206	ND	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM
Cl10-BZ#209	ND	5.7	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 0:05	CJM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Tetrachloro-m-xylene	*	40-140	S-01	3/23/16 0:05
Tetrachloro-m-xylene	*	40-140	S-01	3/24/16 18:21

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-7 (1-3')
Sampled: 3/14/2016 11:17
Sample ID: 16C0665-02
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.7		% Wt	1		SM 2540G	3/15/16	3/16/16 12:03	MRL

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-9 (0-1')
Sampled: 3/14/2016 13:05
Sample ID: 16C0665-03
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl1-BZ#1	ND	2.0	µg/kg dry	25	V-20	SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl1-BZ#2	ND	2.0	µg/kg dry	25	V-20	SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl1-BZ#3	ND	2.0	µg/kg dry	25	V-20	SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl2-BZ#4/#10	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl2-BZ#9	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl2-BZ#7	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl2-BZ#6	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl2-BZ#5	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl2-BZ#8	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#19	4.5	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl2-BZ#14	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#30	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#18	16	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl2-BZ#11	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#17	6.2	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl2-BZ#12	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#27	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl2-BZ#13	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#24	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#16	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#32	9.4	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl2-BZ#15	6.4	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#34	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#54	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#23	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#29	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#50	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#26	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#25	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#53	21	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#31	19	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#28	27	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#33/#21/#20	ND	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#51	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#45	11	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#22	9.9	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#46	6.5	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#73	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#69	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#43	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#36	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#52	820	79	µg/kg dry	500		SW846-8270M	3/18/16	3/24/16 20:08	CJM
Cl4-BZ#48	14	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#49	130	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-9 (0-1')
Sampled: 3/14/2016 13:05
Sample ID: 16C0665-03
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl5-BZ#104	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#47/#65/#62	23	12	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#75	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#39	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#38	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#44	310	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#59	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#42	31	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#71	29	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#35	ND	2.0	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#41	4.1	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#96	7.6	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#72	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#103	6.4	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#64	67	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#40/#68	13	7.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl3-BZ#37	13	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#100	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#94	4.7	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#57	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#67/#58	ND	7.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#102	34	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#61	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#98	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#93	ND	20	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#76	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#63	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#88/#95	1600	160	µg/kg dry	500		SW846-8270M	3/18/16	3/24/16 20:08	CJM
Cl5-BZ#121	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#74	65	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#155	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#70	340	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#91	220	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#66	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#80/#55	ND	7.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#92	330	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#89/#84	ND	7.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#56	75	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#90/#101	2000	160	µg/kg dry	500		SW846-8270M	3/18/16	3/24/16 20:08	CJM
Cl5-BZ#113	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#60	25	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#99	680	79	µg/kg dry	500		SW846-8270M	3/18/16	3/24/16 20:08	CJM
Cl6-BZ#150	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#152	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-9 (0-1')
Sampled: 3/14/2016 13:05
Sample ID: 16C0665-03
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl5-BZ#119/#83	110	7.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#125/#112/#86	ND	12	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#109	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#145	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#97	670	79	µg/kg dry	500		SW846-8270M	3/18/16	3/24/16 20:08	CJM
Cl6-BZ#148	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl4-BZ#79	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#116	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#87	890	79	µg/kg dry	500		SW846-8270M	3/18/16	3/24/16 20:08	CJM
Cl4-BZ#78	32	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#154/#136	200	7.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#111/#117/#115	61	12	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#85	290	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#120/#110	2200	160	µg/kg dry	500		SW846-8270M	3/18/16	3/24/16 20:08	CJM
Cl4-BZ#81	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#151	200	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#135	160	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#82	200	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#144	62	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#147/#149	1100	160	µg/kg dry	500		SW846-8270M	3/18/16	3/24/16 20:08	CJM
Cl4-BZ#77	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#143/#139	36	7.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#140	6.0	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#124	70	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#108	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#123/#107	100	7.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#188	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#134	110	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#106	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#142	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#133/#131	59	7.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#118	1600	79	µg/kg dry	500		SW846-8270M	3/18/16	3/24/16 20:08	CJM
Cl7-BZ#184	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#165	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#146	170	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#122	21	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#161	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#114	19	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#168	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#153	1200	79	µg/kg dry	500		SW846-8270M	3/18/16	3/24/16 20:08	CJM
Cl6-BZ#132	700	79	µg/kg dry	500		SW846-8270M	3/18/16	3/24/16 20:08	CJM
Cl7-BZ#179	39	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#141	280	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#176	16	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-9 (0-1')
Sampled: 3/14/2016 13:05
Sample ID: 16C0665-03
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl5-BZ#105	440	79	µg/kg dry	500		SW846-8270M	3/18/16	3/24/16 20:08	CJM
Cl6-BZ#137	130	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#186	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#127	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#130/#164	230	7.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#178	19	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#138	1600	79	µg/kg dry	500		SW846-8270M	3/18/16	3/24/16 20:08	CJM
Cl6-BZ#160/#129/#163	480	12	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#158	190	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#182/#175	ND	7.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#187	110	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#183	67	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#166	7.8	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#159	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl5-BZ#126	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#185	11	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#128/#162	360	7.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#174	110	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl8-BZ#202	7.0	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#167	69	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#181	4.4	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#177	74	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl8-BZ#200/#204	ND	12	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#171	47	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#173	5.3	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl8-BZ#197	ND	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#172	26	12	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#156	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#192	ND	7.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#157	59	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#180	300	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#193	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl8-BZ#199	ND	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#191	7.0	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl8-BZ#198	ND	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl8-BZ#201	29	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#170	150	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl7-BZ#190	28	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl8-BZ#196	12	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl8-BZ#203	24	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl6-BZ#169	ND	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl9-BZ#208	ND	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl9-BZ#207	ND	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-9 (0-1')
Sampled: 3/14/2016 13:05
Sample ID: 16C0665-03
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl7-BZ#189	8.8	3.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl8-BZ#195	10	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl8-BZ#194	25	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl8-BZ#205	ND	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl9-BZ#206	17	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM
Cl10-BZ#209	7.7	5.9	µg/kg dry	25		SW846-8270M	3/18/16	3/23/16 1:52	CJM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Tetrachloro-m-xylene	*	40-140	S-01	3/23/16 1:52
Tetrachloro-m-xylene	*	40-140	S-01	3/24/16 20:08

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665

Date Received: 3/16/2016

Field Sample #: B-9 (0-1')
Sampled: 3/14/2016 13:05

Sample ID: 16C0665-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.1		% Wt	1		SM 2540G	3/15/16	3/16/16 12:03	MRL

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-11 (1-3)
Sampled: 3/14/2016 13:45
Sample ID: 16C0665-04
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl1-BZ#1	ND	0.38	µg/kg dry	5	V-20	SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl1-BZ#2	ND	0.38	µg/kg dry	5	V-20	SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl1-BZ#3	ND	0.38	µg/kg dry	5	V-20	SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl2-BZ#4/#10	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl2-BZ#9	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl2-BZ#7	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl2-BZ#6	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl2-BZ#5	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl2-BZ#8	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#19	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl2-BZ#14	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#30	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#18	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl2-BZ#11	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#17	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl2-BZ#12	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#27	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl2-BZ#13	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#24	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#16	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#32	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl2-BZ#15	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#34	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#54	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#23	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#29	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#50	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#26	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#25	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#53	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#31	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#28	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#33/#21/#20	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#51	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#45	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#22	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#46	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#73	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#69	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#43	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#36	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#52	1.2	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#48	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#49	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-11 (1-3)
Sampled: 3/14/2016 13:45
Sample ID: 16C0665-04
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl5-BZ#104	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#47/#65/#62	ND	2.3	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#75	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#39	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#38	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#44	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#59	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#42	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#71	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#35	ND	0.38	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#41	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#96	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#72	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#103	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#64	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#40/#68	ND	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl3-BZ#37	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#100	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#94	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#57	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#67/#58	ND	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#102	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#61	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#98	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#93	ND	3.8	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#76	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#63	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#88/#95	2.1	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#121	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#74	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#155	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#70	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#91	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#66	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#80/#55	ND	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#92	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#89/#84	ND	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#56	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#90/#101	2.5	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#113	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#60	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#99	0.95	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#150	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#152	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-11 (1-3)
Sampled: 3/14/2016 13:45
Sample ID: 16C0665-04
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl5-BZ#119/#83	ND	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#125/#112/#86	ND	2.3	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#109	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#145	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#97	0.91	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#148	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#79	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#116	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#87	1.2	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#78	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#154/#136	ND	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#111/#117/#115	ND	2.3	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#85	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#120/#110	3.1	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#81	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#151	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#135	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#82	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#144	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#147/#149	2.0	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl4-BZ#77	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#143/#139	ND	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#140	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#124	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#108	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#123/#107	ND	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#188	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#134	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#106	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#142	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#133/#131	ND	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#118	2.4	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#184	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#165	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#146	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#122	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#161	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#114	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#168	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#153	1.9	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#132	1.0	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#179	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#141	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#176	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-11 (1-3)
Sampled: 3/14/2016 13:45
Sample ID: 16C0665-04
Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl5-BZ#105	0.79	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#137	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#186	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#127	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#130/#164	ND	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#178	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#138	2.5	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#160/#129/#163	ND	2.3	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#158	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#182/#175	ND	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#187	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#183	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#166	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#159	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl5-BZ#126	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#185	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#128/#162	ND	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#174	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl8-BZ#202	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#167	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#181	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#177	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl8-BZ#200/#204	ND	2.3	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#171	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#173	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl8-BZ#197	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#172	ND	2.3	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#156	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#192	ND	1.5	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#157	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#180	0.86	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#193	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl8-BZ#199	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#191	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl8-BZ#198	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl8-BZ#201	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#170	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl7-BZ#190	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl8-BZ#196	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl8-BZ#203	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl6-BZ#169	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl9-BZ#208	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl9-BZ#207	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665

Date Received: 3/16/2016

Field Sample #: B-11 (1-3)
Sampled: 3/14/2016 13:45

Sample ID: 16C0665-04

Sample Matrix: Soil

PCB Congeners in Soil by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Cl7-BZ#189	ND	0.75	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl8-BZ#195	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl8-BZ#194	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl8-BZ#205	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl9-BZ#206	ND	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM
Cl10-BZ#209	1.3	1.1	µg/kg dry	5		SW846-8270M	3/18/16	3/23/16 15:52	CJM

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Tetrachloro-m-xylene	103	40-140		3/23/16 15:52

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0665
Date Received: 3/16/2016
Field Sample #: B-11 (1-3)
Sampled: 3/14/2016 13:45
Sample ID: 16C0665-04
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.2		% Wt	1		SM 2540G	3/15/16	3/16/16 12:03	MRL

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Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C0665-01 [B-5 (0-1')]	B144313	03/15/16
16C0665-02 [B-7 (1-3')]	B144313	03/15/16
16C0665-03 [B-9 (0-1')]	B144313	03/15/16
16C0665-04 [B-11 (1-3)]	B144313	03/15/16

Prep Method: SW-846 3540C-SW846-8270M

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C0665-01 [B-5 (0-1')]	B144472	30.1	2.00	03/18/16
16C0665-02 [B-7 (1-3')]	B144472	30.3	2.00	03/18/16
16C0665-02RE1 [B-7 (1-3')]	B144472	30.3	2.00	03/18/16
16C0665-03 [B-9 (0-1')]	B144472	30.2	2.00	03/18/16
16C0665-03RE1 [B-9 (0-1')]	B144472	30.2	2.00	03/18/16
16C0665-04 [B-11 (1-3)]	B144472	30.1	2.00	03/18/16

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

PCB Congeners in Soil by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144472 - SW-846 3540C										
Blank (B144472-BLK1)				Prepared: 03/18/16 Analyzed: 03/22/16						
Cl1-BZ#1	ND	0.033	µg/kg wet							V-20
Cl1-BZ#2	ND	0.033	µg/kg wet							V-20
Cl1-BZ#3	ND	0.033	µg/kg wet							V-20
Cl2-BZ#4/#10	ND	0.066	µg/kg wet							
Cl2-BZ#9	ND	0.066	µg/kg wet							
Cl2-BZ#7	ND	0.033	µg/kg wet							
Cl2-BZ#6	ND	0.033	µg/kg wet							
Cl2-BZ#5	ND	0.033	µg/kg wet							
Cl2-BZ#8	ND	0.033	µg/kg wet							
Cl3-BZ#19	ND	0.033	µg/kg wet							
Cl2-BZ#14	ND	0.033	µg/kg wet							
Cl3-BZ#30	ND	0.033	µg/kg wet							
Cl3-BZ#18	ND	0.033	µg/kg wet							
Cl2-BZ#11	ND	0.066	µg/kg wet							
Cl3-BZ#17	ND	0.033	µg/kg wet							
Cl2-BZ#12	ND	0.033	µg/kg wet							
Cl3-BZ#27	ND	0.033	µg/kg wet							
Cl2-BZ#13	ND	0.033	µg/kg wet							
Cl3-BZ#24	ND	0.033	µg/kg wet							
Cl3-BZ#16	ND	0.033	µg/kg wet							
Cl3-BZ#32	ND	0.033	µg/kg wet							
Cl2-BZ#15	ND	0.033	µg/kg wet							
Cl3-BZ#34	ND	0.033	µg/kg wet							
Cl4-BZ#54	ND	0.066	µg/kg wet							
Cl3-BZ#23	ND	0.033	µg/kg wet							
Cl3-BZ#29	ND	0.033	µg/kg wet							
Cl4-BZ#50	ND	0.066	µg/kg wet							
Cl3-BZ#26	ND	0.033	µg/kg wet							
Cl3-BZ#25	ND	0.033	µg/kg wet							
Cl4-BZ#53	ND	0.066	µg/kg wet							
Cl3-BZ#31	ND	0.033	µg/kg wet							
Cl3-BZ#28	ND	0.033	µg/kg wet							
Cl3-BZ#33/#21/#20	ND	0.10	µg/kg wet							
Cl4-BZ#51	ND	0.066	µg/kg wet							
Cl4-BZ#45	ND	0.066	µg/kg wet							
Cl3-BZ#22	ND	0.033	µg/kg wet							
Cl4-BZ#46	ND	0.066	µg/kg wet							
Cl4-BZ#73	ND	0.066	µg/kg wet							
Cl4-BZ#69	ND	0.066	µg/kg wet							
Cl4-BZ#43	ND	0.066	µg/kg wet							
Cl3-BZ#36	ND	0.033	µg/kg wet							
Cl4-BZ#52	ND	0.066	µg/kg wet							
Cl4-BZ#48	ND	0.066	µg/kg wet							
Cl4-BZ#49	ND	0.066	µg/kg wet							
Cl5-BZ#104	ND	0.066	µg/kg wet							
Cl4-BZ#47/#65/#62	ND	0.20	µg/kg wet							
Cl4-BZ#75	ND	0.066	µg/kg wet							
Cl3-BZ#39	ND	0.033	µg/kg wet							
Cl3-BZ#38	ND	0.033	µg/kg wet							
Cl4-BZ#44	ND	0.066	µg/kg wet							
Cl4-BZ#59	ND	0.066	µg/kg wet							
Cl4-BZ#42	ND	0.066	µg/kg wet							

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QUALITY CONTROL

PCB Congeners in Soil by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144472 - SW-846 3540C										
Blank (B144472-BLK1)				Prepared: 03/18/16 Analyzed: 03/22/16						
Cl4-BZ#71	ND	0.066	µg/kg wet							
Cl3-BZ#35	ND	0.033	µg/kg wet							
Cl4-BZ#41	ND	0.066	µg/kg wet							
Cl5-BZ#96	ND	0.066	µg/kg wet							
Cl4-BZ#72	ND	0.066	µg/kg wet							
Cl5-BZ#103	ND	0.066	µg/kg wet							
Cl4-BZ#64	ND	0.066	µg/kg wet							
Cl4-BZ#40/#68	ND	0.13	µg/kg wet							
Cl3-BZ#37	ND	0.10	µg/kg wet							
Cl5-BZ#100	ND	0.066	µg/kg wet							
Cl5-BZ#94	ND	0.066	µg/kg wet							
Cl4-BZ#57	ND	0.066	µg/kg wet							
Cl4-BZ#67/#58	ND	0.13	µg/kg wet							
Cl5-BZ#102	ND	0.066	µg/kg wet							
Cl4-BZ#61	ND	0.066	µg/kg wet							
Cl5-BZ#98	ND	0.066	µg/kg wet							
Cl5-BZ#93	ND	0.33	µg/kg wet							
Cl4-BZ#76	ND	0.066	µg/kg wet							
Cl4-BZ#63	ND	0.066	µg/kg wet							
Cl5-BZ#88/#95	ND	0.13	µg/kg wet							
Cl5-BZ#121	ND	0.066	µg/kg wet							
Cl4-BZ#74	ND	0.066	µg/kg wet							
Cl6-BZ#155	ND	0.066	µg/kg wet							
Cl4-BZ#70	ND	0.066	µg/kg wet							
Cl5-BZ#91	ND	0.066	µg/kg wet							
Cl4-BZ#66	ND	0.066	µg/kg wet							
Cl4-BZ#80/#55	ND	0.13	µg/kg wet							
Cl5-BZ#92	ND	0.066	µg/kg wet							
Cl5-BZ#89/#84	ND	0.13	µg/kg wet							
Cl4-BZ#56	ND	0.066	µg/kg wet							
Cl5-BZ#90/#101	ND	0.13	µg/kg wet							
Cl5-BZ#113	ND	0.066	µg/kg wet							
Cl4-BZ#60	ND	0.066	µg/kg wet							
Cl5-BZ#99	ND	0.066	µg/kg wet							
Cl6-BZ#150	ND	0.066	µg/kg wet							
Cl6-BZ#152	ND	0.066	µg/kg wet							
Cl5-BZ#119/#83	ND	0.13	µg/kg wet							
Cl5-BZ#125/#112/#86	ND	0.20	µg/kg wet							
Cl5-BZ#109	ND	0.066	µg/kg wet							
Cl6-BZ#145	ND	0.066	µg/kg wet							
Cl5-BZ#97	ND	0.066	µg/kg wet							
Cl6-BZ#148	ND	0.066	µg/kg wet							
Cl4-BZ#79	ND	0.066	µg/kg wet							
Cl5-BZ#116	ND	0.066	µg/kg wet							
Cl5-BZ#87	ND	0.066	µg/kg wet							
Cl4-BZ#78	ND	0.066	µg/kg wet							
Cl6-BZ#154/#136	ND	0.13	µg/kg wet							
Cl5-BZ#111/#117/#115	ND	0.20	µg/kg wet							
Cl5-BZ#85	ND	0.066	µg/kg wet							
Cl5-BZ#120/#110	ND	0.13	µg/kg wet							
Cl4-BZ#81	ND	0.066	µg/kg wet							
Cl6-BZ#151	ND	0.066	µg/kg wet							

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QUALITY CONTROL

PCB Congeners in Soil by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144472 - SW-846 3540C										
Blank (B144472-BLK1)				Prepared: 03/18/16 Analyzed: 03/22/16						
Cl6-BZ#135	ND	0.066	µg/kg wet							
Cl5-BZ#82	ND	0.066	µg/kg wet							
Cl6-BZ#144	ND	0.066	µg/kg wet							
Cl6-BZ#147/#149	ND	0.13	µg/kg wet							
Cl4-BZ#77	ND	0.066	µg/kg wet							
Cl6-BZ#143/#139	ND	0.13	µg/kg wet							
Cl6-BZ#140	ND	0.066	µg/kg wet							
Cl5-BZ#124	ND	0.066	µg/kg wet							
Cl5-BZ#108	ND	0.066	µg/kg wet							
Cl5-BZ#123/#107	ND	0.13	µg/kg wet							
Cl7-BZ#188	ND	0.066	µg/kg wet							
Cl6-BZ#134	ND	0.066	µg/kg wet							
Cl5-BZ#106	ND	0.066	µg/kg wet							
Cl6-BZ#142	ND	0.066	µg/kg wet							
Cl6-BZ#133/#131	ND	0.13	µg/kg wet							
Cl5-BZ#118	ND	0.066	µg/kg wet							
Cl7-BZ#184	ND	0.066	µg/kg wet							
Cl6-BZ#165	ND	0.066	µg/kg wet							
Cl6-BZ#146	ND	0.066	µg/kg wet							
Cl5-BZ#122	ND	0.066	µg/kg wet							
Cl6-BZ#161	ND	0.066	µg/kg wet							
Cl5-BZ#114	ND	0.066	µg/kg wet							
Cl6-BZ#168	ND	0.066	µg/kg wet							
Cl6-BZ#153	ND	0.066	µg/kg wet							
Cl6-BZ#132	ND	0.066	µg/kg wet							
Cl7-BZ#179	ND	0.066	µg/kg wet							
Cl6-BZ#141	ND	0.066	µg/kg wet							
Cl7-BZ#176	ND	0.066	µg/kg wet							
Cl5-BZ#105	ND	0.066	µg/kg wet							
Cl6-BZ#137	ND	0.066	µg/kg wet							
Cl7-BZ#186	ND	0.066	µg/kg wet							
Cl5-BZ#127	ND	0.066	µg/kg wet							
Cl6-BZ#130/#164	ND	0.13	µg/kg wet							
Cl7-BZ#178	ND	0.066	µg/kg wet							
Cl6-BZ#138	ND	0.066	µg/kg wet							
Cl6-BZ#160/#129/#163	ND	0.20	µg/kg wet							
Cl6-BZ#158	ND	0.066	µg/kg wet							
Cl7-BZ#182/#175	ND	0.13	µg/kg wet							
Cl7-BZ#187	ND	0.066	µg/kg wet							
Cl7-BZ#183	ND	0.066	µg/kg wet							
Cl6-BZ#166	ND	0.066	µg/kg wet							
Cl6-BZ#159	ND	0.066	µg/kg wet							
Cl5-BZ#126	ND	0.066	µg/kg wet							
Cl7-BZ#185	ND	0.066	µg/kg wet							
Cl6-BZ#128/#162	ND	0.13	µg/kg wet							
Cl7-BZ#174	ND	0.066	µg/kg wet							
Cl8-BZ#202	ND	0.10	µg/kg wet							
Cl6-BZ#167	ND	0.066	µg/kg wet							
Cl7-BZ#181	ND	0.066	µg/kg wet							
Cl7-BZ#177	ND	0.066	µg/kg wet							
Cl8-BZ#200/#204	ND	0.20	µg/kg wet							
Cl7-BZ#171	ND	0.066	µg/kg wet							

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QUALITY CONTROL

PCB Congeners in Soil by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B144472 - SW-846 3540C											
Blank (B144472-BLK1)				Prepared: 03/18/16 Analyzed: 03/22/16							
Cl7-BZ#173	ND	0.066	µg/kg wet								
Cl8-BZ#197	ND	0.10	µg/kg wet								
Cl7-BZ#172	ND	0.20	µg/kg wet								
Cl6-BZ#156	ND	0.066	µg/kg wet								
Cl7-BZ#192	ND	0.13	µg/kg wet								
Cl6-BZ#157	ND	0.066	µg/kg wet								
Cl7-BZ#180	ND	0.066	µg/kg wet								
Cl7-BZ#193	ND	0.066	µg/kg wet								
Cl8-BZ#199	ND	0.10	µg/kg wet								
Cl7-BZ#191	ND	0.066	µg/kg wet								
Cl8-BZ#198	ND	0.10	µg/kg wet								
Cl8-BZ#201	ND	0.10	µg/kg wet								
Cl7-BZ#170	ND	0.066	µg/kg wet								
Cl7-BZ#190	ND	0.066	µg/kg wet								
Cl8-BZ#196	ND	0.10	µg/kg wet								
Cl8-BZ#203	ND	0.10	µg/kg wet								
Cl6-BZ#169	ND	0.066	µg/kg wet								
Cl9-BZ#208	ND	0.10	µg/kg wet								
Cl9-BZ#207	ND	0.10	µg/kg wet								
Cl7-BZ#189	ND	0.066	µg/kg wet								
Cl8-BZ#195	ND	0.10	µg/kg wet								
Cl8-BZ#194	ND	0.10	µg/kg wet								
Cl8-BZ#205	ND	0.10	µg/kg wet								
Cl9-BZ#206	ND	0.10	µg/kg wet								
Cl10-BZ#209	ND	0.10	µg/kg wet								
Surrogate: Tetrachloro-m-xylene	*2.41*		µg/kg wet	1.66		**145**	*	40-140			S-17
LCS (B144472-BS1)				Prepared: 03/18/16 Analyzed: 03/22/16							
Cl2-BZ#8	1.40	0.033	µg/kg wet	1.67		84.3		40-140			
Cl3-BZ#18	1.44	0.033	µg/kg wet	1.67		86.3		40-140			
Cl3-BZ#28	1.05	0.033	µg/kg wet	1.67		63.1		40-140			
Cl4-BZ#52	1.21	0.067	µg/kg wet	1.67		72.8		40-140			
Cl4-BZ#44	1.33	0.067	µg/kg wet	1.67		79.9		40-140			
Cl4-BZ#66	1.08	0.067	µg/kg wet	1.67		64.8		40-140			
Cl5-BZ#90/#101	1.54	0.13	µg/kg wet	1.67		92.3		40-140			
Cl4-BZ#81	1.36	0.067	µg/kg wet	1.67		81.4		40-140			
Cl5-BZ#123/#107	1.19	0.13	µg/kg wet	1.67		71.6		40-140			
Cl5-BZ#118	1.57	0.067	µg/kg wet	1.67		94.4		40-140			
Cl5-BZ#114	1.47	0.067	µg/kg wet	1.67		88.2		40-140			
Cl6-BZ#153	1.40	0.067	µg/kg wet	1.67		84.1		40-140			
Cl5-BZ#105	1.21	0.067	µg/kg wet	1.67		72.6		40-140			
Cl6-BZ#138	1.44	0.067	µg/kg wet	1.67		86.4		40-140			
Cl7-BZ#187	1.34	0.067	µg/kg wet	1.67		80.5		40-140			
Cl5-BZ#126	1.21	0.067	µg/kg wet	1.67		72.4		40-140			
Cl6-BZ#128/#162	1.16	0.13	µg/kg wet	1.67		69.7		40-140			
Cl6-BZ#167	1.32	0.067	µg/kg wet	1.67		79.5		40-140			
Cl6-BZ#156	1.40	0.067	µg/kg wet	1.67		84.2		40-140			
Cl6-BZ#157	1.50	0.067	µg/kg wet	1.67		89.7		40-140			
Cl7-BZ#180	1.48	0.067	µg/kg wet	1.67		89.0		40-140			
Cl7-BZ#170	1.22	0.067	µg/kg wet	1.67		73.0		40-140			
Cl6-BZ#169	1.57	0.067	µg/kg wet	1.67		94.2		40-140			
Cl7-BZ#189	1.48	0.067	µg/kg wet	1.67		89.0		40-140			

con-test® ANALYTICAL LABORATORY

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QUALITY CONTROL

PCB Congeners in Soil by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B144472 - SW-846 3540C											
LCS (B144472-BS1)				Prepared: 03/18/16 Analyzed: 03/22/16							
Cl8-BZ#195	1.30	0.10	µg/kg wet	1.67		77.9		40-140			
Cl9-BZ#206	1.55	0.10	µg/kg wet	1.67		92.9		40-140			
Cl10-BZ#209	1.47	0.10	µg/kg wet	1.67		87.9		40-140			
Surrogate: Tetrachloro-m-xylene	*2.35*		µg/kg wet	1.67		**141**	*	40-140			S-23
LCS Dup (B144472-BSD1)				Prepared: 03/18/16 Analyzed: 03/22/16							
Cl2-BZ#8	1.33	0.033	µg/kg wet	1.67		79.6		40-140	5.67	30	
Cl3-BZ#18	1.37	0.033	µg/kg wet	1.67		82.0		40-140	5.07	30	
Cl3-BZ#28	1.17	0.033	µg/kg wet	1.67		70.5		40-140	11.1	30	
Cl4-BZ#52	1.16	0.067	µg/kg wet	1.67		69.8		40-140	4.23	30	
Cl4-BZ#44	1.30	0.067	µg/kg wet	1.67		78.1		40-140	2.26	30	
Cl4-BZ#66	1.06	0.067	µg/kg wet	1.67		63.7		40-140	1.86	30	
Cl5-BZ#90/#101	1.45	0.13	µg/kg wet	1.67		86.9		40-140	6.05	30	
Cl4-BZ#81	1.31	0.067	µg/kg wet	1.67		78.5		40-140	3.62	30	
Cl5-BZ#123/#107	1.10	0.13	µg/kg wet	1.67		65.8		40-140	8.54	30	
Cl5-BZ#118	1.53	0.067	µg/kg wet	1.67		92.1		40-140	2.49	30	
Cl5-BZ#114	1.47	0.067	µg/kg wet	1.67		88.3		40-140	0.154	30	
Cl6-BZ#153	1.36	0.067	µg/kg wet	1.67		81.5		40-140	3.06	30	
Cl5-BZ#105	1.19	0.067	µg/kg wet	1.67		71.6		40-140	1.40	30	
Cl6-BZ#138	1.40	0.067	µg/kg wet	1.67		84.1		40-140	2.72	30	
Cl7-BZ#187	1.33	0.067	µg/kg wet	1.67		79.7		40-140	0.989	30	
Cl5-BZ#126	1.17	0.067	µg/kg wet	1.67		70.4		40-140	2.80	30	
Cl6-BZ#128/#162	1.14	0.13	µg/kg wet	1.67		68.6		40-140	1.62	30	
Cl6-BZ#167	1.32	0.067	µg/kg wet	1.67		79.2		40-140	0.376	30	
Cl6-BZ#156	1.39	0.067	µg/kg wet	1.67		83.3		40-140	1.09	30	
Cl6-BZ#157	1.51	0.067	µg/kg wet	1.67		90.4		40-140	0.731	30	
Cl7-BZ#180	1.51	0.067	µg/kg wet	1.67		90.6		40-140	1.78	30	
Cl7-BZ#170	1.26	0.067	µg/kg wet	1.67		75.3		40-140	3.09	30	
Cl6-BZ#169	1.55	0.067	µg/kg wet	1.67		93.0		40-140	1.31	30	
Cl7-BZ#189	1.49	0.067	µg/kg wet	1.67		89.6		40-140	0.591	30	
Cl8-BZ#195	1.31	0.10	µg/kg wet	1.67		78.3		40-140	0.581	30	
Cl9-BZ#206	1.66	0.10	µg/kg wet	1.67		99.5		40-140	6.88	30	
Cl10-BZ#209	1.56	0.10	µg/kg wet	1.67		93.7		40-140	6.38	30	
Surrogate: Tetrachloro-m-xylene	*2.09*		µg/kg wet	1.67		125		40-140			
Matrix Spike (B144472-MS1)		**Source: 16C0665-02**		Prepared: 03/18/16 Analyzed: 03/22/16							**Z-01**
Cl2-BZ#8	6.30	1.9	µg/kg dry	1.91	3.45	**149**	*	40-140			
Cl3-BZ#18	16.2	1.9	µg/kg dry	1.91	11.7	**236**	*	40-140			
Cl3-BZ#28	16.2	1.9	µg/kg dry	1.91	13.4	**147**	*	40-140			
Cl4-BZ#52	311	3.8	µg/kg dry	1.91	243	**3570**	*	40-140			
Cl4-BZ#44	152	3.8	µg/kg dry	1.91	119	**1710**	*	40-140			
Cl4-BZ#66	61.4	3.8	µg/kg dry	1.91	48.2	**693**	*	40-140			
Cl5-BZ#90/#101	689	7.6	µg/kg dry	1.91	605	**4390**	*	40-140			
Cl4-BZ#81	ND	3.8	µg/kg dry	1.91	ND		*	40-140			
Cl5-BZ#123/#107	38.8	7.6	µg/kg dry	1.91	31.6	**375**	*	40-140			
Cl5-BZ#118	549	38	µg/kg dry	1.91	509	**2070**	*	40-140			
Cl5-BZ#114	12.2	3.8	µg/kg dry	1.91	8.82	**178**	*	40-140			
Cl6-BZ#153	362	38	µg/kg dry	1.91	344	**983**	*	40-140			
Cl5-BZ#105	183	3.8	µg/kg dry	1.91	151	**1670**	*	40-140			
Cl6-BZ#138	472	38	µg/kg dry	1.91	442	**1580**	*	40-140			
Cl7-BZ#187	35.5	3.8	µg/kg dry	1.91	30.1	**282**	*	40-140			
Cl5-BZ#126	2.21	3.8	µg/kg dry	1.91	ND	116		40-140			

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

PCB Congeners in Soil by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B144472 - SW-846 3540C											
Matrix Spike (B144472-MS1)		**Source: 16C0665-02**		Prepared: 03/18/16 Analyzed: 03/22/16							**Z-01**
Cl6-BZ#128/#162	118	7.6	µg/kg dry	1.91	104	**773**	*	40-140			
Cl6-BZ#167	27.6	3.8	µg/kg dry	1.91	22.4	**271**	*	40-140			
Cl6-BZ#156	74.4	3.8	µg/kg dry	1.91	59.9	**757**	*	40-140			
Cl6-BZ#157	19.0	3.8	µg/kg dry	1.91	17.1	101		40-140			
Cl7-BZ#180	92.3	3.8	µg/kg dry	1.91	83.2	**476**	*	40-140			
Cl7-BZ#170	54.1	3.8	µg/kg dry	1.91	46.3	**409**	*	40-140			
Cl6-BZ#169	ND	3.8	µg/kg dry	1.91	ND		*	40-140			
Cl7-BZ#189	4.17	3.8	µg/kg dry	1.91	2.80	72.2		40-140			
Cl8-BZ#195	4.59	5.7	µg/kg dry	1.91	3.19	73.4		40-140			
Cl9-BZ#206	6.05	5.7	µg/kg dry	1.91	ND	**317**	*	40-140			
Cl10-BZ#209	4.11	5.7	µg/kg dry	1.91	ND	**215**	*	40-140			
Surrogate: Tetrachloro-m-xylene	*0.00*		µg/kg dry	1.91			*	40-140			
Matrix Spike Dup (B144472-MSD1)		**Source: 16C0665-02**		Prepared: 03/18/16 Analyzed: 03/22/16							**Z-01**
Cl2-BZ#8	5.22	1.9	µg/kg dry	1.90	3.45	93.0		40-140	18.8	50	
Cl3-BZ#18	15.5	1.9	µg/kg dry	1.90	11.7	**200**	*	40-140	4.37	50	
Cl3-BZ#28	15.3	1.9	µg/kg dry	1.90	13.4	96.7		40-140	6.10	50	
Cl4-BZ#52	308	3.8	µg/kg dry	1.90	243	**3420**	*	40-140	0.981	50	
Cl4-BZ#44	150	3.8	µg/kg dry	1.90	119	**1650**	*	40-140	0.864	50	
Cl4-BZ#66	63.9	3.8	µg/kg dry	1.90	48.2	**824**	*	40-140	3.92	50	
Cl5-BZ#90/#101	678	7.6	µg/kg dry	1.90	605	**3790**	*	40-140	1.71	50	
Cl4-BZ#81	ND	3.8	µg/kg dry	1.90	ND		*	40-140	NC	50	
Cl5-BZ#123/#107	38.1	7.6	µg/kg dry	1.90	31.6	**341**	*	40-140	1.74	50	
Cl5-BZ#118	605	38	µg/kg dry	1.90	509	**5030**	*	40-140	9.74	50	
Cl5-BZ#114	12.3	3.8	µg/kg dry	1.90	8.82	**181**	*	40-140	0.370	50	
Cl6-BZ#153	396	38	µg/kg dry	1.90	344	**2770**	*	40-140	8.96	50	
Cl5-BZ#105	186	3.8	µg/kg dry	1.90	151	**1810**	*	40-140	1.38	50	
Cl6-BZ#138	510	38	µg/kg dry	1.90	442	**3580**	*	40-140	7.71	50	
Cl7-BZ#187	34.2	3.8	µg/kg dry	1.90	30.1	**216**	*	40-140	3.70	50	
Cl5-BZ#126	ND	3.8	µg/kg dry	1.90	ND		*	40-140		50	
Cl6-BZ#128/#162	115	7.6	µg/kg dry	1.90	104	**616**	*	40-140	2.61	50	
Cl6-BZ#167	26.6	3.8	µg/kg dry	1.90	22.4	**218**	*	40-140	3.80	50	
Cl6-BZ#156	74.6	3.8	µg/kg dry	1.90	59.9	**774**	*	40-140	0.347	50	
Cl6-BZ#157	21.2	3.8	µg/kg dry	1.90	17.1	**214**	*	40-140	10.7	50	
Cl7-BZ#180	95.0	3.8	µg/kg dry	1.90	83.2	**620**	*	40-140	2.90	50	
Cl7-BZ#170	53.4	3.8	µg/kg dry	1.90	46.3	**372**	*	40-140	1.36	50	
Cl6-BZ#169	ND	3.8	µg/kg dry	1.90	ND		*	40-140	NC	50	
Cl7-BZ#189	4.36	3.8	µg/kg dry	1.90	2.80	82.4		40-140	4.45	50	
Cl8-BZ#195	4.45	5.7	µg/kg dry	1.90	3.19	66.1		40-140	3.16	50	
Cl9-BZ#206	6.15	5.7	µg/kg dry	1.90	ND	**323**	*	40-140	1.58	50	
Cl10-BZ#209	4.13	5.7	µg/kg dry	1.90	ND	**217**	*	40-140	0.456	50	
Surrogate: Tetrachloro-m-xylene	*0.00*		µg/kg dry	1.90			*	40-140			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level

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

No results have been blank subtracted unless specified in the case narrative section.

S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.
S-17	Surrogate recovery is outside of control limits. Data validation is not affected since all associated results are less than the reporting limit and bias is on the high side.
S-23	Surrogate recovery outside of control limits in BS/MS spiked sample, all reported analytes are within control criteria, data not significantly affected.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
Z-01	Matrix spike and matrix spike duplicate results out of control limits due to dilution required for analysis and high levels of target analytes. Analysis in control based on blank spike and blank spike duplicate recovery.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

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Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16C0665

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@golder
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	Congeners	EPH w/ Targets	MA 14 metals	Pest/Herb
01	B-5 (0-1')	3/14/16	10:05		X	S	U	X	X			
	B-5 (0-3')		10:17	X						X	X	X
02	B-5 (1-3')		10:15		X			X				
03	B-5 (3-6')		10:23		X			X				
04	B-5 (6-11')		10:30		X			X				
	~~B-6 (0-1')~~		~~10:50~~		~~X~~							
	~~B-6 (1-3')~~											
	~~B-6 (3-6')~~											
	~~B-6 (6-11')~~											

PCB Congeners 5 day TAT

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments: 20X rule (RUSH PCBs ONLY)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 3/14/16	16:30
Received by: (signature)	Date/Time:
Tom Mari 3/15/16	1435
Relinquished by: (signature)	Date/Time:
Tom Mari 3/15/16	1705
Received by: (signature)	Date/Time:
[signature] S.I 3/15/16	1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other
RUSH †
☐ †24-Hr ☑ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

16c0665

Rev. 04.05.12

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project # 7785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs Soxhlet	Congeners	EPH w/ Targets	MA 14	Pest/Herb
05	B-7 (0-1')	3/14/16	11:05		X	S	U	X				
	B-7 (0-3)		11:20	X							X	X
06	B-7 (1-3)		11:17		X			X	X			
07	B-7 (3-6)		11:27		X			X				
08	B-7 (6-11')		11:35		X			X		X		
09	B-8 (0-1)		12:15		X			X				
10	B-8 (1-3)		12:23		X			X				
11	B-8 (3-6)		12:25		X			X				
12	B-8 (6-11')	↓	12:37		X	↓	↓	X				

PCB Congeners 5 day TAT

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Comments:
20x rule
(RUSH PCBs only)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
Chris Foley 3/14/16	16:30
Received by: (signature)	Date/Time:
Tom Marr 3/15/16	1435
Relinquished by: (signature)	Date/Time:
Tom Marr 3/15/16	1705
Received by: (signature)	Date/Time:
S.1 3/15/16	17[illegible]

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other _____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: 5-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

16c0665

Rev 04.05.12

Company Name: GEC
Address:
Attention: A. Foley
Project Location:
Sampled By:

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ⊘ PDF ⊘ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB	Congeners	EPH w/ Target	MA 14	Pest / Herb	# of Containers	** Preservation	***Container Code
13	B-9 (0-1')	3/14/16	1:05		X	S	U	X	X						
	B-9 (0-3)		1:13	X						X					
14	B-9 (1-3')		1:09		X			X							
15	B-9 (3-6)		1:17		X			X			X	X			
16	B-9 (6-9)		1:23		X			X							
17	B-10 (0-1)		2:07		X			X							
	B-10 (0-3')		2:20	X							X	X			
18	B-10 (1-3')		2:17		X			X							
19	B-10 (3-6')		2:21		X			X		X					
20	B-10 (6-11')		2:33		X			X							

ANALYSIS REQUESTED

PCB Congeners 5 day TAT

Comments:
20X Rule
Flush PCBs

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Relinquished by: (signature)	Date/Time:
Andrew Foley 3/14/16	16:30
Received by: (signature) Tom Mau 3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Mau 3/15/16	Date/Time: 1705
Received by: (signature) 3/15/16	Date/Time: 170

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: N/A
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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Email: info@contestlabs.com
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CHAIN OF CUSTODY RECORD

16C0641
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: afoley@golam
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	congeners	MA 14 Metals	EPH w/ target	Pest/H2O
21	B-11 (0-1')	3/14/16	1:40		X	S	U					
22	B-11 (1-3')	↓	1:45		↓	↓	↓					
23	B-11 (3-6')	↓	2:00		↓	↓	↓					
24	B-11 (6-11')	↓	2:07		↓	↓	↓					

Congeners 5 day TAT on B-11 (1-3)

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments:
20x rule
RUSH PCBs only

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
Anh Foley 3/14/16	16:30
Received by: (signature) Tom Mari 3/15/16	1435
Relinquished by: (signature) Tom Mari 3/15/16	1705
Received by: (signature) S.1 3/15/16	1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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East Longmeadow, MA. 01028
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F: 413-525-6405
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con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Goldman **RECEIVED BY**: JDL **DATE**: 3/15/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 5.1

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** **RUSH** **No** ____

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	26
250 mL Amber (8oz amber)			4 oz amber/clear jar	
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below			Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

40 mL vials:	# HCl ____	# Methanol ____		**Time and Date Frozen:**
Doc# 277	# Bisulfate ____	# DI Water ____		
Rev. 4 August 2013	# Thiosulfate ____	Unpreserved ____		

Page 2 of 2

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JDL **3/15/16 1705**

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

December 7, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C0985

Enclosed are results of analyses for samples received by the laboratory on March 22, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 12/7/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C0985

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-5 (0-3')	16C0985-01	Soil		SM 2540G	
				SW-846 1311	
				SW-846 6010C-D	
B-7 (0-3')	16C0985-02	Soil		SM 2540G	
				SW-846 1311	
				SW-846 6010C-D	
B-11 (3-6')	16C0985-03	Soil		SM 2540G	
				SW-846 1311	
				SW-846 6010C-D	

con-test® ANALYTICAL LABORATORY

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

For method 6010 TCLP, only Pb was requested and reported.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0985

Date Received: 3/22/2016

Field Sample #: B-5 (0-3')
Sampled: 3/14/2016 10:17

Sample ID: 16C0985-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.3		% Wt	1		SM 2540G	3/15/16	3/22/16 17:30	MJR

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0985

Date Received: 3/22/2016

Field Sample #: B-5 (0-3')
Sampled: 3/14/2016 10:17

Sample ID: 16C0985-01

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	0.050	0.010	mg/L	1		SW-846 6010C-D	3/23/16	3/24/16 18:41	AME

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0985

Date Received: 3/22/2016

Field Sample #: B-7 (0-3')
Sampled: 3/14/2016 11:20

Sample ID: 16C0985-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.2		% Wt	1		SM 2540G	3/15/16	3/22/16 17:30	MJR

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0985

Date Received: 3/22/2016

Field Sample #: B-7 (0-3')
Sampled: 3/14/2016 11:20

Sample ID: 16C0985-02

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	0.027	0.010	mg/L	1		SW-846 6010C-D	3/23/16	3/24/16 18:47	AME

con-test® ANALYTICAL LABORATORY

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Project Location: Lowell
Sample Description:
Work Order: 16C0985

Date Received: 3/22/2016

Field Sample #: B-11 (3-6')
Sampled: 3/14/2016 14:00

Sample ID: 16C0985-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.2		% Wt	1		SM 2540G	3/15/16	3/22/16 17:30	MJR

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0985

Date Received: 3/22/2016

Field Sample #: B-11 (3-6')
Sampled: 3/14/2016 14:00

Sample ID: 16C0985-03

Sample Matrix: Soil

TCLP - Metals Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Lead	0.029	0.010	mg/L	1		SW-846 6010C-D	3/23/16	3/24/16 18:53	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C0985-01 [B-5 (0-3')]	B144313	03/15/16
16C0985-02 [B-7 (0-3')]	B144313	03/15/16
16C0985-03 [B-11 (3-6')]	B144313	03/15/16

Prep Method: SW-846 3010A-SW-846 6010C-D **Leachates were extracted on 3/22/2016 per SW-846 1311 in Batch B144806**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16C0985-01 [B-5 (0-3')]	B144903	50.0	50.0	03/23/16
16C0985-02 [B-7 (0-3')]	B144903	50.0	50.0	03/23/16
16C0985-03 [B-11 (3-6')]	B144903	50.0	50.0	03/23/16

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QUALITY CONTROL

TCLP - Metals Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144903 - SW-846 3010A										
Blank (B144903-BLK1)				Prepared: 03/23/16 Analyzed: 03/24/16						
Lead	ND	0.010	mg/L							
LCS (B144903-BS1)				Prepared: 03/23/16 Analyzed: 03/24/16						
Lead	0.489	0.010	mg/L	0.500		97.9	80-120			
LCS Dup (B144903-BSD1)				Prepared: 03/23/16 Analyzed: 03/24/16						
Lead	0.495	0.010	mg/L	0.500		99.0	80-120	1.13	20	

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level

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

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 6010C-D in Water	
Lead	NY,CT,ME,NC,NH,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

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Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

~~16C0644~~
Rev 04.05.12
16C0985

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@golder
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

TCLP Pb on 3-day TAT for samples -01, -02, & -08

KKM 3/22/16

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	Cogeners	EPH w/ Targets	MA 14 metals	Pest/Herb						
	B-5 (0-1')	3/14/16	10:05		X	S	U	X	X									
01 ~~01~~	B-5 (0-3')	↓	10:17	X		↓	↓			X	X	X						
	B-5 (1-3')	↓	10:15		X	↓	↓	X										
	B-5 (3-6')	↓	10:23		X	↓	↓	X										
	B-5 (6-11')	↓	10:30		X	↓	↓	X										
	~~B-6 (0-1')~~	↓	~~10:50~~		~~X~~	↓	↓											
	~~B-6 (1-3')~~	↓				↓	↓											
	~~B-6 (3-6')~~	↓				↓	↓											
	~~B-6 (6-11')~~	↓				↓	↓											

KKM 3/22/16

Com
20X rule (RUSH PCBs ONLY)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

Cont. Code:
G=Amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Relinquished by: (signature)	Date/Time:
[signature] 3/14/16	16:30
Received by: (signature)	Date/Time:
Tom Mari 3/15/16	1435
Relinquished by: (signature)	Date/Time:
Tom Mari 3/15/16	1705
Received by: (signature)	Date/Time:
[signature] S.I 3/15/16	1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☑ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

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WBE/DBE Certifie

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CHAIN OF CUSTODY RECORD

~~16C0644~~
Rev 04.05.12
16C0985

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 7785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@
Format: ⊘ PDF ⊘ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs Soxhlet	Cajeners	EPH w/ Targets	MA 14	Pest/Herb						
	B-7 (0-1')	3/14/16	11:05		X	S	U	X										
02 ~~02~~	B-7 (0-3)	↓	11:20	X		↓	↓				X	X						
	B-7 (1-3)	↓	11:17		X	↓	↓	X	X									
	B-7 (3-6)	↓	11:27		X	↓	↓	X										
~~03~~	B-7 (6-11')	↓	11:35		X	↓	↓	X		X								
	B-8 (0-1)	↓	12:15		X	↓	↓	X										
	B-8 (1-3)	↓	12:23		X	↓	↓	X										
	B-8 (3-6')	↓	12:25		X	↓	↓	X										
	B-8 (6-11')	↓	12:37		X	↓	↓	X										

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

KKM 3/22/16

Comme
20X rule
(RUSH PCBs only)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature) Anh Foley	3/14/16	Date/Time: 16:30
Received by: (signature) Tom Marie	3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Marie	3/15/16	Date/Time: 1705
Received by: (signature) [signature] S.1	3/15/16	Date/Time: 1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
⊘ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC
Accredited
WBE/DBE Certifi

† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

~~16C0644~~
Rev 04.05.12
16C0985

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location:
Sampled By:

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ☑ PDF ☑ EXCEL ○ GIS ○ OTHER ○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB	Cogener	EPH w/ Target	MA 14	Pest / Herb						
	B-9 (0-1')	3/14/16	1:05		X	S	U	X	X									
~~04~~	B-9 (0-3)	↓	1:13	X		↓	↓			X								
	B-9 (1-3)	↓	1:09		X	↓	↓	X										
~~05~~	B-9 (3-6)	↓	1:17		X	↓	↓	X			X	X						
	B-9 (6-9)	↓	1:23		X	↓	↓	X										
	B-10 (0-1)	↓	2:07		X	↓	↓	X										
~~06~~	B-10 (0-3')	↓	2:20	X		↓	↓				X	X						
	B-10 (1-3')	↓	2:17		X	↓	↓	X										
~~07~~	B-10 (3-6')	↓	2:27		X	↓	↓	X		X								
	B-10 (6-11')	↓	2:33		X	↓	↓	X										

Comm... KKM 3/22/16
...le
RUSH PCBs

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature) Andrew Foley	Date/Time: 3/14/16 16:30
Received by: (signature) Tom Mari	Date/Time: 3/15/16 1435
Relinquished by: (signature) Tom Mari	Date/Time: 3/15/16 1705
Received by: (signature) [signature] S.J	Date/Time: 3/15/16 1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: [signature]
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

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WBE/DBE Certifi...

† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
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East longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

~~16C0644~~ Rev. 04.05.12

16C0985

Company Name: GEL
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: afoley@golder
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	congeners	MA 14 Metals	EPH w/ target	Point/Help												# of Containers	** Preservation	***Container Code
	B-11 (0-1')	3/14/16	1:40		Y	S	U																			
	B-11 (1-3')	↓	1:45		↓	↓	↓																			
03 ~~08~~	B-11 (3-6')		2:00							X		X														
~~09~~	B-11 (6-11')	↓	2:07		↓	↓	↓				X															

KKM 3/21/16

Comments:
20x rule
RUSH PCBs only

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V=vial
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**Preservation
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B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Dissolved Metals
○ Field Filtered
○ Lab to Filter

Relinquished by: (signature)	Date/Time:
Chris Foley 3/14/16 16	130
Received by: (signature) Tom Mau 3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Mau 3/15/16	Date/Time: 1705
Received by: (signature) S.1 3/15/16	Date/Time: 1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

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Massachusetts: S-1
Connecticut:
Other:

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○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LL
Accredited
WBE/DBE Certif

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Goldman **RECEIVED BY**: JDL **DATE**: 3/15/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 5.1

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	12
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		SOC Kit	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials:	# HCl ____	# Methanol ____	**Time and Date Frozen:**
Doc# 277	# Bisulfate ____	# DI Water ____	
Rev. 4 August 2013	# Thiosulfate ____	Unpreserved ____	

Page 2 of 2

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JDL **3/15/16 1705**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C0985
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C0985-01 thru 16C0985-03

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Project Manager

Printed Name: Lisa A. Worthington Date: 12/06/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 30, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C1045

Enclosed are results of analyses for samples received by the laboratory on March 23, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/30/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C1045

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-5 (3-6')	16C1045-01	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
B-5 (6-11')	16C1045-02	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
B-7 (3-6')	16C1045-03	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
B-7 (6-11')	16C1045-04	Soil		SM 2540G	
				SW-846 6010C-D	
B-8 (3-6')	16C1045-05	Soil		SM 2540G	
				SW-846 6010C-D	
B-8 (6-11')	16C1045-06	Soil		SM 2540G	
				SW-846 6010C-D	
B-9 (3-6')	16C1045-07	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
B-10 (3-6')	16C1045-08	Soil		SM 2540G	
				SW-846 6010C-D	
B-10 (6-11')	16C1045-09	Soil		SM 2540G	
				SW-846 6010C-D	
B-11 (6-11')	16C1045-10	Soil		SM 2540G	
				SW-846 6010C-D	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

MADEP-EPH-04-1.1

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

n-Decane
B145134-BS1

n-Nonane
B145134-BS1

SW-846 6010C-D

Qualifications:

MS-11

Matrix spike recovery outside of control limits. Possibility of sample matrix effects that lead to a high bias for reported result or non-homogeneous sample aliquots cannot be eliminated.

Analyte & Samples(s) Qualified:

Vanadium
16C1045-01[B-5 (3-6')], B145082-MS1

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-5 (3-6')
Sampled: 3/14/2016 10:23

Sample ID: 16C1045-01

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	26	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
C19-C36 Aliphatics	64	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Unadjusted C11-C22 Aromatics	280	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
C11-C22 Aromatics	220	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Acenaphthene	0.76	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Acenaphthylene	0.11	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Anthracene	1.8	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Benzo(a)anthracene	4.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Benzo(a)pyrene	3.7	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Benzo(b)fluoranthene	5.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Benzo(g,h,i)perylene	1.7	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Benzo(k)fluoranthene	2.0	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Chrysene	5.0	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Dibenz(a,h)anthracene	0.65	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Fluoranthene	9.5	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Fluorene	0.90	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Indeno(1,2,3-cd)pyrene	2.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
2-Methylnaphthalene	0.29	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Naphthalene	0.44	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Phenanthrene	7.4	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS
Pyrene	8.8	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:28	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	45.2	40-140		3/28/16 14:28
o-Terphenyl (OTP)	51.1	40-140		3/28/16 14:28
2-Bromonaphthalene	89.8	40-140		3/28/16 14:28
2-Fluorobiphenyl	93.5	40-140		3/28/16 14:28

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-5 (3-6')
Sampled: 3/14/2016 10:23

Sample ID: 16C1045-01

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	55	1.1	mg/Kg dry	1	MS-11	SW-846 6010C-D	3/24/16	3/29/16 19:17	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-5 (3-6')
Sampled: 3/14/2016 10:23

Sample ID: 16C1045-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.1		% Wt	1		SM 2540G	3/15/16	3/23/16 18:44	RJM

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-5 (6-11')
Sampled: 3/14/2016 10:30

Sample ID: 16C1045-02

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	300	49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
C19-C36 Aliphatics	750	49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Unadjusted C11-C22 Aromatics	1400	49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
C11-C22 Aromatics	1400	49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Acenaphthene	ND	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Acenaphthylene	ND	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Anthracene	ND	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Benzo(a)anthracene	ND	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Benzo(a)pyrene	ND	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Benzo(b)fluoranthene	ND	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Benzo(g,h,i)perylene	ND	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Benzo(k)fluoranthene	ND	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Chrysene	ND	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Dibenz(a,h)anthracene	ND	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Fluoranthene	1.2	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Fluorene	ND	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Indeno(1,2,3-cd)pyrene	ND	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
2-Methylnaphthalene	0.70	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Naphthalene	0.79	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Phenanthrene	1.6	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS
Pyrene	ND	0.49	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 14:49	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	54.2	40-140		3/28/16 14:49
o-Terphenyl (OTP)	76.4	40-140		3/28/16 14:49
2-Bromonaphthalene	81.5	40-140		3/28/16 14:49
2-Fluorobiphenyl	83.2	40-140		3/28/16 14:49

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-5 (6-11')
Sampled: 3/14/2016 10:30

Sample ID: 16C1045-02

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	30	1.2	mg/Kg dry	1		SW-846 6010C-D	3/24/16	3/29/16 19:22	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-5 (6-11')
Sampled: 3/14/2016 10:30

Sample ID: 16C1045-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	80.4		% Wt	1		SM 2540G	3/15/16	3/23/16 18:44	RJM

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Project Location: Lowell
Sample Description:
Work Order: 16C1045
Date Received: 3/23/2016
Field Sample #: B-7 (3-6')
Sampled: 3/14/2016 11:27
Sample ID: 16C1045-03
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
C19-C36 Aliphatics	28	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Unadjusted C11-C22 Aromatics	120	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
C11-C22 Aromatics	83	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Acenaphthene	0.54	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Anthracene	1.4	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Benzo(a)anthracene	2.9	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Benzo(a)pyrene	2.4	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Benzo(b)fluoranthene	3.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Benzo(g,h,i)perylene	1.2	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Benzo(k)fluoranthene	1.2	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Chrysene	3.2	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Dibenz(a,h)anthracene	0.41	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Fluoranthene	6.6	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Fluorene	0.78	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Indeno(1,2,3-cd)pyrene	1.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
2-Methylnaphthalene	0.22	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Naphthalene	0.32	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Phenanthrene	6.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS
Pyrene	5.9	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:10	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	45.8	40-140		3/28/16 15:10
o-Terphenyl (OTP)	53.1	40-140		3/28/16 15:10
2-Bromonaphthalene	80.1	40-140		3/28/16 15:10
2-Fluorobiphenyl	84.1	40-140		3/28/16 15:10

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-7 (3-6')
Sampled: 3/14/2016 11:27

Sample ID: 16C1045-03

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	31	1.1	mg/Kg dry	1		SW-846 6010C-D	3/24/16	3/29/16 19:28	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-7 (3-6')
Sampled: 3/14/2016 11:27

Sample ID: 16C1045-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.3		% Wt	1		SM 2540G	3/15/16	3/23/16 18:44	RJM

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045
Date Received: 3/23/2016
Field Sample #: B-7 (6-11')
Sampled: 3/14/2016 11:35
Sample ID: 16C1045-04
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	14	1.0	mg/Kg dry	1		SW-846 6010C-D	3/24/16	3/29/16 19:33	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-7 (6-11')
Sampled: 3/14/2016 11:35

Sample ID: 16C1045-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.0		% Wt	1		SM 2540G	3/15/16	3/23/16 18:44	RJM

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045
Date Received: 3/23/2016
Field Sample #: B-8 (3-6')
Sampled: 3/14/2016 12:25
Sample ID: 16C1045-05
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	39	1.1	mg/Kg dry	1		SW-846 6010C-D	3/24/16	3/29/16 19:38	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-8 (3-6')
Sampled: 3/14/2016 12:25

Sample ID: 16C1045-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.2		% Wt	1		SM 2540G	3/15/16	3/23/16 18:44	RJM

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-8 (6-11')
Sampled: 3/14/2016 12:37

Sample ID: 16C1045-06

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	41	1.1	mg/Kg dry	1		SW-846 6010C-D	3/24/16	3/29/16 19:44	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-8 (6-11')
Sampled: 3/14/2016 12:37

Sample ID: 16C1045-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.2		% Wt	1		SM 2540G	3/15/16	3/23/16 18:44	RJM

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045
Date Received: 3/23/2016
Field Sample #: B-9 (3-6')
Sampled: 3/14/2016 13:17
Sample ID: 16C1045-07
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Unadjusted C11-C22 Aromatics	59	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
C11-C22 Aromatics	46	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Anthracene	0.38	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Benzo(a)anthracene	1.2	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Benzo(a)pyrene	1.0	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Benzo(b)fluoranthene	1.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Benzo(g,h,i)perylene	0.54	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Benzo(k)fluoranthene	0.50	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Chrysene	1.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Fluoranthene	2.4	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Indeno(1,2,3-cd)pyrene	0.59	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Phenanthrene	1.4	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS
Pyrene	2.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:32	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	51.1	40-140		3/28/16 15:32
o-Terphenyl (OTP)	57.2	40-140		3/28/16 15:32
2-Bromonaphthalene	80.1	40-140		3/28/16 15:32
2-Fluorobiphenyl	86.0	40-140		3/28/16 15:32

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-9 (3-6')
Sampled: 3/14/2016 13:17

Sample ID: 16C1045-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.7		% Wt	1		SM 2540G	3/15/16	3/23/16 18:44	RJM

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-10 (3-6')
Sampled: 3/14/2016 14:27

Sample ID: 16C1045-08

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	560	1.1	mg/Kg dry	1		SW-846 6010C-D	3/24/16	3/29/16 20:08	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-10 (3-6')
Sampled: 3/14/2016 14:27

Sample ID: 16C1045-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.7		% Wt	1		SM 2540G	3/15/16	3/23/16 18:44	RJM

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-10 (6-11')
Sampled: 3/14/2016 14:33

Sample ID: 16C1045-09

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	260	1.0	mg/Kg dry	1		SW-846 6010C-D	3/24/16	3/29/16 20:13	AME

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Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-10 (6-11')
Sampled: 3/14/2016 14:33

Sample ID: 16C1045-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.3		% Wt	1		SM 2540G	3/15/16	3/23/16 18:44	RJM

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Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-11 (6-11')
Sampled: 3/14/2016 14:07

Sample ID: 16C1045-10

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	870	1.2	mg/Kg dry	1		SW-846 6010C-D	3/24/16	3/29/16 20:17	AME

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Project Location: Lowell
Sample Description:
Work Order: 16C1045

Date Received: 3/23/2016

Field Sample #: B-11 (6-11')
Sampled: 3/14/2016 14:07

Sample ID: 16C1045-10

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	84.2		% Wt	1		SM 2540G	3/15/16	3/23/16 18:44	RJM

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Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1045-01RE1 [B-5 (3-6')]	B145134	20.5	2.00	03/25/16
16C1045-02RE1 [B-5 (6-11')]	B145134	10.2	2.00	03/25/16
16C1045-03RE1 [B-7 (3-6')]	B145134	20.3	2.00	03/25/16
16C1045-07RE1 [B-9 (3-6')]	B145134	20.2	2.00	03/25/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C1045-01 [B-5 (3-6')]	B144313	03/15/16
16C1045-02 [B-5 (6-11')]	B144313	03/15/16
16C1045-03 [B-7 (3-6')]	B144313	03/15/16
16C1045-04 [B-7 (6-11')]	B144313	03/15/16
16C1045-05 [B-8 (3-6')]	B144313	03/15/16
16C1045-06 [B-8 (6-11')]	B144313	03/15/16
16C1045-07 [B-9 (3-6')]	B144313	03/15/16
16C1045-08 [B-10 (3-6')]	B144313	03/15/16
16C1045-09 [B-10 (6-11')]	B144313	03/15/16
16C1045-10 [B-11 (6-11')]	B144313	03/15/16

Prep Method: SW-846 3050B-SW-846 6010C-D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1045-01 [B-5 (3-6')]	B145082	1.05	50.0	03/24/16
16C1045-02 [B-5 (6-11')]	B145082	1.02	50.0	03/24/16
16C1045-03 [B-7 (3-6')]	B145082	1.00	50.0	03/24/16
16C1045-04 [B-7 (6-11')]	B145082	1.07	50.0	03/24/16
16C1045-05 [B-8 (3-6')]	B145082	1.00	50.0	03/24/16
16C1045-06 [B-8 (6-11')]	B145082	1.01	50.0	03/24/16
16C1045-08 [B-10 (3-6')]	B145082	1.07	50.0	03/24/16
16C1045-09 [B-10 (6-11')]	B145082	1.06	50.0	03/24/16
16C1045-10 [B-11 (6-11')]	B145082	1.03	50.0	03/24/16

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145134 - SW-846 3546										
Blank (B145134-BLK1)				Prepared: 03/25/16 Analyzed: 03/28/16						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*2.97*		mg/Kg wet	4.99		59.6	40-140			
Surrogate: o-Terphenyl (OTP)	*3.25*		mg/Kg wet	5.00		65.1	40-140			
Surrogate: 2-Bromonaphthalene	*3.93*		mg/Kg wet	5.00		78.5	40-140			
Surrogate: 2-Fluorobiphenyl	*3.75*		mg/Kg wet	5.00		75.1	40-140			
LCS (B145134-BS1)				Prepared: 03/25/16 Analyzed: 03/28/16						
Acenaphthene	3.29	0.10	mg/Kg wet	5.00		65.8	40-140			
Acenaphthylene	3.07	0.10	mg/Kg wet	5.00		61.4	40-140			
Anthracene	3.98	0.10	mg/Kg wet	5.00		79.6	40-140			
Benzo(a)anthracene	3.55	0.10	mg/Kg wet	5.00		71.1	40-140			
Benzo(a)pyrene	3.56	0.10	mg/Kg wet	5.00		71.2	40-140			
Benzo(b)fluoranthene	3.55	0.10	mg/Kg wet	5.00		71.0	40-140			
Benzo(g,h,i)perylene	3.50	0.10	mg/Kg wet	5.00		70.1	40-140			
Benzo(k)fluoranthene	3.61	0.10	mg/Kg wet	5.00		72.1	40-140			
Chrysene	3.62	0.10	mg/Kg wet	5.00		72.4	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B145134 - SW-846 3546											
LCS (B145134-BS1)				Prepared: 03/25/16 Analyzed: 03/28/16							
Dibenz(a,h)anthracene	3.78	0.10	mg/Kg wet	5.00		75.6		40-140			
Fluoranthene	3.52	0.10	mg/Kg wet	5.00		70.5		40-140			
Fluorene	3.36	0.10	mg/Kg wet	5.00		67.1		40-140			
Indeno(1,2,3-cd)pyrene	3.42	0.10	mg/Kg wet	5.00		68.5		40-140			
2-Methylnaphthalene	2.82	0.10	mg/Kg wet	5.00		56.4		40-140			
Naphthalene	2.70	0.10	mg/Kg wet	5.00		54.0		40-140			
Phenanthrene	3.45	0.10	mg/Kg wet	5.00		69.0		40-140			
Pyrene	3.55	0.10	mg/Kg wet	5.00		70.9		40-140			
n-Decane	1.94	0.10	mg/Kg wet	5.00		**38.9**	*	40-140			L-07
n-Docosane	3.21	0.10	mg/Kg wet	5.00		64.3		40-140			
n-Dodecane	2.35	0.10	mg/Kg wet	5.00		46.9		40-140			
n-Eicosane	3.24	0.10	mg/Kg wet	5.00		64.9		40-140			
n-Hexacosane	3.37	0.10	mg/Kg wet	5.00		67.4		40-140			
n-Hexadecane	3.01	0.10	mg/Kg wet	5.00		60.1		40-140			
n-Hexatriacontane	3.19	0.10	mg/Kg wet	5.00		63.8		40-140			
n-Nonadecane	3.20	0.10	mg/Kg wet	5.00		64.0		40-140			
n-Nonane	1.46	0.10	mg/Kg wet	5.00		**29.1**	*	30-140			L-07
n-Octacosane	3.39	0.10	mg/Kg wet	5.00		67.9		40-140			
n-Octadecane	3.17	0.10	mg/Kg wet	5.00		63.4		40-140			
n-Tetracosane	3.58	0.10	mg/Kg wet	5.00		71.6		40-140			
n-Tetradecane	2.70	0.10	mg/Kg wet	5.00		54.1		40-140			
n-Triacontane	3.45	0.10	mg/Kg wet	5.00		69.0		40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
Surrogate: Chlorooctadecane (COD)	*2.94*		mg/Kg wet	4.99		58.9		40-140			
Surrogate: o-Terphenyl (OTP)	*3.56*		mg/Kg wet	5.00		71.2		40-140			
Surrogate: 2-Bromonaphthalene	*4.29*		mg/Kg wet	5.00		85.8		40-140			
Surrogate: 2-Fluorobiphenyl	*4.27*		mg/Kg wet	5.00		85.4		40-140			
LCS Dup (B145134-BSD1)				Prepared: 03/25/16 Analyzed: 03/28/16							
Acenaphthene	3.05	0.10	mg/Kg wet	5.00		60.9		40-140	7.73	25	
Acenaphthylene	2.83	0.10	mg/Kg wet	5.00		56.6		40-140	8.12	25	
Anthracene	3.67	0.10	mg/Kg wet	5.00		73.5		40-140	8.03	25	
Benzo(a)anthracene	3.27	0.10	mg/Kg wet	5.00		65.4		40-140	8.32	25	
Benzo(a)pyrene	3.27	0.10	mg/Kg wet	5.00		65.4		40-140	8.42	25	
Benzo(b)fluoranthene	3.27	0.10	mg/Kg wet	5.00		65.4		40-140	8.17	25	
Benzo(g,h,i)perylene	3.21	0.10	mg/Kg wet	5.00		64.1		40-140	8.90	25	
Benzo(k)fluoranthene	3.30	0.10	mg/Kg wet	5.00		66.0		40-140	8.80	25	
Chrysene	3.33	0.10	mg/Kg wet	5.00		66.6		40-140	8.38	25	
Dibenz(a,h)anthracene	3.47	0.10	mg/Kg wet	5.00		69.5		40-140	8.37	25	
Fluoranthene	3.25	0.10	mg/Kg wet	5.00		64.9		40-140	8.20	25	
Fluorene	3.12	0.10	mg/Kg wet	5.00		62.3		40-140	7.43	25	
Indeno(1,2,3-cd)pyrene	3.14	0.10	mg/Kg wet	5.00		62.8		40-140	8.70	25	
2-Methylnaphthalene	2.60	0.10	mg/Kg wet	5.00		52.0		40-140	8.11	25	
Naphthalene	2.49	0.10	mg/Kg wet	5.00		49.9		40-140	7.95	25	
Phenanthrene	3.17	0.10	mg/Kg wet	5.00		63.4		40-140	8.32	25	
Pyrene	3.26	0.10	mg/Kg wet	5.00		65.2		40-140	8.36	25	
n-Decane	2.13	0.10	mg/Kg wet	5.00		42.6		40-140	9.07	25	
n-Docosane	3.52	0.10	mg/Kg wet	5.00		70.4		40-140	9.14	25	
n-Dodecane	2.56	0.10	mg/Kg wet	5.00		51.2		40-140	8.77	25	
n-Eicosane	3.55	0.10	mg/Kg wet	5.00		71.0		40-140	9.00	25	
n-Hexacosane	3.70	0.10	mg/Kg wet	5.00		74.0		40-140	9.40	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145134 - SW-846 3546										
LCS Dup (B145134-BSD1)				Prepared: 03/25/16 Analyzed: 03/28/16						
n-Hexadecane	3.27	0.10	mg/Kg wet	5.00		65.5	40-140	8.47	25	
n-Hexatriacontane	3.46	0.10	mg/Kg wet	5.00		69.1	40-140	7.97	25	
n-Nonadecane	3.50	0.10	mg/Kg wet	5.00		69.9	40-140	8.89	25	
n-Nonane	1.60	0.10	mg/Kg wet	5.00		31.9	30-140	9.16	25	
n-Octacosane	3.73	0.10	mg/Kg wet	5.00		74.6	40-140	9.44	25	
n-Octadecane	3.46	0.10	mg/Kg wet	5.00		69.2	40-140	8.76	25	
n-Tetracosane	3.92	0.10	mg/Kg wet	5.00		78.4	40-140	9.19	25	
n-Tetradecane	2.94	0.10	mg/Kg wet	5.00		58.9	40-140	8.50	25	
n-Triacontane	3.78	0.10	mg/Kg wet	5.00		75.6	40-140	9.04	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.21*		mg/Kg wet	4.99		64.3	40-140			
Surrogate: o-Terphenyl (OTP)	*3.27*		mg/Kg wet	5.00		65.4	40-140			
Surrogate: 2-Bromonaphthalene	*3.94*		mg/Kg wet	5.00		78.7	40-140			
Surrogate: 2-Fluorobiphenyl	*3.93*		mg/Kg wet	5.00		78.6	40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B145082 - SW-846 3050B											
Blank (B145082-BLK1)				Prepared: 03/24/16	Analyzed: 03/29/16						
Vanadium	ND	1.0	mg/Kg wet								
LCS (B145082-BS1)				Prepared: 03/24/16	Analyzed: 03/29/16						
Vanadium	91.3	2.0	mg/Kg wet	96.7		94.4		64.8-135.2			
LCS Dup (B145082-BSD1)				Prepared: 03/24/16	Analyzed: 03/29/16						
Vanadium	95.2	2.0	mg/Kg wet	96.7		98.5		64.8-135.2	4.25	30	
Duplicate (B145082-DUP1)	**Source: 16C1045-01**			Prepared: 03/24/16	Analyzed: 03/29/16						
Vanadium	76.3	1.2	mg/Kg dry		54.7				33.0	35	
Matrix Spike (B145082-MS1)	**Source: 16C1045-01**			Prepared: 03/24/16	Analyzed: 03/29/16						
Vanadium	95.4	1.1	mg/Kg dry	26.6	54.7	**153**	*	75-125			MS-11

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level

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

No results have been blank subtracted unless specified in the case narrative section.

L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
MS-11	Matrix spike recovery outside of control limits. Possibility of sample matrix effects that lead to a high bias for reported result or non-homogeneous sample aliquots cannot be eliminated.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,WA,ME,NH-P
C19-C36 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME,NH-P
C11-C22 Aromatics	CT,NC,WA,ME,NH-P
Acenaphthene	CT,NC,WA,ME,NH-P
Acenaphthylene	CT,NC,WA,ME,NH-P
Anthracene	CT,NC,WA,ME,NH-P
Benzo(a)anthracene	CT,NC,WA,ME,NH-P
Benzo(a)pyrene	CT,NC,WA,ME,NH-P
Benzo(b)fluoranthene	CT,NC,WA,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,WA,ME,NH-P
Benzo(k)fluoranthene	CT,NC,WA,ME,NH-P
Chrysene	CT,NC,WA,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,WA,ME,NH-P
Fluoranthene	CT,NC,WA,ME,NH-P
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME,NH-P
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME,NH-P
Phenanthrene	CT,NC,WA,ME,NH-P
Pyrene	CT,NC,WA,ME,NH-P
SW-846 6010C-D in Soil	
Vanadium	CT,NH,NY,ME,VA,NC

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

Jim Georgantas

Subject: FW: Con-Test Analytical Laboratory Lowell, MA: 1785-5060

From: Eileen <efurlong@comcast.net>
Date: March 22, 2016 at 9:32:08 PM EDT
To: "Foley, Andrew" <AFoley@goldmanenvironmental.com>
Cc: "Furlong, Eileen" <EFurlong@goldmanenvironmental.com>, Lauren McKinlay <LMcKinlay@goldmanenvironmental.com>, "Butler, Brian" <BButler@goldmanenvironmental.com>
Subject: Re: Con-Test Analytical Laboratory Lowell, MA: 1785-5060

Does the lab have enough soils to do vanadium analyses for the following samples?

B-5 (3-6)
B-5 (6-11)
B-7 (3-6)
B-7 (6-11)
B-8 (3-6)
B-8 (6-11)
~~B-9 (0-3)~~ → 16C0644
B-9 (6-11) ? DID NOT RECEIVE
B-10 (3-6)
B-10 (6-11)
B-11 (6-11)

Does the lab have enough soils to do EPH and PAH analyses for the following samples?

B-5 (3-6)
B-5 (6-11)
~~B-7 (0-3)~~ → 16C0644
B-7 (3-6)
B-9 (3-6)
~~B-10 (0-3)~~ → 16C0644

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

~~16C0641~~
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone: 16C1045
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@golder
Format: ☑ PDF ☑ EXCEL ○ GIS ○ OTHER ○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	Cogeners	EPH w/ Targets	MA 14 metals	Pest/Herb	# of Containers	** Preservation	***Container Code
~~01~~	B-5 (0-1')	3/14/16	10:05		X	S	U	X	X						
	B-5 (0-3')	↓	10:17	X		↓	↓			X	X	X			
~~02~~	B-5 (1-3')	↓	10:15		X	↓	↓	X							
~~01 03~~	B-5 (3-6')	↓	10:23		X	↓	↓	X							
~~02 04~~	B-5 (6-11')	↓	10:30		X	↓	↓	X							
	~~B-6 (0-1')~~	↓	~~10:50~~		~~X~~	↓	↓								
	~~B-6 (1-3')~~	↓				↓	↓								
	~~B-6 (3-6')~~	↓				↓	↓								
	~~B-6 (6-11')~~	↓				↓	↓								

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Comments: 20X rule (RUSH PCBs ONLY)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 3/14/16	16:30
Received by: (signature) Tom Mari 3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Mari 3/15/16	Date/Time: 1705
Received by: (signature) [signature] S.I 3/15/16	Date/Time: 1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☑ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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CHAIN OF CUSTODY RECORD

~~16C0641~~ Rev. 04.05.12 16C1045

39 Spruce Street
East Longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project # 7785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs Soxhlet	Cyanide	EPH w/ Targets	MA 14	Pest/Herb	# of Containers	** Preservation	***Container Code
05	B-7 (0-1')	3/14/16	11:05		X	S	U	X							
	B-7 (0-3)		11:10	X							X	X			
06	B-7 (1-3)		11:17		X			X	X						
☆ 07	B-7 (3-6)		11:27		X			X							
☆ 08	B-7 (6-11')		11:35		X			X		X					
09	B-8 (0-1)		12:15		X			X							
10	B-8 (1-3)		12:23		X			X							
☆ 11	B-8 (3-6')		12:25		X			X							
☆ 12	B-8 (6-11')	✓	12:31		X	✓	✓	X							

Comments:
20x rule
(RUSH PCBs only)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V=vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW = groundwater
WW = wastewater
DW = drinking water
A = air
S = soil/solid
SL = sludge
O = other

Relinquished by: (signature)	Date/Time:
Ann Foley 3/14/16	16:30
Received by: (signature) Tom Marie 3/15/16	1435
Relinquished by: (signature) Tom Marie 3/15/16	1705
Received by: (signature) 3/15/16	1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: 5-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

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WBE/DBE Certified

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CHAIN OF CUSTODY RECORD

~~16C0641~~ Rev 04.05.12 16C1045

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location:
Sampled By:

Telephone:
Project # M85-3060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ☑ PDF ☑ EXCEL ○ GIS ○ OTHER ○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB	Cyanide	EPH w/ Tox	VPH	Pest / Herb									# of Containers	** Preservation	***Container Code
~~13~~	B-9 (0-1')	3/14/16	1:05		X	S	U	X	X														
	B-9 (0-3)		1:13	X						X													
~~14~~	B-9 (1-3')		1:09		X			X															
~~15~~	B-9 (3-6)		1:17		X			X			X	X											
~~16~~	B-9 (6-9)		1:23		X			X															
~~17~~	B-10 (0-1)		2:07		X			X															
	B-10 (0-3')		2:20	X							X	X											
~~18~~	B-10 (1-3')		2:17		X			X															
~~19~~	B-10 (3-6')		2:27		X			X		X													
~~20~~	B-10 (6-11')		2:33		X			X															

Comments:
20X Rule
Rush PCBs

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Relinquished by: (signature)	Date/Time:
Andrew Foley 3/14/16	16:30
Received by: (signature) Tom Marr 3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Marr 3/15/16	Date/Time: 1705
Received by: (signature) 3/15/16	Date/Time: 170

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: ✓
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

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WBE/DBE Certified

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CHAIN OF CUSTODY RECORD

~~16C0641~~ 16C1045
Rev. 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: afoley@golam
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	cogeners	MA 14 Metals	EPH w/ target	Pest/H2O
~~21~~	B-11 (0-1')	3/14/16	1:40		X	S	U					
~~22~~	B-11 (1-3')	↓	1:45		↓	↓	↓					
~~23~~	B-11 (3-6')	↓	2:00		↓	↓	↓					
☒ ~~24~~	B-11 (6-11')	↓	2:07		↓	↓	↓					

Comments:
20x rule
RUSH PCBs only

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
Anh Foley 3/14/16 16:30	
Received by: (signature) Tom Mair 3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Mair 3/15/16	Date/Time: 1705
Received by: (signature) S.1 3/15/16	Date/Time: 1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # ____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
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GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other ____

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East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Goldman **RECEIVED BY:** JDL **DATE:** 3/15/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 5.1

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** RUSH **No** ____

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	26
250 mL Amber (8oz amber)			4 oz amber/clear jar	
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below			Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

40 mL vials:	# HCl ____	# Methanol ____	Time and Date Frozen:
Doc# 277	# Bisulfate ____	# DI Water ____	
Rev. 4 August 2013	# Thiosulfate ____	Unpreserved ____	

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C1045
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C1045-01 thru 16C1045-10

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Position: Laboratory Manager

Printed Name: Daren J. Damboragian Date: 03/30/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 30, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C1046

Enclosed are results of analyses for samples received by the laboratory on March 23, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/30/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C1046

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-7 (0-3')	16C1046-01	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 8270D	
B-9 (0-3')	16C1046-02	Soil		SM 2540G	
				SW-846 6010C-D	
B-10 (0-3')	16C1046-03	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 8270D	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

MADEP-EPH-04-1.1

Qualifications:

Z-01

Initial analysis within holding time. Reanalysis due to low surrogate recovery was past holding time. Both analysis were reported.

Analyte & Samples(s) Qualified:

16C1046-01RE1[B-7 (0-3')], 16C1046-01RE2[B-7 (0-3')], 16C1046-03RE1[B-10 (0-3')], 16C1046-03RE2[B-10 (0-3')]

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C 11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16C1046

Date Received: 3/23/2016

Field Sample #: B-7 (0-3') | Sampled: 3/14/2016 11:20

Sample ID: 16C1046-01

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	2.6	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 18:37	BGL
Acenaphthylene	0.34	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 18:37	BGL
Anthracene	4.8	2.0	mg/Kg dry	10		SW-846 8270D	3/24/16	3/29/16 17:42	CMR
Benzo(a)anthracene	10	2.0	mg/Kg dry	10		SW-846 8270D	3/24/16	3/29/16 17:42	CMR
Benzo(a)pyrene	8.4	2.0	mg/Kg dry	10		SW-846 8270D	3/24/16	3/29/16 17:42	CMR
Benzo(b)fluoranthene	12	2.0	mg/Kg dry	10		SW-846 8270D	3/24/16	3/29/16 17:42	CMR
Benzo(g,h,i)perylene	4.9	2.0	mg/Kg dry	10		SW-846 8270D	3/24/16	3/29/16 17:42	CMR
Benzo(k)fluoranthene	4.0	2.0	mg/Kg dry	10		SW-846 8270D	3/24/16	3/29/16 17:42	CMR
Chrysene	9.5	2.0	mg/Kg dry	10		SW-846 8270D	3/24/16	3/29/16 17:42	CMR
Dibenz(a,h)anthracene	1.7	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 18:37	BGL
Fluoranthene	26	2.0	mg/Kg dry	10		SW-846 8270D	3/24/16	3/29/16 17:42	CMR
Fluorene	3.4	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 18:37	BGL
Indeno(1,2,3-cd)pyrene	5.1	2.0	mg/Kg dry	10		SW-846 8270D	3/24/16	3/29/16 17:42	CMR
2-Methylnaphthalene	0.96	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 18:37	BGL
Naphthalene	1.5	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 18:37	BGL
Phenanthrene	23	2.0	mg/Kg dry	10		SW-846 8270D	3/24/16	3/29/16 17:42	CMR
Pyrene	22	2.0	mg/Kg dry	10		SW-846 8270D	3/24/16	3/29/16 17:42	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	83.4	30-130		3/26/16 18:37
2-Fluorobiphenyl	80.5	30-130		3/26/16 18:37
p-Terphenyl-d14	103	30-130		3/26/16 18:37

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1046
Date Received: 3/23/2016
Field Sample #: B-7 (0-3')
Sampled: 3/14/2016 11:20
Sample ID: 16C1046-01
Sample Matrix: Soil
Sample Flags: Z-01

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	61	47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
C9-C18 Aliphatics	28	23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
C19-C36 Aliphatics	140	47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
C19-C36 Aliphatics	65	23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Unadjusted C11-C22 Aromatics	240	23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Unadjusted C11-C22 Aromatics	550	47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
C11-C22 Aromatics	400	47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
C11-C22 Aromatics	180	23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Acenaphthene	2.6	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Acenaphthene	1.2	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Acenaphthylene	ND	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Acenaphthylene	ND	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Anthracene	5.4	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Anthracene	2.1	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Benzo(a)anthracene	11	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Benzo(a)anthracene	4.4	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Benzo(a)pyrene	9.3	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Benzo(a)pyrene	3.7	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Benzo(b)fluoranthene	12	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Benzo(b)fluoranthene	5.3	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Benzo(g,h,i)perylene	5.0	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Benzo(g,h,i)perylene	2.1	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Benzo(k)fluoranthene	4.6	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Benzo(k)fluoranthene	1.9	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Chrysene	12	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Chrysene	5.0	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Dibenz(a,h)anthracene	0.81	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Dibenz(a,h)anthracene	1.5	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Fluoranthene	26	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Fluoranthene	11	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Fluorene	2.6	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Fluorene	1.2	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Indeno(1,2,3-cd)pyrene	6.2	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Indeno(1,2,3-cd)pyrene	2.4	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
2-Methylnaphthalene	0.53	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
2-Methylnaphthalene	ND	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Naphthalene	0.75	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Naphthalene	0.51	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Phenanthrene	9.1	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Phenanthrene	22	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS
Pyrene	9.5	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	3/25/16	3/28/16 15:53	SCS
Pyrene	23	0.47	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:07	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	52.0	40-140		3/30/16 11:07

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Project Location: Lowell | Sample Description: | Work Order: 16C1046

Date Received: 3/23/2016

Field Sample #: B-7 (0-3') | Sampled: 3/14/2016 11:20

Sample ID: 16C1046-01

Sample Matrix: Soil

Sample Flags: Z-01

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL		Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**		**Recovery Limits**		**Flag/Qual**				
Chlorooctadecane (COD)		**26.5**	*	40-140					3/28/16 15:53	
o-Terphenyl (OTP)		65.4		40-140					3/30/16 11:07	
o-Terphenyl (OTP)		**32.1**	*	40-140					3/28/16 15:53	
2-Bromonaphthalene		82.5		40-140					3/30/16 11:07	
2-Bromonaphthalene		77.6		40-140					3/28/16 15:53	
2-Fluorobiphenyl		81.7		40-140					3/30/16 11:07	
2-Fluorobiphenyl		77.7		40-140					3/28/16 15:53	

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1046

Date Received: 3/23/2016

Field Sample #: B-7 (0-3')
Sampled: 3/14/2016 11:20

Sample ID: 16C1046-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.2		% Wt	1		SM 2540G	3/15/16	3/23/16 16:39	MJR

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Project Location: Lowell
Sample Description:
Work Order: 16C1046

Date Received: 3/23/2016

Field Sample #: B-9 (0-3')
Sampled: 3/14/2016 13:13

Sample ID: 16C1046-02

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	390	1.1	mg/Kg dry	1		SW-846 6010C-D	3/24/16	3/25/16 16:55	AME

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Project Location: Lowell
Sample Description:
Work Order: 16C1046

Date Received: 3/23/2016

Field Sample #: B-9 (0-3')
Sampled: 3/14/2016 13:13

Sample ID: 16C1046-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.7		% Wt	1		SM 2540G	3/15/16	3/23/16 16:39	MJR

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Project Location: Lowell | Sample Description: | Work Order: 16C1046

Date Received: 3/23/2016

Field Sample #: B-10 (0-3') | Sampled: 3/14/2016 14:20

Sample ID: 16C1046-03

Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	0.21	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Acenaphthylene	ND	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Anthracene	0.48	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Benzo(a)anthracene	0.95	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Benzo(a)pyrene	0.82	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Benzo(b)fluoranthene	0.97	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Benzo(g,h,i)perylene	0.44	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Benzo(k)fluoranthene	0.39	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Chrysene	0.93	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Fluoranthene	2.3	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Fluorene	0.21	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Indeno(1,2,3-cd)pyrene	0.51	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
2-Methylnaphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Naphthalene	ND	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Phenanthrene	2.1	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL
Pyrene	2.1	0.20	mg/Kg dry	1		SW-846 8270D	3/24/16	3/26/16 19:02	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Nitrobenzene-d5	80.2	30-130		3/26/16 19:02
2-Fluorobiphenyl	79.6	30-130		3/26/16 19:02
p-Terphenyl-d14	97.9	30-130		3/26/16 19:02

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1046
Date Received: 3/23/2016
Field Sample #: B-10 (0-3')
Sampled: 3/14/2016 14:20
Sample ID: 16C1046-03
Sample Matrix: Soil
Sample Flags: Z-01

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	18	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
C9-C18 Aliphatics	ND	46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
C19-C36 Aliphatics	150	46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
C19-C36 Aliphatics	220	57	mg/Kg dry	5		MADEP-EPH-04-1.1	3/25/16	3/29/16 17:56	SCS
Unadjusted C11-C22 Aromatics	200	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Unadjusted C11-C22 Aromatics	220	46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
C11-C22 Aromatics	170	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
C11-C22 Aromatics	190	46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Acenaphthene	0.49	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Acenaphthene	1.1	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Acenaphthylene	ND	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Anthracene	0.88	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Anthracene	1.1	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Benzo(a)anthracene	1.6	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Benzo(a)anthracene	2.1	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Benzo(a)pyrene	1.4	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Benzo(a)pyrene	1.8	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Benzo(b)fluoranthene	1.8	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Benzo(b)fluoranthene	2.4	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Benzo(g,h,i)perylene	0.77	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Benzo(g,h,i)perylene	1.1	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Benzo(k)fluoranthene	0.67	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Benzo(k)fluoranthene	0.94	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Chrysene	1.9	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Chrysene	2.4	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Dibenz(a,h)anthracene	ND	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Fluoranthene	4.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Fluoranthene	5.2	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Fluorene	0.49	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Fluorene	0.57	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Indeno(1,2,3-cd)pyrene	0.79	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Indeno(1,2,3-cd)pyrene	1.1	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
2-Methylnaphthalene	0.27	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
2-Methylnaphthalene	ND	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Naphthalene	0.33	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Naphthalene	ND	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Phenanthrene	4.7	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Phenanthrene	5.5	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS
Pyrene	4.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 16:14	SCS
Pyrene	5.8	0.46	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 11:28	SCS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	**35.2**	*	40-140		3/28/16 16:14

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1046
Date Received: 3/23/2016
Field Sample #: B-10 (0-3')
Sampled: 3/14/2016 14:20
Sample ID: 16C1046-03
Sample Matrix: Soil
Sample Flags: Z-01

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL		Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**		**Recovery Limits**		**Flag/Qual**				
Chlorooctadecane (COD)		54.6		40-140					3/30/16 11:28	
o-Terphenyl (OTP)		**39.1**	*	40-140					3/28/16 16:14	
o-Terphenyl (OTP)		69.7		40-140					3/30/16 11:28	
2-Bromonaphthalene		73.9		40-140					3/28/16 16:14	
2-Bromonaphthalene		86.8		40-140					3/30/16 11:28	
2-Fluorobiphenyl		76.1		40-140					3/28/16 16:14	
2-Fluorobiphenyl		87.6		40-140					3/30/16 11:28	

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Project Location: Lowell
Sample Description:
Work Order: 16C1046
Date Received: 3/23/2016
Field Sample #: B-10 (0-3')
Sampled: 3/14/2016 14:20
Sample ID: 16C1046-03
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.6		% Wt	1		SM 2540G	3/15/16	3/23/16 16:39	MJR

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Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1046-01RE1 [B-7 (0-3')]	B145310	20.2	2.00	03/25/16
16C1046-01RE2 [B-7 (0-3')]	B145310	10.0	2.00	03/29/16
16C1046-03RE1 [B-10 (0-3')]	B145310	20.3	2.00	03/25/16
16C1046-03RE2 [B-10 (0-3')]	B145310	10.0	2.00	03/29/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C1046-01 [B-7 (0-3')]	B144313	03/15/16
16C1046-02 [B-9 (0-3')]	B144313	03/15/16
16C1046-03 [B-10 (0-3')]	B144313	03/15/16

Prep Method: SW-846 3050B-SW-846 6010C-D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1046-02 [B-9 (0-3')]	B145030	1.07	50.0	03/24/16

Prep Method: SW-846 3546-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1046-01 [B-7 (0-3')]	B144974	30.0	1.00	03/24/16
16C1046-01RE1 [B-7 (0-3')]	B144974	30.0	1.00	03/24/16
16C1046-03 [B-10 (0-3')]	B144974	30.1	1.00	03/24/16

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144974 - SW-846 3546										
Blank (B144974-BLK1)				Prepared: 03/24/16 Analyzed: 03/26/16						
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
Surrogate: Nitrobenzene-d5	*3.17*		mg/Kg wet	3.33		95.1	30-130			
Surrogate: 2-Fluorobiphenyl	*3.20*		mg/Kg wet	3.33		96.1	30-130			
Surrogate: p-Terphenyl-d14	*3.98*		mg/Kg wet	3.33		119	30-130			
LCS (B144974-BS1)				Prepared: 03/24/16 Analyzed: 03/26/16						
Acenaphthene	1.29	0.17	mg/Kg wet	1.67		77.5	40-140			
Acenaphthylene	1.33	0.17	mg/Kg wet	1.67		79.7	40-140			
Anthracene	1.34	0.17	mg/Kg wet	1.67		80.7	40-140			
Benzo(a)anthracene	1.35	0.17	mg/Kg wet	1.67		81.1	40-140			
Benzo(a)pyrene	1.36	0.17	mg/Kg wet	1.67		81.7	40-140			
Benzo(b)fluoranthene	1.35	0.17	mg/Kg wet	1.67		81.0	40-140			
Benzo(g,h,i)perylene	1.36	0.17	mg/Kg wet	1.67		81.7	40-140			
Benzo(k)fluoranthene	1.32	0.17	mg/Kg wet	1.67		79.1	40-140			
Chrysene	1.33	0.17	mg/Kg wet	1.67		79.8	40-140			
Dibenz(a,h)anthracene	1.36	0.17	mg/Kg wet	1.67		81.7	40-140			
Fluoranthene	1.30	0.17	mg/Kg wet	1.67		78.0	40-140			
Fluorene	1.38	0.17	mg/Kg wet	1.67		82.9	40-140			
Indeno(1,2,3-cd)pyrene	1.34	0.17	mg/Kg wet	1.67		80.6	40-140			
2-Methylnaphthalene	1.35	0.17	mg/Kg wet	1.67		80.8	40-140			
Naphthalene	1.26	0.17	mg/Kg wet	1.67		75.6	40-140			
Phenanthrene	1.37	0.17	mg/Kg wet	1.67		81.9	40-140			
Pyrene	1.36	0.17	mg/Kg wet	1.67		81.8	40-140			
Surrogate: Nitrobenzene-d5	*2.81*		mg/Kg wet	3.33		84.2	30-130			
Surrogate: 2-Fluorobiphenyl	*2.95*		mg/Kg wet	3.33		88.6	30-130			
Surrogate: p-Terphenyl-d14	*3.11*		mg/Kg wet	3.33		93.2	30-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144974 - SW-846 3546										
LCS Dup (B144974-BSD1)				Prepared: 03/24/16 Analyzed: 03/26/16						
Acenaphthene	1.42	0.17	mg/Kg wet	1.67		85.2	40-140	9.56	30	
Acenaphthylene	1.43	0.17	mg/Kg wet	1.67		85.6	40-140	7.21	30	
Anthracene	1.49	0.17	mg/Kg wet	1.67		89.6	40-140	10.5	30	
Benzo(a)anthracene	1.46	0.17	mg/Kg wet	1.67		87.6	40-140	7.64	30	
Benzo(a)pyrene	1.54	0.17	mg/Kg wet	1.67		92.5	40-140	12.4	30	
Benzo(b)fluoranthene	1.52	0.17	mg/Kg wet	1.67		91.3	40-140	11.9	30	
Benzo(g,h,i)perylene	1.53	0.17	mg/Kg wet	1.67		91.8	40-140	11.6	30	
Benzo(k)fluoranthene	1.50	0.17	mg/Kg wet	1.67		90.1	40-140	13.0	30	
Chrysene	1.44	0.17	mg/Kg wet	1.67		86.3	40-140	7.82	30	
Dibenz(a,h)anthracene	1.52	0.17	mg/Kg wet	1.67		91.1	40-140	10.9	30	
Fluoranthene	1.44	0.17	mg/Kg wet	1.67		86.6	40-140	10.5	30	
Fluorene	1.52	0.17	mg/Kg wet	1.67		91.2	40-140	9.52	30	
Indeno(1,2,3-cd)pyrene	1.51	0.17	mg/Kg wet	1.67		90.5	40-140	11.7	30	
2-Methylnaphthalene	1.45	0.17	mg/Kg wet	1.67		87.0	40-140	7.32	30	
Naphthalene	1.36	0.17	mg/Kg wet	1.67		81.7	40-140	7.76	30	
Phenanthrene	1.50	0.17	mg/Kg wet	1.67		89.9	40-140	9.33	30	
Pyrene	1.49	0.17	mg/Kg wet	1.67		89.5	40-140	9.01	30	
Surrogate: Nitrobenzene-d5	*3.01*		mg/Kg wet	3.33		90.3	30-130			
Surrogate: 2-Fluorobiphenyl	*3.15*		mg/Kg wet	3.33		94.6	30-130			
Surrogate: p-Terphenyl-d14	*3.41*		mg/Kg wet	3.33		102	30-130			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145310 - SW-846 3546										
Blank (B145310-BLK1)				Prepared: 03/29/16 Analyzed: 03/30/16						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*3.22*		mg/Kg wet	4.99		64.5	40-140			
Surrogate: o-Terphenyl (OTP)	*4.07*		mg/Kg wet	5.00		81.3	40-140			
Surrogate: 2-Bromonaphthalene	*4.30*		mg/Kg wet	5.00		86.0	40-140			
Surrogate: 2-Fluorobiphenyl	*4.07*		mg/Kg wet	5.00		81.3	40-140			
LCS (B145310-BS1)				Prepared: 03/29/16 Analyzed: 03/30/16						
Acenaphthene	3.82	0.10	mg/Kg wet	5.00		76.3	40-140			
Acenaphthylene	3.57	0.10	mg/Kg wet	5.00		71.4	40-140			
Anthracene	4.39	0.10	mg/Kg wet	5.00		87.7	40-140			
Benzo(a)anthracene	3.90	0.10	mg/Kg wet	5.00		78.1	40-140			
Benzo(a)pyrene	3.91	0.10	mg/Kg wet	5.00		78.2	40-140			
Benzo(b)fluoranthene	3.88	0.10	mg/Kg wet	5.00		77.6	40-140			
Benzo(g,h,i)perylene	3.79	0.10	mg/Kg wet	5.00		75.9	40-140			
Benzo(k)fluoranthene	3.93	0.10	mg/Kg wet	5.00		78.6	40-140			
Chrysene	3.96	0.10	mg/Kg wet	5.00		79.2	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145310 - SW-846 3546										
LCS (B145310-BS1)				Prepared: 03/29/16 Analyzed: 03/30/16						
Dibenz(a,h)anthracene	4.08	0.10	mg/Kg wet	5.00		81.6	40-140			
Fluoranthene	3.89	0.10	mg/Kg wet	5.00		77.9	40-140			
Fluorene	3.83	0.10	mg/Kg wet	5.00		76.6	40-140			
Indeno(1,2,3-cd)pyrene	3.66	0.10	mg/Kg wet	5.00		73.2	40-140			
2-Methylnaphthalene	3.25	0.10	mg/Kg wet	5.00		65.1	40-140			
Naphthalene	3.09	0.10	mg/Kg wet	5.00		61.9	40-140			
Phenanthrene	3.83	0.10	mg/Kg wet	5.00		76.6	40-140			
Pyrene	3.89	0.10	mg/Kg wet	5.00		77.9	40-140			
n-Decane	2.51	0.10	mg/Kg wet	5.00		50.2	40-140			
n-Docosane	3.69	0.10	mg/Kg wet	5.00		73.8	40-140			
n-Dodecane	3.04	0.10	mg/Kg wet	5.00		60.8	40-140			
n-Eicosane	3.80	0.10	mg/Kg wet	5.00		76.0	40-140			
n-Hexacosane	3.94	0.10	mg/Kg wet	5.00		78.9	40-140			
n-Hexadecane	3.68	0.10	mg/Kg wet	5.00		73.5	40-140			
n-Hexatriacontane	3.69	0.10	mg/Kg wet	5.00		73.7	40-140			
n-Nonadecane	3.76	0.10	mg/Kg wet	5.00		75.3	40-140			
n-Nonane	2.00	0.10	mg/Kg wet	5.00		40.0	30-140			
n-Octacosane	3.97	0.10	mg/Kg wet	5.00		79.4	40-140			
n-Octadecane	3.76	0.10	mg/Kg wet	5.00		75.3	40-140			
n-Tetracosane	4.19	0.10	mg/Kg wet	5.00		83.9	40-140			
n-Tetradecane	3.45	0.10	mg/Kg wet	5.00		69.0	40-140			
n-Triacontane	4.04	0.10	mg/Kg wet	5.00		80.8	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.39*		mg/Kg wet	4.99		68.0	40-140			
Surrogate: o-Terphenyl (OTP)	*4.02*		mg/Kg wet	5.00		80.4	40-140			
Surrogate: 2-Bromonaphthalene	*3.96*		mg/Kg wet	5.00		79.2	40-140			
Surrogate: 2-Fluorobiphenyl	*3.93*		mg/Kg wet	5.00		78.5	40-140			
LCS Dup (B145310-BSD1)				Prepared: 03/29/16 Analyzed: 03/30/16						
Acenaphthene	3.76	0.10	mg/Kg wet	5.00		75.1	40-140	1.59	25	
Acenaphthylene	3.51	0.10	mg/Kg wet	5.00		70.2	40-140	1.71	25	
Anthracene	4.33	0.10	mg/Kg wet	5.00		86.5	40-140	1.35	25	
Benzo(a)anthracene	3.76	0.10	mg/Kg wet	5.00		75.1	40-140	3.84	25	
Benzo(a)pyrene	3.77	0.10	mg/Kg wet	5.00		75.4	40-140	3.61	25	
Benzo(b)fluoranthene	3.73	0.10	mg/Kg wet	5.00		74.7	40-140	3.88	25	
Benzo(g,h,i)perylene	3.66	0.10	mg/Kg wet	5.00		73.1	40-140	3.69	25	
Benzo(k)fluoranthene	3.79	0.10	mg/Kg wet	5.00		75.8	40-140	3.57	25	
Chrysene	3.80	0.10	mg/Kg wet	5.00		76.1	40-140	3.99	25	
Dibenz(a,h)anthracene	3.99	0.10	mg/Kg wet	5.00		79.9	40-140	2.13	25	
Fluoranthene	3.77	0.10	mg/Kg wet	5.00		75.4	40-140	3.25	25	
Fluorene	3.56	0.10	mg/Kg wet	5.00		71.2	40-140	7.36	25	
Indeno(1,2,3-cd)pyrene	3.58	0.10	mg/Kg wet	5.00		71.5	40-140	2.27	25	
2-Methylnaphthalene	3.22	0.10	mg/Kg wet	5.00		64.4	40-140	1.05	25	
Naphthalene	3.08	0.10	mg/Kg wet	5.00		61.7	40-140	0.317	25	
Phenanthrene	3.74	0.10	mg/Kg wet	5.00		74.9	40-140	2.21	25	
Pyrene	3.76	0.10	mg/Kg wet	5.00		75.3	40-140	3.37	25	
n-Decane	2.68	0.10	mg/Kg wet	5.00		53.5	40-140	6.39	25	
n-Docosane	3.80	0.10	mg/Kg wet	5.00		76.1	40-140	3.03	25	
n-Dodecane	3.18	0.10	mg/Kg wet	5.00		63.5	40-140	4.48	25	
n-Eicosane	3.85	0.10	mg/Kg wet	5.00		76.9	40-140	1.19	25	
n-Hexacosane	3.98	0.10	mg/Kg wet	5.00		79.6	40-140	0.868	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145310 - SW-846 3546										
LCS Dup (B145310-BSD1)				Prepared: 03/29/16 Analyzed: 03/30/16						
n-Hexadecane	3.75	0.10	mg/Kg wet	5.00		74.9	40-140	1.90	25	
n-Hexatriacontane	3.68	0.10	mg/Kg wet	5.00		73.6	40-140	0.212	25	
n-Nonadecane	3.81	0.10	mg/Kg wet	5.00		76.2	40-140	1.18	25	
n-Nonane	2.21	0.10	mg/Kg wet	5.00		44.1	30-140	9.89	25	
n-Octacosane	4.00	0.10	mg/Kg wet	5.00		80.0	40-140	0.683	25	
n-Octadecane	3.81	0.10	mg/Kg wet	5.00		76.3	40-140	1.27	25	
n-Tetracosane	4.23	0.10	mg/Kg wet	5.00		84.6	40-140	0.871	25	
n-Tetradecane	3.54	0.10	mg/Kg wet	5.00		70.9	40-140	2.61	25	
n-Triacontane	4.04	0.10	mg/Kg wet	5.00		80.9	40-140	0.111	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.44*		mg/Kg wet	4.99		68.9	40-140			
Surrogate: o-Terphenyl (OTP)	*3.83*		mg/Kg wet	5.00		76.6	40-140			
Surrogate: 2-Bromonaphthalene	*3.81*		mg/Kg wet	5.00		76.2	40-140			
Surrogate: 2-Fluorobiphenyl	*3.79*		mg/Kg wet	5.00		75.8	40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145030 - SW-846 3050B										
Blank (B145030-BLK1)				Prepared: 03/24/16 Analyzed: 03/25/16						
Vanadium	ND	1.0	mg/Kg wet							
LCS (B145030-BS1)				Prepared: 03/24/16 Analyzed: 03/25/16						
Vanadium	93.7	2.0	mg/Kg wet	96.7		96.9	64.8-135.2			
LCS Dup (B145030-BSD1)				Prepared: 03/24/16 Analyzed: 03/25/16						
Vanadium	91.2	2.1	mg/Kg wet	96.7		94.3	64.8-135.2	2.66	30	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
Z-01	Initial analysis within holding time. Reanalysis due to low surrogate recovery was past holding time. Both analysis were reported.

con-test® ANALYTICAL LABORATORY

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,WA,ME,NH-P
C19-C36 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME,NH-P
C11-C22 Aromatics	CT,NC,WA,ME,NH-P
Acenaphthene	CT,NC,WA,ME,NH-P
Acenaphthylene	CT,NC,WA,ME,NH-P
Anthracene	CT,NC,WA,ME,NH-P
Benzo(a)anthracene	CT,NC,WA,ME,NH-P
Benzo(a)pyrene	CT,NC,WA,ME,NH-P
Benzo(b)fluoranthene	CT,NC,WA,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,WA,ME,NH-P
Benzo(k)fluoranthene	CT,NC,WA,ME,NH-P
Chrysene	CT,NC,WA,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,WA,ME,NH-P
Fluoranthene	CT,NC,WA,ME,NH-P
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME,NH-P
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME,NH-P
Phenanthrene	CT,NC,WA,ME,NH-P
Pyrene	CT,NC,WA,ME,NH-P
SW-846 6010C-D in Soil	
Vanadium	CT,NH,NY,ME,VA,NC
SW-846 8270D in Soil	
Acenaphthene	CT,NY,NH,ME,NC,VA
Acenaphthylene	CT,NY,NH,ME,NC,VA
Anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)anthracene	CT,NY,NH,ME,NC,VA
Benzo(a)pyrene	CT,NY,NH,ME,NC,VA
Benzo(b)fluoranthene	CT,NY,NH,ME,NC,VA
Benzo(g,h,i)perylene	CT,NY,NH,ME,NC,VA
Benzo(k)fluoranthene	CT,NY,NH,ME,NC,VA
Chrysene	CT,NY,NH,ME,NC,VA
Dibenz(a,h)anthracene	CT,NY,NH,ME,NC,VA
Fluoranthene	CT,NY,NH,ME,NC,VA
Fluorene	CT,NY,NH,ME,NC,VA
Indeno(1,2,3-cd)pyrene	CT,NY,NH,ME,NC,VA
2-Methylnaphthalene	CT,NY,NH,ME,NC,VA
Naphthalene	CT,NY,NH,ME,NC,VA
Phenanthrene	CT,NY,NH,ME,NC,VA
Pyrene	CT,NY,NH,ME,NC,VA

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

~~16C0644~~
Rev 04.05.12
16C1046

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@golder
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	Cogeners	EPH w/ Targets	MA 14 metals	Pest/Herb							# of Containers / ** Preservation / ***Container Code
	B-5 (0-1')	3/14/16	10:05		X	S	U	X	X										
~~01~~	B-5 (0-3')	↓	10:17	X		↓	↓			X	X	X							
	B-5 (1-3')	↓	10:15		X	↓	↓	X											
KKM 3/23/16	B-5 (3-6')	↓	10:23		X	↓	↓	X											
	B-5 (6-11')	↓	10:30		X	↓	↓	X											
	~~B-6 (0-1')~~	↓	~~10:50~~		~~X~~	↓	↓												
	~~B-6 (1-3')~~	↓				↓	↓												
	~~B-6 (3-6')~~	↓				↓	↓												
	~~B-6 (6-11')~~	↓				↓	↓												

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments: 20X rule (RUSH PCBs ONLY)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 3/14/16	16:30
Received by: (signature) Tom Mari 3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Mari 3/15/16	Date/Time: 1705
Received by: (signature) [signature] S.I 3/15/16	Date/Time: 1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☑ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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Phone: 413-525-2332
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Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East longmeadow, MA 01028

~~16C0644~~
Rev 04.05.12
16C1046

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 7785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@
Format: ⊘ PDF ⊘ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

EPH & 8270 PAH for samples -02 & -06
KKM 3/23/16

EPH & 8270 PAH

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs Soxhlet	Cajeners	EPH w/ Targets	MA 14	Pest/Herb						
	B-7 (0-1')	3/14/16	11:05		X	S	U	X										
01 ~~02~~	B-7 (0-3)	↓	11:20	X		↓	↓				X	X		X				
	B-7 (1-3)	↓	11:17		X	↓	↓	X	X									
	B-7 (3-6)	↓	11:27		X	↓	↓	X										
~~03~~	B-7 (6-11')	↓	11:35		X	↓	↓	X		X								
	B-8 (0-1)	↓	12:15		X	↓	↓	X										
	B-8 (1-3)	↓	12:23		X	↓	↓	X										
KKM 3/23/16	B-8 (3-6')	↓	12:25		X	↓	↓	X										
	B-8 (6-11')	↓	12:37		X	↓	↓	X										

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

**Cont. Code:
=amber glass
=glass
=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag

Preservation:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments: 20x rule (RUSH PCBs only)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
Anthony Foley 3/14/16	16:30
Received by: (signature) Tom Marie 3/15/16	1435
Relinquished by: (signature) Tom Marie 3/15/16	1705
Received by: (signature) [signature] S.1 3/15/16	1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP?
⊘ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifi

† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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CHAIN OF CUSTODY RECORD

~~16C0644~~
Rev 04.05.12
16C1046

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location:
Sampled By:

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ☑ PDF ☑ EXCEL ○ GIS ○ OTHER ○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

EPH & 8270 PAH for samples -02 & -06

total Vanadium for sample -04

KKM 3/23/16

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB	Cogener	EPH w/ Target	MA 14	Pest / Herb						
	B-9 (0-1')	3/14/16	1:05		X	S	U	X	X									
02 ~~04~~	B-9 (0-3)	↓	1:13	X		↓	↓			X				X				
	B-9 (1-3)		1:09		X			X										
~~05~~	B-9 (3-6)		1:17		X			X			X	X						
	B-9 (6-9)		1:23		X			X										
	B-10 (0-1)		2:07		X			X										
03 ~~06~~	B-10 (0-3')		2:20	X							X	X		X				
	B-10 (1-3')		2:17		X			X										
~~07~~	B-10 (3-6')		2:27		X			X		X								
	B-10 (6-11')	↓	2:33		X	↓	↓	X										

total Vanadium

EPH & 8270 PAH

KKM 3/23/16

Comme[illegible]
RUSH PCBs

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Relinquished by: (signature) Andrew Foley	3/14/16	Date/Time: 16:30
Received by: (signature) Tom Mari	3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Mari	3/15/16	Date/Time: 1705
Received by: (signature) [signature] S.J	3/15/16	Date/Time: 1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: [signature]
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

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WBE/DBE Certifi

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East longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

~~16C0644~~
Rev. 04.05.12
16C1046

Company Name: GEL
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: afoley@golder
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	cyanides	MA 14 metals	EPH w/ target	Perf/Hold											
	B-11 (0-1')	3/14/16	1:40		Y	S	U																
	B-11 (1-3')	↓	1:45		↓	↓	↓																
~~08~~	B-11 (3-6')		2:00							X		X											
~~09~~	B-11 (6-11')	↓	2:07		↓	↓	↓				X												

KKM
3/23/16

ANALYSIS REQUESTED

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V=vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Comments:
20x rule
RUSH PCBs only

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
Chris Foley 3/14/16 16	130
Received by: (signature) Tom Mau 3/15/16	1435
Relinquished by: (signature) Tom Mau 3/15/16	1705
Received by: (signature) S.I 3/15/16	1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LL
Accredited
WBE/DBE Certif

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F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Goldman **RECEIVED BY:** JDL **DATE:** 3/15/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 5.1

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	12
250 mL Amber (8oz amber)			4 oz amber/clear jar	
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below			Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

40 mL vials:	# HCl ____	# Methanol ____		**Time and Date Frozen:**
Doc# 277	# Bisulfate ____	# DI Water ____		
Rev. 4 August 2013	# Thiosulfate ____	Unpreserved ____		

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JDL **3/15/16 1705**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C1046
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C1046-01 thru 16C1046-03

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B (X)	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Project Manager

Printed Name: Lisa A. Worthington Date: 03/30/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 28, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C1053

Enclosed are results of analyses for samples received by the laboratory on March 23, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/28/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C1053

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-9 (6-9')	16C1053-01	Soil		SM 2540G	
				SW-846 6010C-D	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1053

Date Received: 3/23/2016

Field Sample #: B-9 (6-9')
Sampled: 3/14/2016 13:23

Sample ID: 16C1053-01

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	120	1.1	mg/Kg dry	1		SW-846 6010C-D	3/24/16	3/25/16 17:00	AME

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1053

Date Received: 3/23/2016

Field Sample #: B-9 (6-9')
Sampled: 3/14/2016 13:23

Sample ID: 16C1053-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.8		% Wt	1		SM 2540G	3/15/16	3/23/16 16:56	RJM

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C1053-01 [B-9 (6-9')]	B144313	03/15/16

Prep Method: SW-846 3050B-SW-846 6010C-D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1053-01 [B-9 (6-9')]	B145030	1.06	50.0	03/24/16

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145030 - SW-846 3050B										
Blank (B145030-BLK1)				Prepared: 03/24/16 Analyzed: 03/25/16						
Vanadium	ND	1.0	mg/Kg wet							
LCS (B145030-BS1)				Prepared: 03/24/16 Analyzed: 03/25/16						
Vanadium	93.7	2.0	mg/Kg wet	96.7		96.9	64.8-135.2			
LCS Dup (B145030-BSD1)				Prepared: 03/24/16 Analyzed: 03/25/16						
Vanadium	91.2	2.1	mg/Kg wet	96.7		94.3	64.8-135.2	2.66	30	

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level

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

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 6010C-D in Soil	
Vanadium	CT,NH,NY,ME,VA,NC

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

con-test® ANALYTICAL LABORATORY

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www.contestlabs.com

CHAIN OF CUSTODY RECORD

~~16C0641~~
Rev 04.05.12
16C1053

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@golder
Format: ☑ PDF ☑ EXCEL ○ GIS ○ OTHER ○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

total Vanadium for sample -16
KKM 3/23/16

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	Congeners	EPH w/ Targets	MA 14 metals	Pest/Herb	# of Containers	** Preservation	***Container Code
~~01~~	B-5 (0-1')	3/14/16	10:05		X	S	U	X	X						
	B-5 (0-3')	↓	10:17	X		↓	↓			X	X	X			
~~02~~	B-5 (1-3')	↓	10:15		X	↓	↓	X							
~~03~~	B-5 (3-6')	↓	10:23		X	↓	↓	X							
~~04~~	B-5 (6-11')	↓	10:30		X	↓	↓	X							
	~~B-6 (0-1')~~	↓	~~10:50~~		~~X~~	↓	↓								
	~~B-6 (1-3')~~	↓				↓	↓								
	~~B-6 (3-6')~~	↓				↓	↓								
	~~B-6 (6-11')~~	↓				↓	↓								

KKM 3/23/16

Comments: 20X rule (RUSH PCBs ONLY)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Relinquished by: (signature)	Date/Time:
[signature] 3/14/16	16:30
Received by: (signature) Tom Mari 3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Mari 3/15/16	Date/Time: 1705
Received by: (signature) [signature] S.I 3/15/16	Date/Time: 1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other
RUSH †
☐ †24-Hr ☑ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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CHAIN OF CUSTODY RECORD

~~16C0641~~
Rev 04.05.12
16C1053

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project # 7785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@
Format: ⊘ PDF ⊘ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs, Soxhlet	Cajeners	EPH w/ Targets	MA 14	Pest/Herb
~~05~~	B-7 (0-1')	3/14/16	11:15		X	S	U	X				
	B-7 (0-3)		11:20	X							X	X
~~06~~	B-7 (1-3)		11:17		X			X	X			
~~07~~	B-7 (3-6)		11:27		X			X				
~~08~~	B-7 (6-11')		11:35		X			X		X		
~~09~~	B-8 (0-1)		12:15		X			X				
~~10~~	B-8 (1-3)		12:23		X			X				
~~11~~	B-8 (3-6')		12:25		X			X				
~~12~~	B-8 (6-11')		12:37		X			X				

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comme KKM 3/23/16
20x rule
(RUSH PCBs only)

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
Andy Foley 3/14/16	16:30
Received by: (signature)	Date/Time:
Tom Marie 3/15/16	1435
Relinquished by: (signature)	Date/Time:
Tom Marie 3/15/16	1705
Received by: (signature)	Date/Time:
[signature] S.1 3/15/16	1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
⊘ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

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CHAIN OF CUSTODY RECORD

~~16C0641~~
Rev 04.05.12
16C1053

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location:
Sampled By:

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ☑ PDF ☑ EXCEL ○ GIS ○ OTHER ○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

total Vanadium for sample -16
KKM 3/23/16

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB	Cyanide	EPH w/ Target	MA 14	Rest / Herb						
~~13~~	B-9 (0-1')	3/14/16	1:05		X	S	U	X	X									
	B-9 (0-3)		1:13	X						X								
~~14~~	B-9 (1-3')		1:09		X			X										
~~15~~	B-9 (3-6)		1:17		X			X			X	X						
01 ~~16~~	B-9 (6-9)		1:23		X			X							X			
~~17~~	B-10 (0-1)		2:07		X			X										
	B-10 (0-3')		2:20	X							X	X						
~~18~~	B-10 (1-3')		2:17		X			X										
~~19~~	B-10 (3-6')		2:27		X			X		X								
KKM 3/23/16 ~~20~~	B-10 (6-11')		2:33		X			X										

s:
20x Rule
Rush PCBs

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Relinquished by: (signature) Andrew Foley	3/14/16	Date/Time: 16:30
Received by: (signature) Tom Mari	3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Mari	3/15/16	Date/Time: 1705
Received by: (signature) [signature] S.J	3/15/16	Date/Time: 1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

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WBE/DBE Certifie

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16C1053

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address:
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: afoley@golam
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	cogeners	MA 14 Metals	EPH w/ target	Pest/H2O							# of Containers / ** Preservation / ***Container Code
~~21~~	B-11 (0-1')	3/14/16	1:40		X	S	U												
~~22~~	B-11 (1-3')	↓	1:45		↓	↓	↓												
~~23~~	B-11 (3-6')	↓	2:00		↓	↓	↓												
~~24~~	B-11 (6-11')	↓	2:07		↓	↓	↓												

KKM
3/23/16

ANALYSIS REQUESTED

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments:
20x rule
RUSH PCBs only

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 3/14/16 16:30	
Received by: (signature) Tom Mari 3/15/16	Date/Time: 1435
Relinquished by: (signature) Tom Mari 3/15/16	Date/Time: 1705
Received by: (signature) [signature] S.1 3/15/16	Date/Time: 1705

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Goldman **RECEIVED BY:** JDL **DATE:** 3/15/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 5.1

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** RUSH **No** ____

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	26
250 mL Amber (8oz amber)			4 oz amber/clear jar	
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below			Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

40 mL vials:	# HCl ____	# Methanol ____		**Time and Date Frozen:**
Doc# 277	# Bisulfate ____	# DI Water ____		
Rev. 4 August 2013	# Thiosulfate ____	Unpreserved ____		

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Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JDL **3/15/16 1705**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C1053
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C1053-01

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A ( )	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Position: Laboratory Manager

Printed Name: Daren J. Damboragian Date: 03/28/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 23, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C0867

Enclosed are results of analyses for samples received by the laboratory on March 18, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/23/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C0867

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
GT1 & GT2 Contents	16C0867-01	Water		SW-846 1010A	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Tod E. Kopyscinski
Laboratory Director

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C0867
Date Received: 3/18/2016
Field Sample #: GT1 & GT2 Contents
Sampled: 3/18/2016 10:15
Sample ID: 16C0867-01
Sample Matrix: Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Flashpoint	> 212 °F		°F	1		SW-846 1010A	3/21/16	3/21/16 15:50	AG

con-test® ANALYTICAL LABORATORY

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Sample Extraction Data

SW-846 1010A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16C0867-01 [GT1 & GT2 Contents]	B144708	50.0	50.0	03/21/16

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B144708 - SW-846 1010A										
Blank (B144708-BLK1)				Prepared & Analyzed: 03/21/16						
Flashpoint	> 212 °F		°F							
LCS (B144708-BS1)				Prepared & Analyzed: 03/21/16						
Flashpoint	81		°F	81.0		100	98.8-101			
LCS Dup (B144708-BSD1)				Prepared & Analyzed: 03/21/16						
Flashpoint	81		°F	81.0		100	98.8-101	0.00	5	

con-test® ANALYTICAL LABORATORY

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level

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

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

16C0867

CHAIN OF CUSTODY RECORD

con-test ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com
39 Spruce Street
East longmeadow, MA 01028

Page ____ of ____

Rev. 04.05.12

Company Name: GEC
Address: 60 Brooks Dr
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1785-5060
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@goldnanenvi
Format: ○ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	Flashpoint										
01	GT1 & GT2 Contents	3/18/16	10:15		X	W	U	X										

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 3/18/16	12:30
Received by: (signature) [signature] 3/18/16	13:00
Relinquished by: (signature) [signature] 3/18/16	1815
Received by: (signature) [signature] 3.6 3/18/16	1815

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY**: VP **DATE**: 3/18/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice x ____ Direct from Sampling ____ Ambient ____ In Cooler(s) x ____

Were the samples received in Temperature Compliance of (2-6°C)? **Yes** X **No** ____ **N/A** ____

Temperature °C by Temp blank ____ Temperature °C by Temp gun 3.6

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

7) Location where samples are stored: 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	
250 mL Amber (8oz amber)	1		4 oz amber/clear jar	
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below			Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

40 mL vials: # HCl ____ # Methanol ____

Bisulfate ____ # DI Water ____

Thiosulfate ____ Unpreserved ____

Time and Date Frozen:

Page 2 of 2

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** VP **Date/Time: 3/18/16 1500**

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

March 31, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C1146

Enclosed are results of analyses for samples received by the laboratory on March 24, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 3/31/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C1146

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-12 (0-1)	16C1146-01	Soil		SM 2540G	
				SW-846 8082A	
B-12 (1-3')	16C1146-02	Soil		SM 2540G	
				SW-846 8082A	
B-12 (3-6')	16C1146-03	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
				SW-846 8082A	
B-12 (0-3')	16C1146-04	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
B-13 (0-1)	16C1146-05	Soil		SM 2540G	
				SW-846 8082A	
B-13 (1-3')	16C1146-06	Soil		SM 2540G	
				SW-846 8082A	
B-13 (3-6')	16C1146-07	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
				SW-846 8082A	
B-13 (0-3')	16C1146-08	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

MADEP-EPH-04-1.1

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

n-Decane
B145134-BS1

n-Nonane
B145134-BS1

S-19

Surrogate recovery is outside of control limits, matrix interference suspected. Reanalysis yielded similar surrogate non-conformance.

Analyte & Samples(s) Qualified:

Chlorooctadecane (COD)
16C1146-04[B-12 (0-3')], 16C1146-04RE1[B-12 (0-3')], 16C1146-07[B-13 (3-6')], 16C1146-07RE1[B-13 (3-6')], 16C1146-08[B-13 (0-3')], 16C1146-08RE1[B-13 (0-3')]

o-Terphenyl (OTP)
16C1146-04[B-12 (0-3')], 16C1146-04RE1[B-12 (0-3')], 16C1146-07[B-13 (3-6')], 16C1146-07RE1[B-13 (3-6')], 16C1146-08[B-13 (0-3')], 16C1146-08RE1[B-13 (0-3')]

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016
B145110-MS1, B145110-MSD1

Aroclor-1016 [2C]
B145110-MS1, B145110-MSD1

Aroclor-1260
B145110-MS1, B145110-MSD1

Aroclor-1260 [2C]
B145110-MS1, B145110-MSD1

O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

16C1146-07[B-13 (3-6')]

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl
16C1146-01[B-12 (0-1)], 16C1146-05[B-13 (0-1)], 16C1146-06[B-13 (1-3')]

Decachlorobiphenyl [2C]
16C1146-01[B-12 (0-1)], 16C1146-05[B-13 (0-1)], 16C1146-06[B-13 (1-3')]

Tetrachloro-m-xylene
16C1146-01[B-12 (0-1)], 16C1146-05[B-13 (0-1)], 16C1146-06[B-13 (1-3')]

Tetrachloro-m-xylene [2C]
16C1146-01[B-12 (0-1)], 16C1146-05[B-13 (0-1)], 16C1146-06[B-13 (1-3')]

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-12 (0-1) | Sampled: 3/23/2016 10:00

Sample ID: 16C1146-01

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:16	JMB
Aroclor-1221 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:16	JMB
Aroclor-1232 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:16	JMB
Aroclor-1242 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:16	JMB
Aroclor-1248 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:16	JMB
Aroclor-1254 [1]	11	2.5	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:16	JMB
Aroclor-1260 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:16	JMB
Aroclor-1262 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:16	JMB
Aroclor-1268 [1]	ND	2.5	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:16	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/30/16 16:16
Decachlorobiphenyl [2]	*	30-150	S-01	3/30/16 16:16
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/30/16 16:16
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/30/16 16:16

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-12 (0-1)
Sampled: 3/23/2016 10:00

Sample ID: 16C1146-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	77.3		% Wt	1		SM 2540G	3/25/16	3/26/16 11:08	MJR

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1146
Date Received: 3/24/2016
Field Sample #: B-12 (1-3')
Sampled: 3/23/2016 10:20
Sample ID: 16C1146-02
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 16:33	JMB
Aroclor-1221 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 16:33	JMB
Aroclor-1232 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 16:33	JMB
Aroclor-1242 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 16:33	JMB
Aroclor-1248 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 16:33	JMB
Aroclor-1254 [1]	0.26	0.10	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 16:33	JMB
Aroclor-1260 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 16:33	JMB
Aroclor-1262 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 16:33	JMB
Aroclor-1268 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 16:33	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	95.4	30-150		3/30/16 16:33
Decachlorobiphenyl [2]	96.5	30-150		3/30/16 16:33
Tetrachloro-m-xylene [1]	90.3	30-150		3/30/16 16:33
Tetrachloro-m-xylene [2]	93.4	30-150		3/30/16 16:33

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Project Location: Lowell
Sample Description:
Work Order: 16C1146
Date Received: 3/24/2016
Field Sample #: B-12 (1-3')
Sampled: 3/23/2016 10:20
Sample ID: 16C1146-02
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.5		% Wt	1		SM 2540G	3/25/16	3/26/16 11:08	MJR

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Project Location: Lowell
Sample Description:
Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-12 (3-6')
Sampled: 3/23/2016 13:10

Sample ID: 16C1146-03

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/25/16	3/29/16 14:04	JMB
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/25/16	3/29/16 14:04	JMB
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/25/16	3/29/16 14:04	JMB
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/25/16	3/29/16 14:04	JMB
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/25/16	3/29/16 14:04	JMB
Aroclor-1254 [1]	0.37	0.11	mg/Kg dry	5		SW-846 8082A	3/25/16	3/29/16 14:04	JMB
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/25/16	3/29/16 14:04	JMB
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/25/16	3/29/16 14:04	JMB
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	3/25/16	3/29/16 14:04	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	78.3	30-150		3/29/16 14:04
Decachlorobiphenyl [2]	84.5	30-150		3/29/16 14:04
Tetrachloro-m-xylene [1]	77.6	30-150		3/29/16 14:04
Tetrachloro-m-xylene [2]	79.2	30-150		3/29/16 14:04

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1146
Date Received: 3/24/2016
Field Sample #: B-12 (3-6')
Sampled: 3/23/2016 13:10
Sample ID: 16C1146-03
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
C19-C36 Aliphatics	16	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Unadjusted C11-C22 Aromatics	44	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
C11-C22 Aromatics	34	11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Acenaphthene	0.39	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Anthracene	0.52	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Benzo(a)anthracene	0.70	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Benzo(a)pyrene	0.67	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Benzo(b)fluoranthene	0.85	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Benzo(g,h,i)perylene	0.36	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Benzo(k)fluoranthene	0.33	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Chrysene	0.68	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Fluoranthene	1.9	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Fluorene	0.22	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Indeno(1,2,3-cd)pyrene	0.41	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Naphthalene	0.16	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Phenanthrene	1.8	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS
Pyrene	1.7	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:12	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	49.0	40-140		3/30/16 13:12
o-Terphenyl (OTP)	52.3	40-140		3/30/16 13:12
2-Bromonaphthalene	89.7	40-140		3/30/16 13:12
2-Fluorobiphenyl	90.2	40-140		3/30/16 13:12

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-12 (3-6')
Sampled: 3/23/2016 13:10

Sample ID: 16C1146-03

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	4.1	2.8	mg/Kg dry	1		SW-846 6010C-D	3/25/16	3/29/16 22:07	AME
Lead	120	0.85	mg/Kg dry	1		SW-846 6010C-D	3/25/16	3/29/16 22:07	AME
Vanadium	13	1.1	mg/Kg dry	1		SW-846 6010C-D	3/25/16	3/29/16 22:07	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-12 (3-6')
Sampled: 3/23/2016 13:10

Sample ID: 16C1146-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.1		% Wt	1		SM 2540G	3/25/16	3/26/16 11:08	MJR

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Project Location: Lowell
Sample Description:
Work Order: 16C1146
Date Received: 3/24/2016
Field Sample #: B-12 (0-3')
Sampled: 3/23/2016 10:30
Sample ID: 16C1146-04
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
C9-C18 Aliphatics	ND	31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
C19-C36 Aliphatics	48	15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
C19-C36 Aliphatics	65	31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Unadjusted C11-C22 Aromatics	140	15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Unadjusted C11-C22 Aromatics	180	31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
C11-C22 Aromatics	99	15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
C11-C22 Aromatics	130	31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Acenaphthene	1.3	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Acenaphthene	1.7	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Acenaphthylene	ND	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Acenaphthylene	ND	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Anthracene	2.3	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Anthracene	2.1	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Benzo(a)anthracene	2.8	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Benzo(a)anthracene	2.9	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Benzo(a)pyrene	2.2	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Benzo(a)pyrene	2.7	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Benzo(b)fluoranthene	2.8	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Benzo(b)fluoranthene	3.4	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Benzo(g,h,i)perylene	0.93	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Benzo(g,h,i)perylene	1.4	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Benzo(k)fluoranthene	1.1	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Benzo(k)fluoranthene	1.4	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Chrysene	2.8	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Chrysene	2.8	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Dibenz(a,h)anthracene	0.30	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Dibenz(a,h)anthracene	0.41	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Fluoranthene	7.8	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Fluoranthene	7.7	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Fluorene	1.3	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Fluorene	1.1	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Indeno(1,2,3-cd)pyrene	1.2	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Indeno(1,2,3-cd)pyrene	1.8	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
2-Methylnaphthalene	0.45	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
2-Methylnaphthalene	0.35	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Naphthalene	0.98	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Naphthalene	0.88	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Phenanthrene	8.8	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Phenanthrene	7.5	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS
Pyrene	7.1	0.15	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:17	SCS
Pyrene	7.0	0.31	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:33	SCS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	**12.2**	*	40-140	S-19	3/28/16 17:17

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Project Location: Lowell
Sample Description:
Work Order: 16C1146
Date Received: 3/24/2016
Field Sample #: B-12 (0-3')
Sampled: 3/23/2016 10:30
Sample ID: 16C1146-04
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL		Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**		**Recovery Limits**		**Flag/Qual**				
Chlorooctadecane (COD)		**20.3**	*	40-140		S-19			3/30/16 13:33	
o-Terphenyl (OTP)		**14.8**	*	40-140		S-19			3/28/16 17:17	
o-Terphenyl (OTP)		**23.5**	*	40-140		S-19			3/30/16 13:33	
2-Bromonaphthalene		87.4		40-140					3/28/16 17:17	
2-Bromonaphthalene		82.4		40-140					3/30/16 13:33	
2-Fluorobiphenyl		84.1		40-140					3/30/16 13:33	
2-Fluorobiphenyl		87.4		40-140					3/28/16 17:17	

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Project Location: Lowell
Sample Description:
Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-12 (0-3')
Sampled: 3/23/2016 10:30

Sample ID: 16C1146-04

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	4.4	3.8	mg/Kg dry	1		SW-846 6010C-D	3/25/16	3/29/16 22:13	AME
Lead	210	1.1	mg/Kg dry	1		SW-846 6010C-D	3/25/16	3/29/16 22:13	AME
Vanadium	20	1.5	mg/Kg dry	1		SW-846 6010C-D	3/25/16	3/29/16 22:13	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-12 (0-3')
Sampled: 3/23/2016 10:30

Sample ID: 16C1146-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	64.2		% Wt	1		SM 2540G	3/25/16	3/26/16 11:08	MJR

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1146
Date Received: 3/24/2016
Field Sample #: B-13 (0-1)
Sampled: 3/23/2016 11:10
Sample ID: 16C1146-05
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.2	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:51	JMB
Aroclor-1221 [1]	ND	3.2	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:51	JMB
Aroclor-1232 [1]	ND	3.2	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:51	JMB
Aroclor-1242 [1]	ND	3.2	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:51	JMB
Aroclor-1248 [1]	ND	3.2	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:51	JMB
Aroclor-1254 [1]	12	3.2	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:51	JMB
Aroclor-1260 [1]	ND	3.2	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:51	JMB
Aroclor-1262 [1]	ND	3.2	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:51	JMB
Aroclor-1268 [1]	ND	3.2	mg/Kg dry	100		SW-846 8082A	3/25/16	3/30/16 16:51	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/30/16 16:51
Decachlorobiphenyl [2]	*	30-150	S-01	3/30/16 16:51
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/30/16 16:51
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/30/16 16:51

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Project Location: Lowell
Sample Description:
Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-13 (0-1)
Sampled: 3/23/2016 11:10

Sample ID: 16C1146-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	61.4		% Wt	1		SM 2540G	3/25/16	3/26/16 11:08	MJR

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Project Location: Lowell | Sample Description: | Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-13 (1-3') | Sampled: 3/23/2016 11:45

Sample ID: 16C1146-06

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	6.3	mg/Kg dry	250		SW-846 8082A	3/25/16	3/30/16 17:09	JMB
Aroclor-1221 [1]	ND	6.3	mg/Kg dry	250		SW-846 8082A	3/25/16	3/30/16 17:09	JMB
Aroclor-1232 [1]	ND	6.3	mg/Kg dry	250		SW-846 8082A	3/25/16	3/30/16 17:09	JMB
Aroclor-1242 [1]	ND	6.3	mg/Kg dry	250		SW-846 8082A	3/25/16	3/30/16 17:09	JMB
Aroclor-1248 [1]	ND	6.3	mg/Kg dry	250		SW-846 8082A	3/25/16	3/30/16 17:09	JMB
Aroclor-1254 [1]	25	6.3	mg/Kg dry	250		SW-846 8082A	3/25/16	3/30/16 17:09	JMB
Aroclor-1260 [1]	ND	6.3	mg/Kg dry	250		SW-846 8082A	3/25/16	3/30/16 17:09	JMB
Aroclor-1262 [1]	ND	6.3	mg/Kg dry	250		SW-846 8082A	3/25/16	3/30/16 17:09	JMB
Aroclor-1268 [1]	ND	6.3	mg/Kg dry	250		SW-846 8082A	3/25/16	3/30/16 17:09	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	3/30/16 17:09
Decachlorobiphenyl [2]	*	30-150	S-01	3/30/16 17:09
Tetrachloro-m-xylene [1]	*	30-150	S-01	3/30/16 17:09
Tetrachloro-m-xylene [2]	*	30-150	S-01	3/30/16 17:09

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Project Location: Lowell
Sample Description:
Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-13 (1-3')
Sampled: 3/23/2016 11:45

Sample ID: 16C1146-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	78.4		% Wt	1		SM 2540G	3/25/16	3/26/16 11:08	MJR

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Project Location: Lowell
Sample Description:
Work Order: 16C1146
Date Received: 3/24/2016
Field Sample #: B-13 (3-6')
Sampled: 3/23/2016 12:30
Sample ID: 16C1146-07
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 17:26	JMB
Aroclor-1221 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 17:26	JMB
Aroclor-1232 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 17:26	JMB
Aroclor-1242 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 17:26	JMB
Aroclor-1248 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 17:26	JMB
Aroclor-1254 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 17:26	JMB
Aroclor-1260 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 17:26	JMB
Aroclor-1262 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 17:26	JMB
Aroclor-1268 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	3/25/16	3/30/16 17:26	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	97.6	30-150		3/30/16 17:26
Decachlorobiphenyl [2]	98.4	30-150		3/30/16 17:26
Tetrachloro-m-xylene [1]	91.4	30-150		3/30/16 17:26
Tetrachloro-m-xylene [2]	92.7	30-150		3/30/16 17:26

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Project Location: Lowell
Sample Description:
Work Order: 16C1146
Date Received: 3/24/2016
Field Sample #: B-13 (3-6')
Sampled: 3/23/2016 12:30
Sample ID: 16C1146-07
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
C9-C18 Aliphatics	ND	24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
C19-C36 Aliphatics	19	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
C19-C36 Aliphatics	ND	24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Unadjusted C11-C22 Aromatics	29	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Unadjusted C11-C22 Aromatics	110	24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
C11-C22 Aromatics	26	12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
C11-C22 Aromatics	76	24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Acenaphthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Acenaphthene	0.93	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Acenaphthylene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Acenaphthylene	ND	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Anthracene	1.5	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Benzo(a)anthracene	0.21	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Benzo(a)anthracene	2.3	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Benzo(a)pyrene	0.27	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Benzo(a)pyrene	1.9	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Benzo(b)fluoranthene	0.34	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Benzo(b)fluoranthene	2.5	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Benzo(g,h,i)perylene	0.21	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Benzo(g,h,i)perylene	0.96	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Benzo(k)fluoranthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Benzo(k)fluoranthene	0.92	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Chrysene	0.25	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Chrysene	2.3	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Dibenz(a,h)anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Dibenz(a,h)anthracene	ND	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Fluoranthene	0.56	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Fluoranthene	7.2	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Fluorene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Fluorene	0.74	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Indeno(1,2,3-cd)pyrene	0.19	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Indeno(1,2,3-cd)pyrene	1.2	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
2-Methylnaphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
2-Methylnaphthalene	ND	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Naphthalene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Naphthalene	ND	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Phenanthrene	0.41	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Phenanthrene	5.9	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS
Pyrene	0.51	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:38	SCS
Pyrene	6.4	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	3/29/16	3/30/16 13:54	SCS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	**24.8**	*	40-140	S-19	3/28/16 17:38

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Project Location: Lowell | Sample Description: | Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-13 (3-6') | Sampled: 3/23/2016 12:30

Sample ID: 16C1146-07

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL		Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**		**Recovery Limits**		**Flag/Qual**				
Chlorooctadecane (COD)		**29.0**	*	40-140		S-19			3/30/16 13:54	
o-Terphenyl (OTP)		**31.9**	*	40-140		S-19			3/28/16 17:38	
o-Terphenyl (OTP)		**35.2**	*	40-140		S-19			3/30/16 13:54	
2-Bromonaphthalene		89.8		40-140					3/28/16 17:38	
2-Bromonaphthalene		79.6		40-140					3/30/16 13:54	
2-Fluorobiphenyl		84.5		40-140					3/28/16 17:38	
2-Fluorobiphenyl		79.8		40-140					3/30/16 13:54	

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Project Location: Lowell
Sample Description:
Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-13 (3-6')
Sampled: 3/23/2016 12:30

Sample ID: 16C1146-07

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	5.1	2.9	mg/Kg dry	1		SW-846 6010C-D	3/25/16	3/29/16 22:37	AME
Lead	34	0.88	mg/Kg dry	1		SW-846 6010C-D	3/25/16	3/29/16 22:37	AME
Vanadium	22	1.2	mg/Kg dry	1		SW-846 6010C-D	3/25/16	3/29/16 22:37	AME

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Project Location: Lowell
Sample Description:
Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-13 (3-6')
Sampled: 3/23/2016 12:30

Sample ID: 16C1146-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	82.8		% Wt	1		SM 2540G	3/25/16	3/26/16 11:08	MJR

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1146
Date Received: 3/24/2016
Field Sample #: B-13 (0-3')
Sampled: 3/23/2016 12:00
Sample ID: 16C1146-08
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
C9-C18 Aliphatics	17	14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
C19-C36 Aliphatics	31	14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
C19-C36 Aliphatics	80	14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Unadjusted C11-C22 Aromatics	280	14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Unadjusted C11-C22 Aromatics	110	14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
C11-C22 Aromatics	100	14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
C11-C22 Aromatics	240	14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Acenaphthene	0.45	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Acenaphthene	1.1	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Acenaphthylene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Acenaphthylene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Anthracene	1.9	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Anthracene	0.42	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Benzo(a)anthracene	0.60	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Benzo(a)anthracene	2.5	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Benzo(a)pyrene	2.8	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Benzo(a)pyrene	1.0	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Benzo(b)fluoranthene	0.84	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Benzo(b)fluoranthene	3.0	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Benzo(g,h,i)perylene	0.32	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Benzo(g,h,i)perylene	1.2	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Benzo(k)fluoranthene	0.28	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Benzo(k)fluoranthene	1.1	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Chrysene	0.62	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Chrysene	2.6	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Dibenz(a,h)anthracene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Dibenz(a,h)anthracene	0.35	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Fluoranthene	1.8	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Fluoranthene	7.0	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Fluorene	0.17	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Fluorene	0.94	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Indeno(1,2,3-cd)pyrene	0.38	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Indeno(1,2,3-cd)pyrene	1.5	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
2-Methylnaphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
2-Methylnaphthalene	0.33	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Naphthalene	ND	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Naphthalene	0.68	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Phenanthrene	1.7	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Phenanthrene	6.9	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS
Pyrene	1.8	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/29/16	3/30/16 14:15	SCS
Pyrene	6.4	0.14	mg/Kg dry	1		MADEP-EPH-04-1.1	3/25/16	3/28/16 17:59	SCS

Surrogates	% Recovery		Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	**6.84**	*	40-140	S-19	3/30/16 14:15

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1146
Date Received: 3/24/2016
Field Sample #: B-13 (0-3')
Sampled: 3/23/2016 12:00
Sample ID: 16C1146-08
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**	**Recovery Limits**		**Flag/Qual**				
Chlorooctadecane (COD)		**17.7** *	40-140		S-19			3/28/16 17:59	
o-Terphenyl (OTP)		**7.08** *	40-140		S-19			3/30/16 14:15	
o-Terphenyl (OTP)		**18.0** *	40-140		S-19			3/28/16 17:59	
2-Bromonaphthalene		69.9	40-140					3/28/16 17:59	
2-Bromonaphthalene		77.9	40-140					3/30/16 14:15	
2-Fluorobiphenyl		81.9	40-140					3/30/16 14:15	
2-Fluorobiphenyl		77.1	40-140					3/28/16 17:59	

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-13 (0-3')
Sampled: 3/23/2016 12:00

Sample ID: 16C1146-08

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	8.3	3.3	mg/Kg dry	1		SW-846 6010C-D	3/25/16	3/29/16 22:42	AME
Lead	1300	1.0	mg/Kg dry	1		SW-846 6010C-D	3/25/16	3/29/16 22:42	AME
Vanadium	35	1.3	mg/Kg dry	1		SW-846 6010C-D	3/25/16	3/29/16 22:42	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1146

Date Received: 3/24/2016

Field Sample #: B-13 (0-3')
Sampled: 3/23/2016 12:00

Sample ID: 16C1146-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	72.0		% Wt	1		SM 2540G	3/25/16	3/26/16 11:08	MJR

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Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1146-04 [B-12 (0-3')]	B145134	20.4	2.00	03/25/16
16C1146-07 [B-13 (3-6')]	B145134	20.0	2.00	03/25/16
16C1146-08 [B-13 (0-3')]	B145134	20.4	2.00	03/25/16

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1146-03RE1 [B-12 (3-6')]	B145310	20.0	2.00	03/29/16
16C1146-04RE1 [B-12 (0-3')]	B145310	20.0	2.00	03/29/16
16C1146-07RE1 [B-13 (3-6')]	B145310	20.1	2.00	03/29/16
16C1146-08RE1 [B-13 (0-3')]	B145310	20.0	2.00	03/29/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C1146-01 [B-12 (0-1)]	B145120	03/25/16
16C1146-02 [B-12 (1-3')]	B145120	03/25/16
16C1146-03 [B-12 (3-6')]	B145120	03/25/16
16C1146-04 [B-12 (0-3')]	B145120	03/25/16
16C1146-05 [B-13 (0-1)]	B145120	03/25/16
16C1146-06 [B-13 (1-3')]	B145120	03/25/16
16C1146-07 [B-13 (3-6')]	B145120	03/25/16
16C1146-08 [B-13 (0-3')]	B145120	03/25/16

Prep Method: SW-846 3050B-SW-846 6010C-D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1146-03 [B-12 (3-6')]	B145150	1.01	50.0	03/25/16
16C1146-04 [B-12 (0-3')]	B145150	1.02	50.0	03/25/16
16C1146-07 [B-13 (3-6')]	B145150	1.03	50.0	03/25/16
16C1146-08 [B-13 (0-3')]	B145150	1.04	50.0	03/25/16

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1146-01 [B-12 (0-1)]	B145110	10.2	10.0	03/25/16
16C1146-02 [B-12 (1-3')]	B145110	10.4	10.0	03/25/16
16C1146-03 [B-12 (3-6')]	B145110	10.3	10.0	03/25/16
16C1146-05 [B-13 (0-1)]	B145110	10.3	10.0	03/25/16
16C1146-06 [B-13 (1-3')]	B145110	10.1	10.0	03/25/16
16C1146-07 [B-13 (3-6')]	B145110	10.2	10.0	03/25/16

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145110 - SW-846 3540C										
Blank (B145110-BLK1)				Prepared: 03/25/16 Analyzed: 03/29/16						
Aroclor-1016	ND	0.019	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1221	ND	0.019	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1232	ND	0.019	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1242	ND	0.019	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1248	ND	0.019	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1254	ND	0.019	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1260	ND	0.019	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1262	ND	0.019	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.019	mg/Kg wet							
Aroclor-1268	ND	0.019	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.019	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.177*		mg/Kg wet	0.195		90.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.181*		mg/Kg wet	0.195		93.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.169*		mg/Kg wet	0.195		87.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.172*		mg/Kg wet	0.195		88.3	30-150			
LCS (B145110-BS1)				Prepared: 03/25/16 Analyzed: 03/29/16						
Aroclor-1016	0.15	0.019	mg/Kg wet	0.191		79.2	40-140			
Aroclor-1016 [2C]	0.14	0.019	mg/Kg wet	0.191		74.8	40-140			
Aroclor-1260	0.14	0.019	mg/Kg wet	0.191		75.1	40-140			
Aroclor-1260 [2C]	0.14	0.019	mg/Kg wet	0.191		75.9	40-140			
Surrogate: Decachlorobiphenyl	*0.176*		mg/Kg wet	0.191		92.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.183*		mg/Kg wet	0.191		96.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.164*		mg/Kg wet	0.191		86.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.160*		mg/Kg wet	0.191		83.8	30-150			
LCS Dup (B145110-BSD1)				Prepared: 03/25/16 Analyzed: 03/29/16						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.196		77.8	40-140	1.02	30	
Aroclor-1016 [2C]	0.15	0.020	mg/Kg wet	0.196		74.2	40-140	2.00	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.196		75.0	40-140	2.73	30	
Aroclor-1260 [2C]	0.15	0.020	mg/Kg wet	0.196		75.7	40-140	2.55	30	
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg wet	0.196		89.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.179*		mg/Kg wet	0.196		91.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.161*		mg/Kg wet	0.196		82.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.164*		mg/Kg wet	0.196		83.6	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B145110 - SW-846 3540C											
Matrix Spike (B145110-MS1)		**Source: 16C1146-01**		Prepared: 03/25/16 Analyzed: 03/29/16							
Aroclor-1016	0.73	0.13	mg/Kg dry	0.254	ND	**286**	*	40-140			MS-21
Aroclor-1016 [2C]	0.71	0.13	mg/Kg dry	0.254	ND	**279**	*	40-140			MS-21
Aroclor-1260	4.1	0.13	mg/Kg dry	0.254	ND	**1620**	*	40-140			MS-21
Aroclor-1260 [2C]	3.1	0.13	mg/Kg dry	0.254	ND	**1220**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.172*		mg/Kg dry	0.254		67.9		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.300*		mg/Kg dry	0.254		118		30-150			
Surrogate: Tetrachloro-m-xylene	*0.160*		mg/Kg dry	0.254		63.2		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.169*		mg/Kg dry	0.254		66.7		30-150			
Matrix Spike Dup (B145110-MSD1)		**Source: 16C1146-01**		Prepared: 03/25/16 Analyzed: 03/29/16							
Aroclor-1016	0.72	0.13	mg/Kg dry	0.252	ND	**285**	*	40-140		50	MS-21
Aroclor-1016 [2C]	0.67	0.13	mg/Kg dry	0.252	ND	**266**	*	40-140		50	MS-21
Aroclor-1260	3.9	0.13	mg/Kg dry	0.252	ND	**1560**	*	40-140	4.40	50	MS-21
Aroclor-1260 [2C]	2.9	0.13	mg/Kg dry	0.252	ND	**1130**	*	40-140	8.02	50	MS-21
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg dry	0.252		69.3		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.370*		mg/Kg dry	0.252		147		30-150			
Surrogate: Tetrachloro-m-xylene	*0.160*		mg/Kg dry	0.252		63.7		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.176*		mg/Kg dry	0.252		69.9		30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145134 - SW-846 3546										
Blank (B145134-BLK1)				Prepared: 03/25/16 Analyzed: 03/28/16						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*2.97*		mg/Kg wet	4.99		59.6	40-140			
Surrogate: o-Terphenyl (OTP)	*3.25*		mg/Kg wet	5.00		65.1	40-140			
Surrogate: 2-Bromonaphthalene	*3.93*		mg/Kg wet	5.00		78.5	40-140			
Surrogate: 2-Fluorobiphenyl	*3.75*		mg/Kg wet	5.00		75.1	40-140			
LCS (B145134-BS1)				Prepared: 03/25/16 Analyzed: 03/28/16						
Acenaphthene	3.29	0.10	mg/Kg wet	5.00		65.8	40-140			
Acenaphthylene	3.07	0.10	mg/Kg wet	5.00		61.4	40-140			
Anthracene	3.98	0.10	mg/Kg wet	5.00		79.6	40-140			
Benzo(a)anthracene	3.55	0.10	mg/Kg wet	5.00		71.1	40-140			
Benzo(a)pyrene	3.56	0.10	mg/Kg wet	5.00		71.2	40-140			
Benzo(b)fluoranthene	3.55	0.10	mg/Kg wet	5.00		71.0	40-140			
Benzo(g,h,i)perylene	3.50	0.10	mg/Kg wet	5.00		70.1	40-140			
Benzo(k)fluoranthene	3.61	0.10	mg/Kg wet	5.00		72.1	40-140			
Chrysene	3.62	0.10	mg/Kg wet	5.00		72.4	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B145134 - SW-846 3546											
LCS (B145134-BS1)				Prepared: 03/25/16 Analyzed: 03/28/16							
Dibenz(a,h)anthracene	3.78	0.10	mg/Kg wet	5.00		75.6		40-140			
Fluoranthene	3.52	0.10	mg/Kg wet	5.00		70.5		40-140			
Fluorene	3.36	0.10	mg/Kg wet	5.00		67.1		40-140			
Indeno(1,2,3-cd)pyrene	3.42	0.10	mg/Kg wet	5.00		68.5		40-140			
2-Methylnaphthalene	2.82	0.10	mg/Kg wet	5.00		56.4		40-140			
Naphthalene	2.70	0.10	mg/Kg wet	5.00		54.0		40-140			
Phenanthrene	3.45	0.10	mg/Kg wet	5.00		69.0		40-140			
Pyrene	3.55	0.10	mg/Kg wet	5.00		70.9		40-140			
n-Decane	1.94	0.10	mg/Kg wet	5.00		**38.9**	*	40-140			L-07
n-Docosane	3.21	0.10	mg/Kg wet	5.00		64.3		40-140			
n-Dodecane	2.35	0.10	mg/Kg wet	5.00		46.9		40-140			
n-Eicosane	3.24	0.10	mg/Kg wet	5.00		64.9		40-140			
n-Hexacosane	3.37	0.10	mg/Kg wet	5.00		67.4		40-140			
n-Hexadecane	3.01	0.10	mg/Kg wet	5.00		60.1		40-140			
n-Hexatriacontane	3.19	0.10	mg/Kg wet	5.00		63.8		40-140			
n-Nonadecane	3.20	0.10	mg/Kg wet	5.00		64.0		40-140			
n-Nonane	1.46	0.10	mg/Kg wet	5.00		**29.1**	*	30-140			L-07
n-Octacosane	3.39	0.10	mg/Kg wet	5.00		67.9		40-140			
n-Octadecane	3.17	0.10	mg/Kg wet	5.00		63.4		40-140			
n-Tetracosane	3.58	0.10	mg/Kg wet	5.00		71.6		40-140			
n-Tetradecane	2.70	0.10	mg/Kg wet	5.00		54.1		40-140			
n-Triacontane	3.45	0.10	mg/Kg wet	5.00		69.0		40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00				0-5			
Surrogate: Chlorooctadecane (COD)	*2.94*		mg/Kg wet	4.99		58.9		40-140			
Surrogate: o-Terphenyl (OTP)	*3.56*		mg/Kg wet	5.00		71.2		40-140			
Surrogate: 2-Bromonaphthalene	*4.29*		mg/Kg wet	5.00		85.8		40-140			
Surrogate: 2-Fluorobiphenyl	*4.27*		mg/Kg wet	5.00		85.4		40-140			
LCS Dup (B145134-BSD1)				Prepared: 03/25/16 Analyzed: 03/28/16							
Acenaphthene	3.05	0.10	mg/Kg wet	5.00		60.9		40-140	7.73	25	
Acenaphthylene	2.83	0.10	mg/Kg wet	5.00		56.6		40-140	8.12	25	
Anthracene	3.67	0.10	mg/Kg wet	5.00		73.5		40-140	8.03	25	
Benzo(a)anthracene	3.27	0.10	mg/Kg wet	5.00		65.4		40-140	8.32	25	
Benzo(a)pyrene	3.27	0.10	mg/Kg wet	5.00		65.4		40-140	8.42	25	
Benzo(b)fluoranthene	3.27	0.10	mg/Kg wet	5.00		65.4		40-140	8.17	25	
Benzo(g,h,i)perylene	3.21	0.10	mg/Kg wet	5.00		64.1		40-140	8.90	25	
Benzo(k)fluoranthene	3.30	0.10	mg/Kg wet	5.00		66.0		40-140	8.80	25	
Chrysene	3.33	0.10	mg/Kg wet	5.00		66.6		40-140	8.38	25	
Dibenz(a,h)anthracene	3.47	0.10	mg/Kg wet	5.00		69.5		40-140	8.37	25	
Fluoranthene	3.25	0.10	mg/Kg wet	5.00		64.9		40-140	8.20	25	
Fluorene	3.12	0.10	mg/Kg wet	5.00		62.3		40-140	7.43	25	
Indeno(1,2,3-cd)pyrene	3.14	0.10	mg/Kg wet	5.00		62.8		40-140	8.70	25	
2-Methylnaphthalene	2.60	0.10	mg/Kg wet	5.00		52.0		40-140	8.11	25	
Naphthalene	2.49	0.10	mg/Kg wet	5.00		49.9		40-140	7.95	25	
Phenanthrene	3.17	0.10	mg/Kg wet	5.00		63.4		40-140	8.32	25	
Pyrene	3.26	0.10	mg/Kg wet	5.00		65.2		40-140	8.36	25	
n-Decane	2.13	0.10	mg/Kg wet	5.00		42.6		40-140	9.07	25	
n-Docosane	3.52	0.10	mg/Kg wet	5.00		70.4		40-140	9.14	25	
n-Dodecane	2.56	0.10	mg/Kg wet	5.00		51.2		40-140	8.77	25	
n-Eicosane	3.55	0.10	mg/Kg wet	5.00		71.0		40-140	9.00	25	
n-Hexacosane	3.70	0.10	mg/Kg wet	5.00		74.0		40-140	9.40	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145134 - SW-846 3546										
LCS Dup (B145134-BSD1)				Prepared: 03/25/16 Analyzed: 03/28/16						
n-Hexadecane	3.27	0.10	mg/Kg wet	5.00		65.5	40-140	8.47	25	
n-Hexatriacontane	3.46	0.10	mg/Kg wet	5.00		69.1	40-140	7.97	25	
n-Nonadecane	3.50	0.10	mg/Kg wet	5.00		69.9	40-140	8.89	25	
n-Nonane	1.60	0.10	mg/Kg wet	5.00		31.9	30-140	9.16	25	
n-Octacosane	3.73	0.10	mg/Kg wet	5.00		74.6	40-140	9.44	25	
n-Octadecane	3.46	0.10	mg/Kg wet	5.00		69.2	40-140	8.76	25	
n-Tetracosane	3.92	0.10	mg/Kg wet	5.00		78.4	40-140	9.19	25	
n-Tetradecane	2.94	0.10	mg/Kg wet	5.00		58.9	40-140	8.50	25	
n-Triacontane	3.78	0.10	mg/Kg wet	5.00		75.6	40-140	9.04	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.21*		mg/Kg wet	4.99		64.3	40-140			
Surrogate: o-Terphenyl (OTP)	*3.27*		mg/Kg wet	5.00		65.4	40-140			
Surrogate: 2-Bromonaphthalene	*3.94*		mg/Kg wet	5.00		78.7	40-140			
Surrogate: 2-Fluorobiphenyl	*3.93*		mg/Kg wet	5.00		78.6	40-140			
Batch B145310 - SW-846 3546										
Blank (B145310-BLK1)				Prepared: 03/29/16 Analyzed: 03/30/16						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145310 - SW-846 3546										
Blank (B145310-BLK1)				Prepared: 03/29/16 Analyzed: 03/30/16						
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*3.22*		mg/Kg wet	4.99		64.5	40-140			
Surrogate: o-Terphenyl (OTP)	*4.07*		mg/Kg wet	5.00		81.3	40-140			
Surrogate: 2-Bromonaphthalene	*4.30*		mg/Kg wet	5.00		86.0	40-140			
Surrogate: 2-Fluorobiphenyl	*4.07*		mg/Kg wet	5.00		81.3	40-140			
LCS (B145310-BS1)				Prepared: 03/29/16 Analyzed: 03/30/16						
Acenaphthene	3.82	0.10	mg/Kg wet	5.00		76.3	40-140			
Acenaphthylene	3.57	0.10	mg/Kg wet	5.00		71.4	40-140			
Anthracene	4.39	0.10	mg/Kg wet	5.00		87.7	40-140			
Benzo(a)anthracene	3.90	0.10	mg/Kg wet	5.00		78.1	40-140			
Benzo(a)pyrene	3.91	0.10	mg/Kg wet	5.00		78.2	40-140			
Benzo(b)fluoranthene	3.88	0.10	mg/Kg wet	5.00		77.6	40-140			
Benzo(g,h,i)perylene	3.79	0.10	mg/Kg wet	5.00		75.9	40-140			
Benzo(k)fluoranthene	3.93	0.10	mg/Kg wet	5.00		78.6	40-140			
Chrysene	3.96	0.10	mg/Kg wet	5.00		79.2	40-140			
Dibenz(a,h)anthracene	4.08	0.10	mg/Kg wet	5.00		81.6	40-140			
Fluoranthene	3.89	0.10	mg/Kg wet	5.00		77.9	40-140			
Fluorene	3.83	0.10	mg/Kg wet	5.00		76.6	40-140			
Indeno(1,2,3-cd)pyrene	3.66	0.10	mg/Kg wet	5.00		73.2	40-140			
2-Methylnaphthalene	3.25	0.10	mg/Kg wet	5.00		65.1	40-140			
Naphthalene	3.09	0.10	mg/Kg wet	5.00		61.9	40-140			
Phenanthrene	3.83	0.10	mg/Kg wet	5.00		76.6	40-140			
Pyrene	3.89	0.10	mg/Kg wet	5.00		77.9	40-140			
n-Decane	2.51	0.10	mg/Kg wet	5.00		50.2	40-140			
n-Docosane	3.69	0.10	mg/Kg wet	5.00		73.8	40-140			
n-Dodecane	3.04	0.10	mg/Kg wet	5.00		60.8	40-140			
n-Eicosane	3.80	0.10	mg/Kg wet	5.00		76.0	40-140			
n-Hexacosane	3.94	0.10	mg/Kg wet	5.00		78.9	40-140			
n-Hexadecane	3.68	0.10	mg/Kg wet	5.00		73.5	40-140			
n-Hexatriacontane	3.69	0.10	mg/Kg wet	5.00		73.7	40-140			
n-Nonadecane	3.76	0.10	mg/Kg wet	5.00		75.3	40-140			
n-Nonane	2.00	0.10	mg/Kg wet	5.00		40.0	30-140			
n-Octacosane	3.97	0.10	mg/Kg wet	5.00		79.4	40-140			
n-Octadecane	3.76	0.10	mg/Kg wet	5.00		75.3	40-140			
n-Tetracosane	4.19	0.10	mg/Kg wet	5.00		83.9	40-140			
n-Tetradecane	3.45	0.10	mg/Kg wet	5.00		69.0	40-140			
n-Triacontane	4.04	0.10	mg/Kg wet	5.00		80.8	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.39*		mg/Kg wet	4.99		68.0	40-140			
Surrogate: o-Terphenyl (OTP)	*4.02*		mg/Kg wet	5.00		80.4	40-140			
Surrogate: 2-Bromonaphthalene	*3.96*		mg/Kg wet	5.00		79.2	40-140			
Surrogate: 2-Fluorobiphenyl	*3.93*		mg/Kg wet	5.00		78.5	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145310 - SW-846 3546										
LCS Dup (B145310-BSD1)				Prepared: 03/29/16 Analyzed: 03/30/16						
Acenaphthene	3.76	0.10	mg/Kg wet	5.00		75.1	40-140	1.59	25	
Acenaphthylene	3.51	0.10	mg/Kg wet	5.00		70.2	40-140	1.71	25	
Anthracene	4.33	0.10	mg/Kg wet	5.00		86.5	40-140	1.35	25	
Benzo(a)anthracene	3.76	0.10	mg/Kg wet	5.00		75.1	40-140	3.84	25	
Benzo(a)pyrene	3.77	0.10	mg/Kg wet	5.00		75.4	40-140	3.61	25	
Benzo(b)fluoranthene	3.73	0.10	mg/Kg wet	5.00		74.7	40-140	3.88	25	
Benzo(g,h,i)perylene	3.66	0.10	mg/Kg wet	5.00		73.1	40-140	3.69	25	
Benzo(k)fluoranthene	3.79	0.10	mg/Kg wet	5.00		75.8	40-140	3.57	25	
Chrysene	3.80	0.10	mg/Kg wet	5.00		76.1	40-140	3.99	25	
Dibenz(a,h)anthracene	3.99	0.10	mg/Kg wet	5.00		79.9	40-140	2.13	25	
Fluoranthene	3.77	0.10	mg/Kg wet	5.00		75.4	40-140	3.25	25	
Fluorene	3.56	0.10	mg/Kg wet	5.00		71.2	40-140	7.36	25	
Indeno(1,2,3-cd)pyrene	3.58	0.10	mg/Kg wet	5.00		71.5	40-140	2.27	25	
2-Methylnaphthalene	3.22	0.10	mg/Kg wet	5.00		64.4	40-140	1.05	25	
Naphthalene	3.08	0.10	mg/Kg wet	5.00		61.7	40-140	0.317	25	
Phenanthrene	3.74	0.10	mg/Kg wet	5.00		74.9	40-140	2.21	25	
Pyrene	3.76	0.10	mg/Kg wet	5.00		75.3	40-140	3.37	25	
n-Decane	2.68	0.10	mg/Kg wet	5.00		53.5	40-140	6.39	25	
n-Docosane	3.80	0.10	mg/Kg wet	5.00		76.1	40-140	3.03	25	
n-Dodecane	3.18	0.10	mg/Kg wet	5.00		63.5	40-140	4.48	25	
n-Eicosane	3.85	0.10	mg/Kg wet	5.00		76.9	40-140	1.19	25	
n-Hexacosane	3.98	0.10	mg/Kg wet	5.00		79.6	40-140	0.868	25	
n-Hexadecane	3.75	0.10	mg/Kg wet	5.00		74.9	40-140	1.90	25	
n-Hexatriacontane	3.68	0.10	mg/Kg wet	5.00		73.6	40-140	0.212	25	
n-Nonadecane	3.81	0.10	mg/Kg wet	5.00		76.2	40-140	1.18	25	
n-Nonane	2.21	0.10	mg/Kg wet	5.00		44.1	30-140	9.89	25	
n-Octacosane	4.00	0.10	mg/Kg wet	5.00		80.0	40-140	0.683	25	
n-Octadecane	3.81	0.10	mg/Kg wet	5.00		76.3	40-140	1.27	25	
n-Tetracosane	4.23	0.10	mg/Kg wet	5.00		84.6	40-140	0.871	25	
n-Tetradecane	3.54	0.10	mg/Kg wet	5.00		70.9	40-140	2.61	25	
n-Triacontane	4.04	0.10	mg/Kg wet	5.00		80.9	40-140	0.111	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.44*		mg/Kg wet	4.99		68.9	40-140			
Surrogate: o-Terphenyl (OTP)	*3.83*		mg/Kg wet	5.00		76.6	40-140			
Surrogate: 2-Bromonaphthalene	*3.81*		mg/Kg wet	5.00		76.2	40-140			
Surrogate: 2-Fluorobiphenyl	*3.79*		mg/Kg wet	5.00		75.8	40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145150 - SW-846 3050B										
Blank (B145150-BLK1)				Prepared: 03/25/16 Analyzed: 03/28/16						
Arsenic	ND	2.5	mg/Kg wet							
Lead	ND	0.75	mg/Kg wet							
Vanadium	ND	1.0	mg/Kg wet							
LCS (B145150-BS1)				Prepared: 03/25/16 Analyzed: 03/28/16						
Arsenic	90.5	5.0	mg/Kg wet	98.5		91.8	77.8-122.1			
Lead	112	1.5	mg/Kg wet	130		86.4	82.4-117.8			
Vanadium	84.7	2.0	mg/Kg wet	96.7		87.5	64.8-135.2			
LCS Dup (B145150-BSD1)				Prepared: 03/25/16 Analyzed: 03/28/16						
Arsenic	94.6	5.0	mg/Kg wet	98.5		96.1	77.8-122.1	4.48	30	
Lead	118	1.5	mg/Kg wet	130		91.0	82.4-117.8	5.25	30	
Vanadium	87.9	2.0	mg/Kg wet	96.7		90.9	64.8-135.2	3.81	30	
MRL Check (B145150-MRL1)				Prepared: 03/25/16 Analyzed: 03/28/16						
Lead	0.593	0.73	mg/Kg wet	0.731		81.1	80-120			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145120 - % Solids										
Duplicate (B145120-DUP6)		**Source: 16C1146-03**		Prepared: 03/25/16 Analyzed: 03/26/16						
% Solids	86.8		% Wt		88.1			1.49	20	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-12 (0-1)

Lab Sample ID: 16C1146-01

Date(s) Analyzed 03/30/2016 03/30/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	11	
	2	0.00	-0.03	0.03	11	2.7

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-12 (1-3')

Lab Sample ID: 16C1146-02 Date(s) Analyzed 03/30/2016 03/30/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.26	
	2	0.00	-0.03	0.03	0.25	5.5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-12 (3-6')

Lab Sample ID: 16C1146-03 Date(s) Analyzed 03/29/2016 03/29/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.37	
	2	0.00	-0.03	0.03	0.34	8.2

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-13 (0-1)

Lab Sample ID: 16C1146-05

Date(s) Analyzed 03/30/2016 03/30/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	12	
	2	0.00	-0.03	0.03	12	0.8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-13 (1-3')

Lab Sample ID: 16C1146-06 Date(s) Analyzed 03/30/2016 03/30/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	25	
	2	0.00	-0.03	0.03	24	4.5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B145110-BS1

Date(s) Analyzed 03/29/2016 03/29/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.15	
	2	0.00	-0.03	0.03	0.14	8
Aroclor-1260	1	0.00	-0.03	0.03	0.14	
	2	0.00	-0.03	0.03	0.14	2

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B145110-BSD1

Date(s) Analyzed 03/29/2016 03/29/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.15	
	2	0.00	-0.03	0.03	0.15	2
Aroclor-1260	1	0.00	-0.03	0.03	0.15	
	2	0.00	-0.03	0.03	0.15	2

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B145110-MS1

Date(s) Analyzed 03/29/2016 03/29/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.73	
	2	0.00	-0.03	0.03	0.71	2
Aroclor-1260	1	0.00	-0.03	0.03	4.1	
	2	0.00	-0.03	0.03	3.1	28

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B145110-MSD1 Date(s) Analyzed 03/29/2016 03/29/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.72	
	2	0.00	-0.03	0.03	0.67	7
Aroclor-1260	1	0.00	-0.03	0.03	3.9	
	2	0.00	-0.03	0.03	2.9	30

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
O-32	A dilution was performed as part of the standard analytical procedure.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.
S-19	Surrogate recovery is outside of control limits, matrix interference suspected. Reanalysis yielded similar surrogate non-conformance.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,WA,ME,NH-P
C19-C36 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME,NH-P
C11-C22 Aromatics	CT,NC,WA,ME,NH-P
Acenaphthene	CT,NC,WA,ME,NH-P
Acenaphthylene	CT,NC,WA,ME,NH-P
Anthracene	CT,NC,WA,ME,NH-P
Benzo(a)anthracene	CT,NC,WA,ME,NH-P
Benzo(a)pyrene	CT,NC,WA,ME,NH-P
Benzo(b)fluoranthene	CT,NC,WA,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,WA,ME,NH-P
Benzo(k)fluoranthene	CT,NC,WA,ME,NH-P
Chrysene	CT,NC,WA,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,WA,ME,NH-P
Fluoranthene	CT,NC,WA,ME,NH-P
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME,NH-P
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME,NH-P
Phenanthrene	CT,NC,WA,ME,NH-P
Pyrene	CT,NC,WA,ME,NH-P
SW-846 6010C-D in Soil	
Arsenic	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16C 1146

Rev. 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks Dr
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project #
Client PO# 1785-6080

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: afoley@goldm
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (soxhlet)	Arsenic	Lead	Vanadium	EPH w/ PAHs
	B-12 (0-1)	3/23/16	10:00		X	S	U	X				
	B-12 (1-3')		10:20		X			X				
	B-12 (3-6')		13:10		X			X	X	X	X	X
	B-12 (0-3')		10:30	X					X	X	X	X
	B-13 (0-1')		11:10		X			X				
	B-13 (1-3')		11:45		X			X				
	B-13 (3-6')		12:30		X			X	X	X	X	X
	B-13 (0-3')		12:00	X					X	X	X	X

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments:
20X rule

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	3/23/16	Date/Time: 16:00
Received by: (signature)	3-24-16	Date/Time: 1215
Relinquished by: (signature)	3-24-16	Date/Time: 1516
Received by: (signature)	4.3 3/24/16	Date/Time: 1510

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY**: VP **DATE**: 3/24/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 4.3

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

7) Location where samples are stored: 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	12
250 mL Amber (8oz amber)			4 oz amber/clear jar	2
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below			Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

40 mL vials:	# HCl ____	# Methanol ____		**Time and Date Frozen:**
Doc# 277	# Bisulfate ____	# DI Water ____		
Rev. 4 August 2013	# Thiosulfate ____	Unpreserved ____		

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** VP **Date/Time: 3/24/16 1510**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C1146
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C1146-01 thru 16C1146-08

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Project Manager

Printed Name: Lisa A. Worthington Date: 03/31/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

April 6, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-5060
Laboratory Work Order Number: 16C1374

Enclosed are results of analyses for samples received by the laboratory on March 30, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 4/6/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-5060

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C1374

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
SP-3	16C1374-01	Soil		SM 2540G	
				SM21-22 2510B Modified	
				SW-846 1030	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
				SW-846 8100 Modified	
				SW-846 8151A	
				SW-846 8270D	
				SW-846 9014	
				SW-846 9030A	
				SW-846 9045C	
SP-3	16C1374-02	Soil		MADEP-VPH-04-1.1	
				SM 2540G	
				SW-846 8260C	

con-test® ANALYTICAL LABORATORY

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

MADEP-VPH-04-1.1

Qualifications:

O-01

Soil/methanol ratio does not meet method specifications. Excess amount of soil. Sample was completely covered with methanol, but with less than the method-specified amount.

Analyte & Samples(s) Qualified:

16C1374-02[SP-3]

SW-846 6010C-D

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Lead
B145528-BSD1

SW-846 8081B

Qualifications:

L-07A

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.

Analyte & Samples(s) Qualified:

delta-BHC
B145509-BSD1

delta-BHC [2C]
B145509-BSD1

P-08

Sample RPD between primary and confirmatory analysis exceeded 100%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.

Analyte & Samples(s) Qualified:

4,4'-DDT
16C1374-01[SP-3]

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

delta-BHC
16C1374-01[SP-3], B145509-BLK1, B145509-BS1

delta-BHC [2C]
16C1374-01[SP-3], B145509-BLK1, B145509-BS1

SW-846 8151A

Qualifications:

V-06

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Dalapon
B145504-MS1, B145504-MSD1

Dalapon [2C]
B145504-BS1, B145504-BSD1, B145504-MS1, B145504-MSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Dalapon
16C1374-01[SP-3]

Dalapon [2C]
16C1374-01[SP-3], B145504-BLK1

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SW-846 8260C

Qualifications:

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
16C1374-02[SP-3], B145524-BLK1, B145524-BS1, B145524-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

1,2,3-Trichlorobenzene
B145524-BS1, B145524-BSD1

Bromoform
B145524-BS1, B145524-BSD1

Chlorodibromomethane
B145524-BS1, B145524-BSD1

SW-846 8270D

Qualifications:

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Bis(2-chloroisopropyl)ether
16C1374-01[SP-3], B145512-BLK1, B145512-BS1, B145512-BSD1

SW-846 9045C

Qualifications:

H-15

Sampling time not provided on Chain of Custody.

Analyte & Samples(s) Qualified:

pH
16C1374-01[SP-3]

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

MADEP-VPH-04-1.1

No significant modifications were made to the method. All VPH samples were received preserved properly in methanol with a soil/methanol ratio of 1:1 +/- 25% completely covered by methanol in the proper containers specified on the chain-of-custody form unless specified in this narrative.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

SW-846 8100 Modified

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for “difficult analytes” where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

SW-846 8270D

Laboratory control sample recoveries for required MCP Data Enhancement 8270 compounds were all within control limits specified by the method, 40-140% for base/neutrals and 30-130% for acids except for “difficult analytes” listed below and/or otherwise listed in this narrative. Difficult analytes limits are 15 and 140%: 2,4-dinitrophenol, 4-chloroaniline, 4-nitrophenol, and phenol.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Daren J. Damboragian
Laboratory Manager

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1374
Date Received: 3/30/2016
Field Sample #: SP-3
Sampled: 3/29/2016 00:00
Sample ID: 16C1374-01
Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	0.70	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Acenaphthylene	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Acetophenone	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Aniline	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Anthracene	1.5	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Benzo(a)anthracene	3.0	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Benzo(a)pyrene	2.6	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Benzo(b)fluoranthene	3.5	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Benzo(g,h,i)perylene	1.4	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Benzo(k)fluoranthene	1.4	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Bis(2-chloroethoxy)methane	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Bis(2-chloroethyl)ether	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Bis(2-chloroisopropyl)ether	ND	0.36	mg/Kg dry	1	V-20	SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Bis(2-Ethylhexyl)phthalate	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
4-Bromophenylphenylether	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Butylbenzylphthalate	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
4-Chloroaniline	ND	0.70	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
2-Chloronaphthalene	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
2-Chlorophenol	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Chrysene	2.8	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Dibenz(a,h)anthracene	0.37	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Dibenzofuran	0.59	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Di-n-butylphthalate	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
1,2-Dichlorobenzene	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
1,3-Dichlorobenzene	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
1,4-Dichlorobenzene	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
3,3-Dichlorobenzidine	ND	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
2,4-Dichlorophenol	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Diethylphthalate	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
2,4-Dimethylphenol	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Dimethylphthalate	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
2,4-Dinitrophenol	ND	0.70	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
2,4-Dinitrotoluene	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
2,6-Dinitrotoluene	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Di-n-octylphthalate	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Fluoranthene	7.0	0.36	mg/Kg dry	2		SW-846 8270D	3/31/16	4/5/16 10:23	BGL
Fluorene	0.93	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Hexachlorobenzene	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Hexachlorobutadiene	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Hexachloroethane	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Indeno(1,2,3-cd)pyrene	1.4	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Isophorone	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
2-Methylnaphthalene	0.29	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL

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Project Location: Lowell
Sample Description:
Work Order: 16C1374
Date Received: 3/30/2016
Field Sample #: SP-3
Sampled: 3/29/2016 00:00
Sample ID: 16C1374-01
Sample Matrix: Soil

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
3/4-Methylphenol	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Naphthalene	0.59	0.18	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Nitrobenzene	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
2-Nitrophenol	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
4-Nitrophenol	ND	0.70	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Pentachlorophenol	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Phenanthrene	5.9	0.36	mg/Kg dry	2		SW-846 8270D	3/31/16	4/5/16 10:23	BGL
Phenol	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
Pyrene	5.0	0.36	mg/Kg dry	2		SW-846 8270D	3/31/16	4/5/16 10:23	BGL
Pyridine	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
1,2,4-Trichlorobenzene	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
2,4,5-Trichlorophenol	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL
2,4,6-Trichlorophenol	ND	0.36	mg/Kg dry	1		SW-846 8270D	3/31/16	4/5/16 9:57	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	72.7	30-130		4/5/16 9:57
Phenol-d6	75.2	30-130		4/5/16 9:57
Nitrobenzene-d5	76.0	30-130		4/5/16 9:57
2-Fluorobiphenyl	73.2	30-130		4/5/16 9:57
2,4,6-Tribromophenol	83.1	30-130		4/5/16 9:57
p-Terphenyl-d14	76.4	30-130		4/5/16 9:57

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Project Location: Lowell
Sample Description:
Work Order: 16C1374
Date Received: 3/30/2016
Field Sample #: SP-3
Sampled: 3/29/2016 00:00
Sample ID: 16C1374-01
Sample Matrix: Soil

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.0053	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
alpha-BHC [1]	ND	0.0053	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
beta-BHC [1]	ND	0.0053	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
delta-BHC [1]	ND	0.0053	mg/Kg dry	1	R-05	SW-846 8081B	3/31/16	4/5/16 7:55	PJG
gamma-BHC (Lindane) [1]	ND	0.0021	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
Chlordane [1]	ND	0.021	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
4,4'-DDD [1]	ND	0.0042	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
4,4'-DDE [1]	ND	0.0042	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
4,4'-DDT [1]	0.019	0.0042	mg/Kg dry	1	P-08	SW-846 8081B	3/31/16	4/5/16 7:55	PJG
Dieldrin [1]	ND	0.0042	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
Endosulfan I [1]	ND	0.0053	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
Endosulfan II [1]	ND	0.0085	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
Endosulfan sulfate [1]	ND	0.0085	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
Endrin [1]	ND	0.0085	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
Endrin ketone [1]	ND	0.0085	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
Heptachlor [1]	ND	0.0053	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
Heptachlor epoxide [1]	ND	0.0053	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
Hexachlorobenzene [1]	ND	0.0064	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG
Methoxychlor [1]	ND	0.053	mg/Kg dry	1		SW-846 8081B	3/31/16	4/5/16 7:55	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	73.6	30-150		4/5/16 7:55
Decachlorobiphenyl [2]	95.5	30-150		4/5/16 7:55
Tetrachloro-m-xylene [1]	65.9	30-150		4/5/16 7:55
Tetrachloro-m-xylene [2]	61.5	30-150		4/5/16 7:55

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1374
Date Received: 3/30/2016
Field Sample #: SP-3
Sampled: 3/29/2016 00:00
Sample ID: 16C1374-01
Sample Matrix: Soil

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	26	µg/kg dry	1		SW-846 8151A	3/31/16	4/1/16 19:48	KAL
2,4-DB [2]	ND	26	µg/kg dry	1		SW-846 8151A	3/31/16	4/1/16 19:48	KAL
2,4,5-TP (Silvex) [1]	ND	2.6	µg/kg dry	1		SW-846 8151A	3/31/16	4/1/16 19:48	KAL
2,4,5-T [2]	ND	2.6	µg/kg dry	1		SW-846 8151A	3/31/16	4/1/16 19:48	KAL
Dalalpon [1]	ND	66	µg/kg dry	1	V-20	SW-846 8151A	3/31/16	4/1/16 19:48	KAL
Dicamba [1]	ND	2.6	µg/kg dry	1		SW-846 8151A	3/31/16	4/1/16 19:48	KAL
Dichloroprop [1]	ND	26	µg/kg dry	1		SW-846 8151A	3/31/16	4/1/16 19:48	KAL
Dinoseb [1]	ND	13	µg/kg dry	1		SW-846 8151A	3/31/16	4/1/16 19:48	KAL
MCPA [1]	ND	2600	µg/kg dry	1		SW-846 8151A	3/31/16	4/1/16 19:48	KAL
MCPP [1]	ND	2600	µg/kg dry	1		SW-846 8151A	3/31/16	4/1/16 19:48	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	98.9	30-150		4/1/16 19:48
2,4-Dichlorophenylacetic acid [2]	92.6	30-150		4/1/16 19:48

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1374
Date Received: 3/30/2016
Field Sample #: SP-3
Sampled: 3/29/2016 00:00
Sample ID: 16C1374-01
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.53	mg/Kg dry	25		SW-846 8082A	3/31/16	4/4/16 14:10	KAL
Aroclor-1221 [1]	ND	0.53	mg/Kg dry	25		SW-846 8082A	3/31/16	4/4/16 14:10	KAL
Aroclor-1232 [1]	ND	0.53	mg/Kg dry	25		SW-846 8082A	3/31/16	4/4/16 14:10	KAL
Aroclor-1242 [1]	ND	0.53	mg/Kg dry	25		SW-846 8082A	3/31/16	4/4/16 14:10	KAL
Aroclor-1248 [1]	ND	0.53	mg/Kg dry	25		SW-846 8082A	3/31/16	4/4/16 14:10	KAL
Aroclor-1254 [1]	2.6	0.53	mg/Kg dry	25		SW-846 8082A	3/31/16	4/4/16 14:10	KAL
Aroclor-1260 [1]	ND	0.53	mg/Kg dry	25		SW-846 8082A	3/31/16	4/4/16 14:10	KAL
Aroclor-1262 [1]	ND	0.53	mg/Kg dry	25		SW-846 8082A	3/31/16	4/4/16 14:10	KAL
Aroclor-1268 [1]	ND	0.53	mg/Kg dry	25		SW-846 8082A	3/31/16	4/4/16 14:10	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	77.3	30-150		4/4/16 14:10
Decachlorobiphenyl [2]	78.1	30-150		4/4/16 14:10
Tetrachloro-m-xylene [1]	73.3	30-150		4/4/16 14:10
Tetrachloro-m-xylene [2]	71.5	30-150		4/4/16 14:10

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Project Location: Lowell
Sample Description:
Work Order: 16C1374
Date Received: 3/30/2016
Field Sample #: SP-3
Sampled: 3/29/2016 00:00
Sample ID: 16C1374-01
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	280	44	mg/Kg dry	5		SW-846 8100 Modified	3/31/16	4/1/16 11:38	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
o-Terphenyl	72.8	40-140		4/1/16 11:38

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1374

Date Received: 3/30/2016

Field Sample #: SP-3
Sampled: 3/29/2016 00:00

Sample ID: 16C1374-01

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	2.4	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/1/16 19:05	AME
Arsenic	8.8	2.4	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/4/16 18:09	AME
Barium	50	2.4	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/1/16 19:05	AME
Beryllium	0.73	0.24	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/1/16 19:05	AME
Cadmium	0.44	0.24	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/1/16 19:05	AME
Chromium	30	0.48	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/1/16 19:05	AME
Lead	25	0.72	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/4/16 18:09	AME
Mercury	0.050	0.027	mg/Kg dry	1		SW-846 7471B	3/31/16	4/1/16 10:25	TGW
Nickel	18	0.48	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/1/16 19:05	AME
Selenium	ND	4.8	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/4/16 18:09	AME
Silver	ND	0.48	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/1/16 19:05	AME
Thallium	9.8	2.4	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/4/16 18:09	AME
Vanadium	33	0.96	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/4/16 18:09	AME
Zinc	43	0.96	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/1/16 19:05	AME

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Project Location: Lowell
Sample Description:
Work Order: 16C1374

Date Received: 3/30/2016

Field Sample #: SP-3
Sampled: 3/29/2016 00:00

Sample ID: 16C1374-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ignitability	Absent		present/absent	1		SW-846 1030	3/31/16	3/31/16 10:55	AG
pH @23.6°C	7.2		pH Units	1	H-15	SW-846 9045C	3/31/16	3/31/16 19:45	AMM
Reactive Cyanide	ND	3.9	mg/Kg	1		SW-846 9014	4/6/16	4/6/16 12:20	AG
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	4/6/16	4/6/16 12:20	AG
Specific conductance	4.3	2.0	µmhos/cm	1		SM21-22 2510B Modified	4/1/16	4/1/16 11:15	AG
% Solids	94.4		% Wt	1		SM 2540G	3/31/16	4/1/16 9:16	MRL

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1374
Date Received: 3/30/2016
Field Sample #: SP-3
Sampled: 3/29/2016 00:00
Sample ID: 16C1374-02
Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Benzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Bromobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Bromochloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Bromodichloromethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Bromoform	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Bromomethane	ND	0.0078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
2-Butanone (MEK)	ND	0.031	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
n-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
sec-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
tert-Butylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Carbon Disulfide	ND	0.0047	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Carbon Tetrachloride	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Chlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Chlorodibromomethane	ND	0.00078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Chloroethane	ND	0.0078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Chloroform	ND	0.0031	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Chloromethane	ND	0.0078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
2-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
4-Chlorotoluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0031	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,2-Dibromoethane (EDB)	ND	0.00078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Dibromomethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,2-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,3-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,4-Dichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,1-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,2-Dichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,1-Dichloroethylene	ND	0.0031	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
cis-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
trans-1,2-Dichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,3-Dichloropropane	ND	0.00078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
2,2-Dichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,1-Dichloropropene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
cis-1,3-Dichloropropene	ND	0.0031	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
trans-1,3-Dichloropropene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Diethyl Ether	ND	0.0078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Diisopropyl Ether (DIPE)	ND	0.00078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,4-Dioxane	ND	0.078	mg/Kg dry	1	V-16	SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Ethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1374
Date Received: 3/30/2016
Field Sample #: SP-3
Sampled: 3/29/2016 00:00
Sample ID: 16C1374-02
Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
2-Hexanone (MBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Isopropylbenzene (Cumene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0031	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Methylene Chloride	ND	0.0078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Naphthalene	ND	0.0078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
n-Propylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Styrene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,1,1,2-Tetrachloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,1,2,2-Tetrachloroethane	ND	0.00078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Tetrachloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Tetrahydrofuran	ND	0.0078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Toluene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,2,3-Trichlorobenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,2,4-Trichlorobenzene	ND	0.0031	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,1,1-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,1,2-Trichloroethane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Trichloroethylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,2,3-Trichloropropane	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,2,4-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
1,3,5-Trimethylbenzene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
Vinyl Chloride	ND	0.0078	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
m+p Xylene	ND	0.0031	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF
o-Xylene	ND	0.0016	mg/Kg dry	1		SW-846 8260C	3/31/16	3/31/16 7:59	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	96.2	70-130		3/31/16 7:59
Toluene-d8	96.2	70-130		3/31/16 7:59
4-Bromofluorobenzene	99.8	70-130		3/31/16 7:59

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1374
Date Received: 3/30/2016
Field Sample #: SP-3
Sampled: 3/29/2016 00:00
Sample ID: 16C1374-02
Sample Matrix: Soil

Sample Flags: O-01
Soil/Methanol Preservation Ratio: 1.28

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	ND	8.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/31/16	3/31/16 18:07	EEH
C5-C8 Aliphatics	ND	8.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/31/16	3/31/16 18:07	EEH
Unadjusted C9-C12 Aliphatics	ND	8.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/31/16	3/31/16 18:07	EEH
C9-C12 Aliphatics	ND	8.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/31/16	3/31/16 18:07	EEH
C9-C10 Aromatics	ND	8.9	mg/Kg dry	1		MADEP-VPH-04-1.1	3/31/16	3/31/16 18:07	EEH
Benzene	ND	0.044	mg/Kg dry	1		MADEP-VPH-04-1.1	3/31/16	3/31/16 18:07	EEH
Ethylbenzene	ND	0.044	mg/Kg dry	1		MADEP-VPH-04-1.1	3/31/16	3/31/16 18:07	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.044	mg/Kg dry	1		MADEP-VPH-04-1.1	3/31/16	3/31/16 18:07	EEH
Naphthalene	ND	0.22	mg/Kg dry	1		MADEP-VPH-04-1.1	3/31/16	3/31/16 18:07	EEH
Toluene	ND	0.044	mg/Kg dry	1		MADEP-VPH-04-1.1	3/31/16	3/31/16 18:07	EEH
m+p Xylene	ND	0.089	mg/Kg dry	1		MADEP-VPH-04-1.1	3/31/16	3/31/16 18:07	EEH
o-Xylene	ND	0.044	mg/Kg dry	1		MADEP-VPH-04-1.1	3/31/16	3/31/16 18:07	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	109	70-130		3/31/16 18:07
2,5-Dibromotoluene (PID)	101	70-130		3/31/16 18:07

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16C1374

Date Received: 3/30/2016

Field Sample #: SP-3
Sampled: 3/29/2016 00:00

Sample ID: 16C1374-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	94.4		% Wt	1		SM 2540G	3/31/16	4/4/16 16:40	RJM

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Sample Extraction Data

Prep Method: MA VPH-MADEP-VPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1374-02 [SP-3]	B145548	19.2	16.1	03/31/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C1374-01 [SP-3]	B145536	03/31/16
16C1374-02 [SP-3]	B145536	03/31/16

SM21-22 2510B Modified

Lab Number [Field ID]	Batch	Initial [g]	Date
16C1374-01 [SP-3]	B145659	1.00	04/01/16

SW-846 1030

Lab Number [Field ID]	Batch	Initial [g]	Date
16C1374-01 [SP-3]	B145542	50.0	03/31/16

Prep Method: SW-846 3050B-SW-846 6010C-D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1374-01 [SP-3]	B145528	1.11	50.0	03/31/16

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1374-01 [SP-3]	B145519	0.585	50.0	03/31/16

Prep Method: SW-846 3546-SW-846 8081B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1374-01 [SP-3]	B145509	10.0	10.0	03/31/16

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1374-01 [SP-3]	B145517	10.0	10.0	03/31/16

Prep Method: SW-846 3546-SW-846 8100 Modified

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1374-01 [SP-3]	B145508	30.0	1.00	03/31/16

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Sample Extraction Data

Prep Method: SW-846 8151-SW-846 8151A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1374-01 [SP-3]	B145504	20.0	5.00	03/31/16

Prep Method: SW-846 5035-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1374-02 [SP-3]	B145524	6.77	10.0	03/31/16

Prep Method: SW-846 3546-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1374-01 [SP-3]	B145512	30.0	1.00	03/31/16
16C1374-01RE1 [SP-3]	B145512	30.0	1.00	03/31/16

SW-846 9014

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1374-01 [SP-3]	B145978	25.6	250	04/06/16

SW-846 9030A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1374-01 [SP-3]	B145979	25.6	250	04/06/16

SW-846 9045C

Lab Number [Field ID]	Batch	Initial [g]	Date
16C1374-01 [SP-3]	B145592	20.0	03/31/16

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145524 - SW-846 5035										
Blank (B145524-BLK1)				Prepared & Analyzed: 03/31/16						
Acetone	ND	0.10	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0040	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0040	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0020	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							V-16
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.010	mg/Kg wet							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B145524 - SW-846 5035											
Blank (B145524-BLK1)				Prepared & Analyzed: 03/31/16							
n-Propylbenzene	ND	0.0020	mg/Kg wet								
Styrene	ND	0.0020	mg/Kg wet								
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet								
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet								
Tetrachloroethylene	ND	0.0020	mg/Kg wet								
Tetrahydrofuran	ND	0.010	mg/Kg wet								
Toluene	ND	0.0020	mg/Kg wet								
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet								
1,2,4-Trichlorobenzene	ND	0.0040	mg/Kg wet								
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet								
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet								
Trichloroethylene	ND	0.0020	mg/Kg wet								
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet								
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet								
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet								
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet								
Vinyl Chloride	ND	0.010	mg/Kg wet								
m+p Xylene	ND	0.0040	mg/Kg wet								
o-Xylene	ND	0.0020	mg/Kg wet								
Surrogate: 1,2-Dichloroethane-d4	*0.0494*		mg/Kg wet	0.0500		98.8	70-130				
Surrogate: Toluene-d8	*0.0488*		mg/Kg wet	0.0500		97.7	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0493*		mg/Kg wet	0.0500		98.6	70-130				
LCS (B145524-BS1)				Prepared & Analyzed: 03/31/16							
Acetone	0.259	0.10	mg/Kg wet	0.200		129	40-160				†
tert-Amyl Methyl Ether (TAME)	0.0203	0.0010	mg/Kg wet	0.0200		102	70-130				
Benzene	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130				
Bromobenzene	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130				
Bromochloromethane	0.0199	0.0020	mg/Kg wet	0.0200		99.4	70-130				
Bromodichloromethane	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130				
Bromoform	0.0254	0.0020	mg/Kg wet	0.0200		127	70-130			V-20	
Bromomethane	0.0100	0.010	mg/Kg wet	0.0200		50.2	40-160			L-14	†
2-Butanone (MEK)	0.214	0.040	mg/Kg wet	0.200		107	40-160				†
n-Butylbenzene	0.0237	0.0020	mg/Kg wet	0.0200		119	70-130				
sec-Butylbenzene	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130				
tert-Butylbenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130				
tert-Butyl Ethyl Ether (TBEE)	0.0208	0.0010	mg/Kg wet	0.0200		104	70-130				
Carbon Disulfide	0.0166	0.0060	mg/Kg wet	0.0200		83.1	70-130				
Carbon Tetrachloride	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130				
Chlorobenzene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130				
Chlorodibromomethane	0.0240	0.0010	mg/Kg wet	0.0200		120	70-130			V-20	
Chloroethane	0.0187	0.010	mg/Kg wet	0.0200		93.3	70-130				
Chloroform	0.0200	0.0040	mg/Kg wet	0.0200		100	70-130				
Chloromethane	0.0130	0.010	mg/Kg wet	0.0200		65.2	40-160			L-14	†
2-Chlorotoluene	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130				
4-Chlorotoluene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0208	0.0040	mg/Kg wet	0.0200		104	70-130				
1,2-Dibromoethane (EDB)	0.0206	0.0010	mg/Kg wet	0.0200		103	70-130				
Dibromomethane	0.0215	0.0020	mg/Kg wet	0.0200		107	70-130				
1,2-Dichlorobenzene	0.0193	0.0020	mg/Kg wet	0.0200		96.7	70-130				
1,3-Dichlorobenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.3	70-130				
1,4-Dichlorobenzene	0.0180	0.0020	mg/Kg wet	0.0200		90.0	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B145524 - SW-846 5035											
LCS (B145524-BS1)				Prepared & Analyzed: 03/31/16							
Dichlorodifluoromethane (Freon 12)	0.0109	0.010	mg/Kg wet	0.0200		54.6	40-160			L-14	†
1,1-Dichloroethane	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130				
1,2-Dichloroethane	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130				
1,1-Dichloroethylene	0.0198	0.0040	mg/Kg wet	0.0200		98.9	70-130				
cis-1,2-Dichloroethylene	0.0192	0.0020	mg/Kg wet	0.0200		96.1	70-130				
trans-1,2-Dichloroethylene	0.0187	0.0020	mg/Kg wet	0.0200		93.4	70-130				
1,2-Dichloropropane	0.0197	0.0020	mg/Kg wet	0.0200		98.3	70-130				
1,3-Dichloropropane	0.0200	0.0010	mg/Kg wet	0.0200		99.8	70-130				
2,2-Dichloropropane	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130				
1,1-Dichloropropene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130				
cis-1,3-Dichloropropene	0.0172	0.0040	mg/Kg wet	0.0200		86.0	70-130				
trans-1,3-Dichloropropene	0.0193	0.0020	mg/Kg wet	0.0200		96.6	70-130				
Diethyl Ether	0.0188	0.010	mg/Kg wet	0.0200		94.2	70-130				
Diisopropyl Ether (DIPE)	0.0178	0.0010	mg/Kg wet	0.0200		89.2	70-130				
1,4-Dioxane	0.177	0.10	mg/Kg wet	0.200		88.6	40-160			V-16	†
Ethylbenzene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130				
Hexachlorobutadiene	0.0235	0.0020	mg/Kg wet	0.0200		118	70-130				
2-Hexanone (MBK)	0.217	0.020	mg/Kg wet	0.200		109	40-160				†
Isopropylbenzene (Cumene)	0.0234	0.0020	mg/Kg wet	0.0200		117	70-130				
p-Isopropyltoluene (p-Cymene)	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130				
Methyl tert-Butyl Ether (MTBE)	0.0202	0.0040	mg/Kg wet	0.0200		101	70-130				
Methylene Chloride	0.0175	0.010	mg/Kg wet	0.0200		87.7	70-130				
4-Methyl-2-pentanone (MIBK)	0.191	0.020	mg/Kg wet	0.200		95.4	40-160				†
Naphthalene	0.0219	0.010	mg/Kg wet	0.0200		110	70-130				
n-Propylbenzene	0.0217	0.0020	mg/Kg wet	0.0200		109	70-130				
Styrene	0.0228	0.0020	mg/Kg wet	0.0200		114	70-130				
1,1,1,2-Tetrachloroethane	0.0229	0.0020	mg/Kg wet	0.0200		114	70-130				
1,1,2,2-Tetrachloroethane	0.0206	0.0010	mg/Kg wet	0.0200		103	70-130				
Tetrachloroethylene	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130				
Tetrahydrofuran	0.0215	0.010	mg/Kg wet	0.0200		108	70-130				
Toluene	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130				
1,2,3-Trichlorobenzene	0.0247	0.0020	mg/Kg wet	0.0200		123	70-130			V-20	
1,2,4-Trichlorobenzene	0.0230	0.0040	mg/Kg wet	0.0200		115	70-130				
1,1,1-Trichloroethane	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130				
1,1,2-Trichloroethane	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130				
Trichloroethylene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130				
Trichlorofluoromethane (Freon 11)	0.0186	0.010	mg/Kg wet	0.0200		93.1	70-130				
1,2,3-Trichloropropane	0.0195	0.0020	mg/Kg wet	0.0200		97.3	70-130				
1,2,4-Trimethylbenzene	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130				
1,3,5-Trimethylbenzene	0.0228	0.0020	mg/Kg wet	0.0200		114	70-130				
Vinyl Chloride	0.0147	0.010	mg/Kg wet	0.0200		73.6	70-130				
m+p Xylene	0.0428	0.0040	mg/Kg wet	0.0400		107	70-130				
o-Xylene	0.0215	0.0020	mg/Kg wet	0.0200		107	70-130				
Surrogate: 1,2-Dichloroethane-d4	*0.0507*		mg/Kg wet	0.0500		101	70-130				
Surrogate: Toluene-d8	*0.0495*		mg/Kg wet	0.0500		99.0	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0526*		mg/Kg wet	0.0500		105	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B145524 - SW-846 5035											
LCS Dup (B145524-BSD1)				Prepared & Analyzed: 03/31/16							
Acetone	0.253	0.10	mg/Kg wet	0.200		126	40-160	2.35	20		†
tert-Amyl Methyl Ether (TAME)	0.0207	0.0010	mg/Kg wet	0.0200		104	70-130	1.85	20		
Benzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	1.27	20		
Bromobenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	0.389	20		
Bromochloromethane	0.0197	0.0020	mg/Kg wet	0.0200		98.7	70-130	0.707	20		
Bromodichloromethane	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130	2.75	20		
Bromoform	0.0255	0.0020	mg/Kg wet	0.0200		128	70-130	0.314	20	V-20	
Bromomethane	0.0111	0.010	mg/Kg wet	0.0200		55.7	40-160	10.4	20	L-14	†
2-Butanone (MEK)	0.213	0.040	mg/Kg wet	0.200		106	40-160	0.338	20		†
n-Butylbenzene	0.0240	0.0020	mg/Kg wet	0.0200		120	70-130	1.17	20		
sec-Butylbenzene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	0.469	20		
tert-Butylbenzene	0.0205	0.0020	mg/Kg wet	0.0200		103	70-130	0.195	20		
tert-Butyl Ethyl Ether (TBEE)	0.0212	0.0010	mg/Kg wet	0.0200		106	70-130	2.00	20		
Carbon Disulfide	0.0161	0.0060	mg/Kg wet	0.0200		80.3	70-130	3.43	20		
Carbon Tetrachloride	0.0224	0.0020	mg/Kg wet	0.0200		112	70-130	1.07	20		
Chlorobenzene	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130	0.394	20		
Chlorodibromomethane	0.0242	0.0010	mg/Kg wet	0.0200		121	70-130	0.831	20	V-20	
Chloroethane	0.0186	0.010	mg/Kg wet	0.0200		92.8	70-130	0.537	20		
Chloroform	0.0198	0.0040	mg/Kg wet	0.0200		99.0	70-130	1.10	20		
Chloromethane	0.0129	0.010	mg/Kg wet	0.0200		64.7	40-160	0.770	20	L-14	†
2-Chlorotoluene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	1.76	20		
4-Chlorotoluene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130	0.381	20		
1,2-Dibromo-3-chloropropane (DBCP)	0.0214	0.0040	mg/Kg wet	0.0200		107	70-130	2.94	20		
1,2-Dibromoethane (EDB)	0.0211	0.0010	mg/Kg wet	0.0200		105	70-130	2.21	20		
Dibromomethane	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130	2.21	20		
1,2-Dichlorobenzene	0.0196	0.0020	mg/Kg wet	0.0200		98.2	70-130	1.54	20		
1,3-Dichlorobenzene	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-130	0.609	20		
1,4-Dichlorobenzene	0.0179	0.0020	mg/Kg wet	0.0200		89.5	70-130	0.557	20		
Dichlorodifluoromethane (Freon 12)	0.0109	0.010	mg/Kg wet	0.0200		54.3	40-160	0.551	20	L-14	†
1,1-Dichloroethane	0.0196	0.0020	mg/Kg wet	0.0200		97.9	70-130	2.12	20		
1,2-Dichloroethane	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130	3.00	20		
1,1-Dichloroethylene	0.0193	0.0040	mg/Kg wet	0.0200		96.4	70-130	2.56	20		
cis-1,2-Dichloroethylene	0.0189	0.0020	mg/Kg wet	0.0200		94.6	70-130	1.57	20		
trans-1,2-Dichloroethylene	0.0186	0.0020	mg/Kg wet	0.0200		93.0	70-130	0.429	20		
1,2-Dichloropropane	0.0197	0.0020	mg/Kg wet	0.0200		98.5	70-130	0.203	20		
1,3-Dichloropropane	0.0207	0.0010	mg/Kg wet	0.0200		103	70-130	3.45	20		
2,2-Dichloropropane	0.0191	0.0020	mg/Kg wet	0.0200		95.3	70-130	7.77	20		
1,1-Dichloropropene	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130	0.687	20		
cis-1,3-Dichloropropene	0.0169	0.0040	mg/Kg wet	0.0200		84.7	70-130	1.52	20		
trans-1,3-Dichloropropene	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130	1.04	20		
Diethyl Ether	0.0190	0.010	mg/Kg wet	0.0200		95.0	70-130	0.846	20		
Diisopropyl Ether (DIPE)	0.0177	0.0010	mg/Kg wet	0.0200		88.4	70-130	0.901	20		
1,4-Dioxane	0.202	0.10	mg/Kg wet	0.200		101	40-160	12.8	20	V-16	†
Ethylbenzene	0.0217	0.0020	mg/Kg wet	0.0200		108	70-130	0.741	20		
Hexachlorobutadiene	0.0241	0.0020	mg/Kg wet	0.0200		121	70-130	2.52	20		
2-Hexanone (MBK)	0.220	0.020	mg/Kg wet	0.200		110	40-160	1.44	20		†
Isopropylbenzene (Cumene)	0.0235	0.0020	mg/Kg wet	0.0200		118	70-130	0.597	20		
p-Isopropyltoluene (p-Cymene)	0.0217	0.0020	mg/Kg wet	0.0200		108	70-130	0.462	20		
Methyl tert-Butyl Ether (MTBE)	0.0204	0.0040	mg/Kg wet	0.0200		102	70-130	0.887	20		
Methylene Chloride	0.0177	0.010	mg/Kg wet	0.0200		88.4	70-130	0.795	20		
4-Methyl-2-pentanone (MIBK)	0.196	0.020	mg/Kg wet	0.200		98.0	40-160	2.70	20		†
Naphthalene	0.0228	0.010	mg/Kg wet	0.0200		114	70-130	3.67	20		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145524 - SW-846 5035										
LCS Dup (B145524-BSD1)				Prepared & Analyzed: 03/31/16						
n-Propylbenzene	0.0219	0.0020	mg/Kg wet	0.0200		109	70-130	0.550	20	
Styrene	0.0229	0.0020	mg/Kg wet	0.0200		115	70-130	0.701	20	
1,1,1,2-Tetrachloroethane	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130	1.32	20	
1,1,2,2-Tetrachloroethane	0.0208	0.0010	mg/Kg wet	0.0200		104	70-130	1.06	20	
Tetrachloroethylene	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130	0.182	20	
Tetrahydrofuran	0.0209	0.010	mg/Kg wet	0.0200		105	70-130	2.83	20	
Toluene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	0.0983	20	
1,2,3-Trichlorobenzene	0.0254	0.0020	mg/Kg wet	0.0200		127	70-130	2.88	20	V-20
1,2,4-Trichlorobenzene	0.0239	0.0040	mg/Kg wet	0.0200		119	70-130	3.58	20	
1,1,1-Trichloroethane	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130	0.286	20	
1,1,2-Trichloroethane	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130	0.0942	20	
Trichloroethylene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	0.787	20	
Trichlorofluoromethane (Freon 11)	0.0179	0.010	mg/Kg wet	0.0200		89.6	70-130	3.83	20	
1,2,3-Trichloropropane	0.0195	0.0020	mg/Kg wet	0.0200		97.6	70-130	0.308	20	
1,2,4-Trimethylbenzene	0.0212	0.0020	mg/Kg wet	0.0200		106	70-130	0.284	20	
1,3,5-Trimethylbenzene	0.0233	0.0020	mg/Kg wet	0.0200		117	70-130	2.43	20	
Vinyl Chloride	0.0146	0.010	mg/Kg wet	0.0200		73.0	70-130	0.819	20	
m+p Xylene	0.0424	0.0040	mg/Kg wet	0.0400		106	70-130	0.939	20	
o-Xylene	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130	0.372	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0498*		mg/Kg wet	0.0500		99.6	70-130			
Surrogate: Toluene-d8	*0.0494*		mg/Kg wet	0.0500		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0518*		mg/Kg wet	0.0500		104	70-130			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145512 - SW-846 3546										
Blank (B145512-BLK1)				Prepared: 03/31/16 Analyzed: 04/03/16						
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Acetophenone	ND	0.34	mg/Kg wet							
Aniline	ND	0.34	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Bis(2-chloroethoxy)methane	ND	0.34	mg/Kg wet							
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg wet							
Bis(2-chloroisopropyl)ether	ND	0.34	mg/Kg wet							V-20
Bis(2-Ethylhexyl)phthalate	ND	0.34	mg/Kg wet							
4-Bromophenylphenylether	ND	0.34	mg/Kg wet							
Butylbenzylphthalate	ND	0.34	mg/Kg wet							
4-Chloroaniline	ND	0.66	mg/Kg wet							
2-Chloronaphthalene	ND	0.34	mg/Kg wet							
2-Chlorophenol	ND	0.34	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Dibenzofuran	ND	0.34	mg/Kg wet							
Di-n-butylphthalate	ND	0.34	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.34	mg/Kg wet							
3,3-Dichlorobenzidine	ND	0.17	mg/Kg wet							
2,4-Dichlorophenol	ND	0.34	mg/Kg wet							
Diethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dimethylphenol	ND	0.34	mg/Kg wet							
Dimethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dinitrophenol	ND	0.66	mg/Kg wet							
2,4-Dinitrotoluene	ND	0.34	mg/Kg wet							
2,6-Dinitrotoluene	ND	0.34	mg/Kg wet							
Di-n-octylphthalate	ND	0.34	mg/Kg wet							
1,2-Diphenylhydrazine (as Azobenzene)	ND	0.34	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Hexachlorobenzene	ND	0.34	mg/Kg wet							
Hexachlorobutadiene	ND	0.34	mg/Kg wet							
Hexachloroethane	ND	0.34	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
Isophorone	ND	0.34	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylphenol	ND	0.34	mg/Kg wet							
3/4-Methylphenol	ND	0.34	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Nitrobenzene	ND	0.34	mg/Kg wet							
2-Nitrophenol	ND	0.34	mg/Kg wet							
4-Nitrophenol	ND	0.66	mg/Kg wet							
Pentachlorophenol	ND	0.34	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B145512 - SW-846 3546											
Blank (B145512-BLK1)				Prepared: 03/31/16 Analyzed: 04/03/16							
Phenol	ND	0.34	mg/Kg wet								
Pyrene	ND	0.17	mg/Kg wet								
Pyridine	ND	0.34	mg/Kg wet								
1,2,4-Trichlorobenzene	ND	0.34	mg/Kg wet								
2,4,5-Trichlorophenol	ND	0.34	mg/Kg wet								
2,4,6-Trichlorophenol	ND	0.34	mg/Kg wet								
Surrogate: 2-Fluorophenol	*5.48*		mg/Kg wet	6.67		82.2	30-130				
Surrogate: Phenol-d6	*5.86*		mg/Kg wet	6.67		87.8	30-130				
Surrogate: Nitrobenzene-d5	*2.91*		mg/Kg wet	3.33		87.3	30-130				
Surrogate: 2-Fluorobiphenyl	*2.94*		mg/Kg wet	3.33		88.3	30-130				
Surrogate: 2,4,6-Tribromophenol	*5.68*		mg/Kg wet	6.67		85.2	30-130				
Surrogate: p-Terphenyl-d14	*3.35*		mg/Kg wet	3.33		100	30-130				
LCS (B145512-BS1)				Prepared: 03/31/16 Analyzed: 04/02/16							
Acenaphthene	1.34	0.17	mg/Kg wet	1.67		80.5	40-140				
Acenaphthylene	1.38	0.17	mg/Kg wet	1.67		82.6	40-140				
Acetophenone	1.39	0.34	mg/Kg wet	1.67		83.4	40-140				
Aniline	0.941	0.34	mg/Kg wet	1.67		56.5	40-140				
Anthracene	1.40	0.17	mg/Kg wet	1.67		84.3	40-140				
Benzo(a)anthracene	1.41	0.17	mg/Kg wet	1.67		84.5	40-140				
Benzo(a)pyrene	1.43	0.17	mg/Kg wet	1.67		85.9	40-140				
Benzo(b)fluoranthene	1.38	0.17	mg/Kg wet	1.67		82.7	40-140				
Benzo(g,h,i)perylene	1.42	0.17	mg/Kg wet	1.67		85.3	40-140				
Benzo(k)fluoranthene	1.37	0.17	mg/Kg wet	1.67		82.3	40-140				
Bis(2-chloroethoxy)methane	1.44	0.34	mg/Kg wet	1.67		86.4	40-140				
Bis(2-chloroethyl)ether	1.34	0.34	mg/Kg wet	1.67		80.2	40-140				
Bis(2-chloroisopropyl)ether	1.57	0.34	mg/Kg wet	1.67		94.1	40-140			V-20	
Bis(2-Ethylhexyl)phthalate	1.49	0.34	mg/Kg wet	1.67		89.3	40-140				
4-Bromophenylphenylether	1.44	0.34	mg/Kg wet	1.67		86.1	40-140				
Butylbenzylphthalate	1.52	0.34	mg/Kg wet	1.67		91.1	40-140				
4-Chloroaniline	1.03	0.66	mg/Kg wet	1.67		61.9	15-140				†
2-Chloronaphthalene	1.33	0.34	mg/Kg wet	1.67		79.7	40-140				
2-Chlorophenol	1.33	0.34	mg/Kg wet	1.67		80.1	30-130				
Chrysene	1.41	0.17	mg/Kg wet	1.67		84.4	40-140				
Dibenz(a,h)anthracene	1.38	0.17	mg/Kg wet	1.67		82.6	40-140				
Dibenzofuran	1.46	0.34	mg/Kg wet	1.67		87.5	40-140				
Di-n-butylphthalate	1.39	0.34	mg/Kg wet	1.67		83.5	40-140				
1,2-Dichlorobenzene	1.24	0.34	mg/Kg wet	1.67		74.7	40-140				
1,3-Dichlorobenzene	1.20	0.34	mg/Kg wet	1.67		71.8	40-140				
1,4-Dichlorobenzene	1.22	0.34	mg/Kg wet	1.67		73.0	40-140				
3,3-Dichlorobenzidine	0.898	0.17	mg/Kg wet	1.67		53.9	40-140				
2,4-Dichlorophenol	1.43	0.34	mg/Kg wet	1.67		86.0	30-130				
Diethylphthalate	1.50	0.34	mg/Kg wet	1.67		89.9	40-140				
2,4-Dimethylphenol	1.23	0.34	mg/Kg wet	1.67		74.0	30-130				
Dimethylphthalate	1.45	0.34	mg/Kg wet	1.67		86.8	40-140				
2,4-Dinitrophenol	0.328	0.66	mg/Kg wet	1.67		19.7	15-140				†
2,4-Dinitrotoluene	1.55	0.34	mg/Kg wet	1.67		92.8	40-140				
2,6-Dinitrotoluene	1.59	0.34	mg/Kg wet	1.67		95.5	40-140				
Di-n-octylphthalate	1.43	0.34	mg/Kg wet	1.67		85.6	40-140				
1,2-Diphenylhydrazine (as Azobenzene)	1.48	0.34	mg/Kg wet	1.67		88.6	40-140				
Fluoranthene	1.37	0.17	mg/Kg wet	1.67		82.1	40-140				
Fluorene	1.46	0.17	mg/Kg wet	1.67		87.6	40-140				

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145512 - SW-846 3546										
LCS (B145512-BS1)				Prepared: 03/31/16 Analyzed: 04/02/16						
Hexachlorobenzene	1.49	0.34	mg/Kg wet	1.67		89.7	40-140			
Hexachlorobutadiene	1.41	0.34	mg/Kg wet	1.67		84.3	40-140			
Hexachloroethane	1.29	0.34	mg/Kg wet	1.67		77.2	40-140			
Indeno(1,2,3-cd)pyrene	1.38	0.17	mg/Kg wet	1.67		82.7	40-140			
Isophorone	1.54	0.34	mg/Kg wet	1.67		92.2	40-140			
2-Methylnaphthalene	1.39	0.17	mg/Kg wet	1.67		83.5	40-140			
2-Methylphenol	1.31	0.34	mg/Kg wet	1.67		78.4	30-130			
3/4-Methylphenol	1.40	0.34	mg/Kg wet	1.67		84.0	30-130			
Naphthalene	1.30	0.17	mg/Kg wet	1.67		78.1	40-140			
Nitrobenzene	1.46	0.34	mg/Kg wet	1.67		87.5	40-140			
2-Nitrophenol	1.36	0.34	mg/Kg wet	1.67		81.8	30-130			
4-Nitrophenol	1.60	0.66	mg/Kg wet	1.67		95.8	15-140			†
Pentachlorophenol	0.800	0.34	mg/Kg wet	1.67		48.0	30-130			
Phenanthrene	1.41	0.17	mg/Kg wet	1.67		84.3	40-140			
Phenol	1.37	0.34	mg/Kg wet	1.67		82.3	15-140			†
Pyrene	1.48	0.17	mg/Kg wet	1.67		89.0	40-140			
Pyridine	0.888	0.34	mg/Kg wet	1.67		53.3	30-140			†
1,2,4-Trichlorobenzene	1.37	0.34	mg/Kg wet	1.67		82.0	40-140			
2,4,5-Trichlorophenol	1.33	0.34	mg/Kg wet	1.67		79.7	30-130			
2,4,6-Trichlorophenol	1.37	0.34	mg/Kg wet	1.67		82.0	30-130			
Surrogate: 2-Fluorophenol	*5.74*		mg/Kg wet	6.67		86.1	30-130			
Surrogate: Phenol-d6	*6.06*		mg/Kg wet	6.67		90.9	30-130			
Surrogate: Nitrobenzene-d5	*3.00*		mg/Kg wet	3.33		90.0	30-130			
Surrogate: 2-Fluorobiphenyl	*3.00*		mg/Kg wet	3.33		89.9	30-130			
Surrogate: 2,4,6-Tribromophenol	*7.14*		mg/Kg wet	6.67		107	30-130			
Surrogate: p-Terphenyl-d14	*3.34*		mg/Kg wet	3.33		100	30-130			
LCS Dup (B145512-BSD1)				Prepared: 03/31/16 Analyzed: 04/02/16						
Acenaphthene	1.43	0.17	mg/Kg wet	1.67		85.6	40-140	6.09	30	
Acenaphthylene	1.46	0.17	mg/Kg wet	1.67		87.6	40-140	5.88	30	
Acetophenone	1.43	0.34	mg/Kg wet	1.67		85.6	40-140	2.70	30	
Aniline	0.939	0.34	mg/Kg wet	1.67		56.3	40-140	0.248	30	
Anthracene	1.50	0.17	mg/Kg wet	1.67		89.9	40-140	6.41	30	
Benzo(a)anthracene	1.51	0.17	mg/Kg wet	1.67		90.3	40-140	6.66	30	
Benzo(a)pyrene	1.56	0.17	mg/Kg wet	1.67		93.4	40-140	8.35	30	
Benzo(b)fluoranthene	1.54	0.17	mg/Kg wet	1.67		92.4	40-140	11.0	30	
Benzo(g,h,i)perylene	1.54	0.17	mg/Kg wet	1.67		92.7	40-140	8.34	30	
Benzo(k)fluoranthene	1.51	0.17	mg/Kg wet	1.67		90.8	40-140	9.82	30	
Bis(2-chloroethoxy)methane	1.51	0.34	mg/Kg wet	1.67		90.4	40-140	4.53	30	
Bis(2-chloroethyl)ether	1.38	0.34	mg/Kg wet	1.67		82.8	40-140	3.24	30	
Bis(2-chloroisopropyl)ether	1.60	0.34	mg/Kg wet	1.67		95.8	40-140	1.73	30	V-20
Bis(2-Ethylhexyl)phthalate	1.54	0.34	mg/Kg wet	1.67		92.4	40-140	3.41	30	
4-Bromophenylphenylether	1.55	0.34	mg/Kg wet	1.67		93.2	40-140	7.92	30	
Butylbenzylphthalate	1.60	0.34	mg/Kg wet	1.67		95.9	40-140	5.05	30	
4-Chloroaniline	1.08	0.66	mg/Kg wet	1.67		64.7	15-140	4.45	30	†
2-Chloronaphthalene	1.32	0.34	mg/Kg wet	1.67		79.4	40-140	0.302	30	
2-Chlorophenol	1.37	0.34	mg/Kg wet	1.67		82.4	30-130	2.86	30	
Chrysene	1.49	0.17	mg/Kg wet	1.67		89.3	40-140	5.64	30	
Dibenz(a,h)anthracene	1.52	0.17	mg/Kg wet	1.67		91.4	40-140	10.1	30	
Dibenzofuran	1.55	0.34	mg/Kg wet	1.67		92.8	40-140	5.90	30	
Di-n-butylphthalate	1.52	0.34	mg/Kg wet	1.67		91.3	40-140	8.83	30	
1,2-Dichlorobenzene	1.27	0.34	mg/Kg wet	1.67		76.1	40-140	1.88	30	

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145512 - SW-846 3546										
LCS Dup (B145512-BSD1)				Prepared: 03/31/16 Analyzed: 04/02/16						
1,3-Dichlorobenzene	1.23	0.34	mg/Kg wet	1.67		73.6	40-140	2.45	30	
1,4-Dichlorobenzene	1.23	0.34	mg/Kg wet	1.67		73.8	40-140	1.14	30	
3,3-Dichlorobenzidine	0.947	0.17	mg/Kg wet	1.67		56.8	40-140	5.35	30	
2,4-Dichlorophenol	1.48	0.34	mg/Kg wet	1.67		88.8	30-130	3.11	30	
Diethylphthalate	1.60	0.34	mg/Kg wet	1.67		96.1	40-140	6.69	30	
2,4-Dimethylphenol	1.34	0.34	mg/Kg wet	1.67		80.7	30-130	8.69	30	
Dimethylphthalate	1.56	0.34	mg/Kg wet	1.67		93.4	40-140	7.33	30	
2,4-Dinitrophenol	0.417	0.66	mg/Kg wet	1.67		25.0	15-140	23.9	30	†
2,4-Dinitrotoluene	1.59	0.34	mg/Kg wet	1.67		95.3	40-140	2.68	30	
2,6-Dinitrotoluene	1.74	0.34	mg/Kg wet	1.67		105	40-140	9.05	30	
Di-n-octylphthalate	1.52	0.34	mg/Kg wet	1.67		91.4	40-140	6.51	30	
1,2-Diphenylhydrazine (as Azobenzene)	1.59	0.34	mg/Kg wet	1.67		95.5	40-140	7.54	30	
Fluoranthene	1.48	0.17	mg/Kg wet	1.67		88.6	40-140	7.57	30	
Fluorene	1.58	0.17	mg/Kg wet	1.67		94.5	40-140	7.60	30	
Hexachlorobenzene	1.59	0.34	mg/Kg wet	1.67		95.3	40-140	6.12	30	
Hexachlorobutadiene	1.46	0.34	mg/Kg wet	1.67		87.8	40-140	4.02	30	
Hexachloroethane	1.29	0.34	mg/Kg wet	1.67		77.2	40-140	0.0777	30	
Indeno(1,2,3-cd)pyrene	1.51	0.17	mg/Kg wet	1.67		90.3	40-140	8.85	30	
Isophorone	1.60	0.34	mg/Kg wet	1.67		96.3	40-140	4.31	30	
2-Methylnaphthalene	1.47	0.17	mg/Kg wet	1.67		88.0	40-140	5.20	30	
2-Methylphenol	1.35	0.34	mg/Kg wet	1.67		80.9	30-130	3.21	30	
3/4-Methylphenol	1.46	0.34	mg/Kg wet	1.67		87.7	30-130	4.33	30	
Naphthalene	1.37	0.17	mg/Kg wet	1.67		82.0	40-140	4.90	30	
Nitrobenzene	1.50	0.34	mg/Kg wet	1.67		89.9	40-140	2.77	30	
2-Nitrophenol	1.43	0.34	mg/Kg wet	1.67		85.8	30-130	4.73	30	
4-Nitrophenol	1.68	0.66	mg/Kg wet	1.67		101	15-140	5.28	30	†
Pentachlorophenol	1.08	0.34	mg/Kg wet	1.67		64.5	30-130	29.4	30	
Phenanthrene	1.53	0.17	mg/Kg wet	1.67		91.7	40-140	8.39	30	
Phenol	1.40	0.34	mg/Kg wet	1.67		84.1	15-140	2.12	30	†
Pyrene	1.56	0.17	mg/Kg wet	1.67		93.4	40-140	4.85	30	
Pyridine	0.891	0.34	mg/Kg wet	1.67		53.4	30-140	0.262	30	†
1,2,4-Trichlorobenzene	1.42	0.34	mg/Kg wet	1.67		84.9	40-140	3.43	30	
2,4,5-Trichlorophenol	1.43	0.34	mg/Kg wet	1.67		85.7	30-130	7.25	30	
2,4,6-Trichlorophenol	1.47	0.34	mg/Kg wet	1.67		88.2	30-130	7.26	30	
Surrogate: 2-Fluorophenol	*5.81*		mg/Kg wet	6.67		87.2	30-130			
Surrogate: Phenol-d6	*6.18*		mg/Kg wet	6.67		92.7	30-130			
Surrogate: Nitrobenzene-d5	*3.08*		mg/Kg wet	3.33		92.5	30-130			
Surrogate: 2-Fluorobiphenyl	*3.15*		mg/Kg wet	3.33		94.4	30-130			
Surrogate: 2,4,6-Tribromophenol	*7.42*		mg/Kg wet	6.67		111	30-130			
Surrogate: p-Terphenyl-d14	*3.54*		mg/Kg wet	3.33		106	30-130			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145509 - SW-846 3546										
Blank (B145509-BLK1)				Prepared: 03/31/16 Analyzed: 04/04/16						
Aldrin	ND	0.0050	mg/Kg wet							
Aldrin [2C]	ND	0.0050	mg/Kg wet							
alpha-BHC	ND	0.0050	mg/Kg wet							
alpha-BHC [2C]	ND	0.0050	mg/Kg wet							
beta-BHC	ND	0.0050	mg/Kg wet							
beta-BHC [2C]	ND	0.0050	mg/Kg wet							
delta-BHC	ND	0.0050	mg/Kg wet							R-05
delta-BHC [2C]	ND	0.0050	mg/Kg wet							R-05
gamma-BHC (Lindane)	ND	0.0020	mg/Kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0020	mg/Kg wet							
Chlordane	ND	0.020	mg/Kg wet							
Chlordane [2C]	ND	0.020	mg/Kg wet							
4,4'-DDD	ND	0.0040	mg/Kg wet							
4,4'-DDD [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDE	ND	0.0040	mg/Kg wet							
4,4'-DDE [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDT	ND	0.0040	mg/Kg wet							
4,4'-DDT [2C]	ND	0.0040	mg/Kg wet							
Dieldrin	ND	0.0040	mg/Kg wet							
Dieldrin [2C]	ND	0.0040	mg/Kg wet							
Endosulfan I	ND	0.0050	mg/Kg wet							
Endosulfan I [2C]	ND	0.0050	mg/Kg wet							
Endosulfan II	ND	0.0080	mg/Kg wet							
Endosulfan II [2C]	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate [2C]	ND	0.0080	mg/Kg wet							
Endrin	ND	0.0080	mg/Kg wet							
Endrin [2C]	ND	0.0080	mg/Kg wet							
Endrin Aldehyde	ND	0.0080	mg/Kg wet							
Endrin Aldehyde [2C]	ND	0.0080	mg/Kg wet							
Endrin Ketone	ND	0.0080	mg/Kg wet							
Endrin Ketone [2C]	ND	0.0080	mg/Kg wet							
Heptachlor	ND	0.0050	mg/Kg wet							
Heptachlor [2C]	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide [2C]	ND	0.0050	mg/Kg wet							
Hexachlorobenzene	ND	0.0060	mg/Kg wet							
Hexachlorobenzene [2C]	ND	0.0060	mg/Kg wet							
Methoxychlor	ND	0.050	mg/Kg wet							
Methoxychlor [2C]	ND	0.050	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.189*		mg/Kg wet	0.200		94.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.197*		mg/Kg wet	0.200		98.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.180*		mg/Kg wet	0.200		89.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.167*		mg/Kg wet	0.200		83.7	30-150			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes
Batch B145509 - SW-846 3546												
LCS (B145509-BS1)				Prepared: 03/31/16 Analyzed: 04/04/16								
Aldrin	0.088	0.0050	mg/Kg wet	0.100		88.5		40-140				
Aldrin [2C]	0.090	0.0050	mg/Kg wet	0.100		90.0		40-140				
alpha-BHC	0.083	0.0050	mg/Kg wet	0.100		83.3		40-140				
alpha-BHC [2C]	0.077	0.0050	mg/Kg wet	0.100		76.7		40-140				
beta-BHC	0.090	0.0050	mg/Kg wet	0.100		89.6		40-140				
beta-BHC [2C]	0.077	0.0050	mg/Kg wet	0.100		77.3		40-140				
delta-BHC	0.051	0.0050	mg/Kg wet	0.100		50.8		40-140				R-05
delta-BHC [2C]	0.050	0.0050	mg/Kg wet	0.100		50.3		40-140				R-05
gamma-BHC (Lindane)	0.088	0.0020	mg/Kg wet	0.100		88.2		40-140				
gamma-BHC (Lindane) [2C]	0.085	0.0020	mg/Kg wet	0.100		84.8		40-140				
4,4'-DDD	0.098	0.0040	mg/Kg wet	0.100		97.6		40-140				
4,4'-DDD [2C]	0.10	0.0040	mg/Kg wet	0.100		104		40-140				
4,4'-DDE	0.094	0.0040	mg/Kg wet	0.100		94.4		40-140				
4,4'-DDE [2C]	0.10	0.0040	mg/Kg wet	0.100		102		40-140				
4,4'-DDT	0.094	0.0040	mg/Kg wet	0.100		94.4		40-140				
4,4'-DDT [2C]	0.10	0.0040	mg/Kg wet	0.100		101		40-140				
Dieldrin	0.092	0.0040	mg/Kg wet	0.100		91.8		40-140				
Dieldrin [2C]	0.099	0.0040	mg/Kg wet	0.100		99.4		40-140				
Endosulfan I	0.084	0.0050	mg/Kg wet	0.100		83.7		40-140				
Endosulfan I [2C]	0.090	0.0050	mg/Kg wet	0.100		90.5		40-140				
Endosulfan II	0.091	0.0080	mg/Kg wet	0.100		91.0		40-140				
Endosulfan II [2C]	0.096	0.0080	mg/Kg wet	0.100		96.3		40-140				
Endosulfan Sulfate	0.092	0.0080	mg/Kg wet	0.100		91.6		40-140				
Endosulfan Sulfate [2C]	0.094	0.0080	mg/Kg wet	0.100		93.7		40-140				
Endrin	0.097	0.0080	mg/Kg wet	0.100		96.6		40-140				
Endrin [2C]	0.10	0.0080	mg/Kg wet	0.100		101		40-140				
Endrin Ketone	0.096	0.0080	mg/Kg wet	0.100		96.2		40-140				
Endrin Ketone [2C]	0.10	0.0080	mg/Kg wet	0.100		99.8		40-140				
Heptachlor	0.088	0.0050	mg/Kg wet	0.100		88.1		40-140				
Heptachlor [2C]	0.087	0.0050	mg/Kg wet	0.100		87.4		40-140				
Heptachlor Epoxide	0.087	0.0050	mg/Kg wet	0.100		87.4		40-140				
Heptachlor Epoxide [2C]	0.092	0.0050	mg/Kg wet	0.100		92.3		40-140				
Hexachlorobenzene	0.076	0.0060	mg/Kg wet	0.100		76.4		40-140				
Hexachlorobenzene [2C]	0.070	0.0060	mg/Kg wet	0.100		69.8		40-140				
Methoxychlor	0.090	0.050	mg/Kg wet	0.100		90.2		40-140				
Methoxychlor [2C]	0.11	0.050	mg/Kg wet	0.100		105		40-140				
Surrogate: Decachlorobiphenyl	*0.170*		mg/Kg wet	0.200		84.8		30-150				
Surrogate: Decachlorobiphenyl [2C]	*0.178*		mg/Kg wet	0.200		89.0		30-150				
Surrogate: Tetrachloro-m-xylene	*0.141*		mg/Kg wet	0.200		70.3		30-150				
Surrogate: Tetrachloro-m-xylene [2C]	*0.133*		mg/Kg wet	0.200		66.5		30-150				
LCS Dup (B145509-BSD1)				Prepared: 03/31/16 Analyzed: 04/04/16								
Aldrin	0.077	0.0050	mg/Kg wet	0.100		77.0		40-140	14.0		30	
Aldrin [2C]	0.079	0.0050	mg/Kg wet	0.100		79.2		40-140	12.7		30	
alpha-BHC	0.071	0.0050	mg/Kg wet	0.100		71.3		40-140	15.5		30	
alpha-BHC [2C]	0.066	0.0050	mg/Kg wet	0.100		66.4		40-140	14.5		30	
beta-BHC	0.079	0.0050	mg/Kg wet	0.100		79.1		40-140	12.4		30	
beta-BHC [2C]	0.069	0.0050	mg/Kg wet	0.100		69.4		40-140	10.9		30	
delta-BHC	0.032	0.0050	mg/Kg wet	0.100		**31.9**	*	40-140	**45.7**	*	30	L-07A
delta-BHC [2C]	0.032	0.0050	mg/Kg wet	0.100		**31.7**	*	40-140	**45.4**	*	30	L-07A
gamma-BHC (Lindane)	0.076	0.0020	mg/Kg wet	0.100		75.8		40-140	15.1		30	
gamma-BHC (Lindane) [2C]	0.074	0.0020	mg/Kg wet	0.100		73.7		40-140	14.0		30	

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145509 - SW-846 3546										
LCS Dup (B145509-BSD1)				Prepared: 03/31/16 Analyzed: 04/04/16						
4,4'-DDD	0.087	0.0040	mg/Kg wet	0.100		87.5	40-140	11.0	30	
4,4'-DDD [2C]	0.093	0.0040	mg/Kg wet	0.100		93.3	40-140	10.8	30	
4,4'-DDE	0.084	0.0040	mg/Kg wet	0.100		83.8	40-140	11.9	30	
4,4'-DDE [2C]	0.091	0.0040	mg/Kg wet	0.100		91.0	40-140	11.2	30	
4,4'-DDT	0.085	0.0040	mg/Kg wet	0.100		84.6	40-140	10.8	30	
4,4'-DDT [2C]	0.090	0.0040	mg/Kg wet	0.100		90.5	40-140	10.9	30	
Dieldrin	0.081	0.0040	mg/Kg wet	0.100		81.3	40-140	12.1	30	
Dieldrin [2C]	0.089	0.0040	mg/Kg wet	0.100		89.2	40-140	10.9	30	
Endosulfan I	0.074	0.0050	mg/Kg wet	0.100		73.9	40-140	12.5	30	
Endosulfan I [2C]	0.081	0.0050	mg/Kg wet	0.100		80.8	40-140	11.3	30	
Endosulfan II	0.082	0.0080	mg/Kg wet	0.100		81.6	40-140	10.9	30	
Endosulfan II [2C]	0.087	0.0080	mg/Kg wet	0.100		86.7	40-140	10.5	30	
Endosulfan Sulfate	0.081	0.0080	mg/Kg wet	0.100		80.7	40-140	12.6	30	
Endosulfan Sulfate [2C]	0.083	0.0080	mg/Kg wet	0.100		83.2	40-140	12.0	30	
Endrin	0.086	0.0080	mg/Kg wet	0.100		86.2	40-140	11.4	30	
Endrin [2C]	0.091	0.0080	mg/Kg wet	0.100		90.8	40-140	10.9	30	
Endrin Ketone	0.085	0.0080	mg/Kg wet	0.100		85.5	40-140	11.8	30	
Endrin Ketone [2C]	0.089	0.0080	mg/Kg wet	0.100		89.0	40-140	11.4	30	
Heptachlor	0.077	0.0050	mg/Kg wet	0.100		77.0	40-140	13.5	30	
Heptachlor [2C]	0.077	0.0050	mg/Kg wet	0.100		77.5	40-140	12.0	30	
Heptachlor Epoxide	0.077	0.0050	mg/Kg wet	0.100		77.2	40-140	12.4	30	
Heptachlor Epoxide [2C]	0.083	0.0050	mg/Kg wet	0.100		82.7	40-140	11.0	30	
Hexachlorobenzene	0.066	0.0060	mg/Kg wet	0.100		65.6	40-140	15.2	30	
Hexachlorobenzene [2C]	0.061	0.0060	mg/Kg wet	0.100		60.7	40-140	13.8	30	
Methoxychlor	0.081	0.050	mg/Kg wet	0.100		80.8	40-140	11.1	30	
Methoxychlor [2C]	0.094	0.050	mg/Kg wet	0.100		93.9	40-140	11.5	30	
Surrogate: Decachlorobiphenyl	*0.154*		mg/Kg wet	0.200		77.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.161*		mg/Kg wet	0.200		80.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.121*		mg/Kg wet	0.200		60.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.116*		mg/Kg wet	0.200		57.8	30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145504 - SW-846 8151										
Blank (B145504-BLK1)				Prepared: 03/31/16 Analyzed: 04/01/16						
2,4-D	ND	24	µg/kg wet							
2,4-D [2C]	ND	24	µg/kg wet							
2,4-DB	ND	24	µg/kg wet							
2,4-DB [2C]	ND	24	µg/kg wet							
2,4,5-TP (Silvex)	ND	2.4	µg/kg wet							
2,4,5-TP (Silvex) [2C]	ND	2.4	µg/kg wet							
2,4,5-T	ND	2.4	µg/kg wet							
2,4,5-T [2C]	ND	2.4	µg/kg wet							
Dalapon	ND	59	µg/kg wet							
Dalapon [2C]	ND	59	µg/kg wet							V-20
Dicamba	ND	2.4	µg/kg wet							
Dicamba [2C]	ND	2.4	µg/kg wet							
Dichloroprop	ND	24	µg/kg wet							
Dichloroprop [2C]	ND	24	µg/kg wet							
Dinoseb	ND	12	µg/kg wet							
Dinoseb [2C]	ND	12	µg/kg wet							
MCPA	ND	2400	µg/kg wet							
MCPA [2C]	ND	2400	µg/kg wet							
MCPP	ND	2400	µg/kg wet							
MCPP [2C]	ND	2400	µg/kg wet							
Surrogate: 2,4-Dichlorophenylacetic acid	*79.1*		µg/kg wet	94.8		83.4	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*72.9*		µg/kg wet	94.8		77.0	30-150			
LCS (B145504-BS1)				Prepared: 03/31/16 Analyzed: 04/01/16						
2,4-D	91.7	25	µg/kg wet	125		73.4	40-140			
2,4-D [2C]	81.1	25	µg/kg wet	125		64.9	40-140			
2,4-DB	105	25	µg/kg wet	125		83.8	40-140			
2,4-DB [2C]	91.9	25	µg/kg wet	125		73.5	40-140			
2,4,5-TP (Silvex)	9.99	2.5	µg/kg wet	12.5		79.9	40-140			
2,4,5-TP (Silvex) [2C]	9.27	2.5	µg/kg wet	12.5		74.2	40-140			
2,4,5-T	9.90	2.5	µg/kg wet	12.5		79.2	40-140			
2,4,5-T [2C]	9.18	2.5	µg/kg wet	12.5		73.5	40-140			
Dalapon	146	62	µg/kg wet	312		46.8	40-140			
Dalapon [2C]	149	62	µg/kg wet	312		47.6	40-140			V-06
Dicamba	9.92	2.5	µg/kg wet	12.5		79.4	40-140			
Dicamba [2C]	9.76	2.5	µg/kg wet	12.5		78.1	40-140			
Dichloroprop	110	25	µg/kg wet	125		88.0	40-140			
Dichloroprop [2C]	112	25	µg/kg wet	125		89.3	40-140			
Dinoseb	15.5	12	µg/kg wet	62.5		24.8	0-42.4			
Dinoseb [2C]	15.7	12	µg/kg wet	62.5		25.2	0-41.1			
MCPA	8420	2500	µg/kg wet	12500		67.3	40-140			
MCPA [2C]	8310	2500	µg/kg wet	12500		66.5	40-140			
MCPP	8630	2500	µg/kg wet	12500		69.1	40-140			
MCPP [2C]	8210	2500	µg/kg wet	12500		65.7	40-140			
Surrogate: 2,4-Dichlorophenylacetic acid	*83.6*		µg/kg wet	100		83.6	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*75.4*		µg/kg wet	100		75.4	30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145504 - SW-846 8151										
LCS Dup (B145504-BSD1)				Prepared: 03/31/16 Analyzed: 04/01/16						
2,4-D	103	25	µg/kg wet	125		82.3	40-140	11.5	30	
2,4-D [2C]	84.9	25	µg/kg wet	125		67.9	40-140	4.59	30	
2,4-DB	111	25	µg/kg wet	125		88.6	40-140	5.68	30	
2,4-DB [2C]	96.5	25	µg/kg wet	125		77.2	40-140	4.84	30	
2,4,5-TP (Silvex)	10.4	2.5	µg/kg wet	12.5		83.2	40-140	4.02	30	
2,4,5-TP (Silvex) [2C]	9.58	2.5	µg/kg wet	12.5		76.6	40-140	3.23	30	
2,4,5-T	10.4	2.5	µg/kg wet	12.5		83.0	40-140	4.63	30	
2,4,5-T [2C]	9.75	2.5	µg/kg wet	12.5		78.0	40-140	6.02	30	
Dalapon	145	62	µg/kg wet	312		46.4	40-140	0.884	30	
Dalapon [2C]	147	62	µg/kg wet	312		47.1	40-140	1.03	30	V-06
Dicamba	10.3	2.5	µg/kg wet	12.5		82.5	40-140	3.85	30	
Dicamba [2C]	10.1	2.5	µg/kg wet	12.5		80.8	40-140	3.38	30	
Dichloroprop	117	25	µg/kg wet	125		93.6	40-140	6.21	30	
Dichloroprop [2C]	116	25	µg/kg wet	125		92.8	40-140	3.79	30	
Dinoseb	16.6	12	µg/kg wet	62.5		26.6	0-42.4	7.34	30	
Dinoseb [2C]	16.4	12	µg/kg wet	62.5		26.3	0-41.1	4.44	30	
MCPA	9290	2500	µg/kg wet	12500		74.3	40-140	9.86	30	
MCPA [2C]	8770	2500	µg/kg wet	12500		70.2	40-140	5.40	30	
MCPP	8990	2500	µg/kg wet	12500		71.9	40-140	4.04	30	
MCPP [2C]	8520	2500	µg/kg wet	12500		68.1	40-140	3.69	30	
Surrogate: 2,4-Dichlorophenylacetic acid	*86.9*		µg/kg wet	100		86.9	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*78.5*		µg/kg wet	100		78.5	30-150			
Matrix Spike (B145504-MS1)		**Source: 16C1374-01**		Prepared: 03/31/16 Analyzed: 04/01/16						
2,4-D	103	26	µg/kg dry	132	ND	77.5	30-150			
2,4-D [2C]	87.9	26	µg/kg dry	132	ND	66.4	30-150			
2,4-DB	126	26	µg/kg dry	132	ND	95.1	30-150			
2,4-DB [2C]	121	26	µg/kg dry	132	ND	91.3	30-150			
2,4,5-TP (Silvex)	10.7	2.6	µg/kg dry	13.2	ND	81.1	30-150			
2,4,5-TP (Silvex) [2C]	9.26	2.6	µg/kg dry	13.2	ND	69.9	30-150			
2,4,5-T	10.8	2.6	µg/kg dry	13.2	ND	81.8	30-150			
2,4,5-T [2C]	10.6	2.6	µg/kg dry	13.2	ND	80.4	30-150			
Dalapon	166	66	µg/kg dry	331	ND	50.1	30-150			V-06
Dalapon [2C]	171	66	µg/kg dry	331	ND	51.6	30-150			V-06
Dicamba	12.0	2.6	µg/kg dry	13.2	ND	90.8	30-150			
Dicamba [2C]	10.9	2.6	µg/kg dry	13.2	ND	82.5	30-150			
Dichloroprop	132	26	µg/kg dry	132	ND	99.7	30-150			
Dichloroprop [2C]	121	26	µg/kg dry	132	ND	91.5	30-150			
Dinoseb	11.1	13	µg/kg dry	66.2	ND	16.8	10-150			
Dinoseb [2C]	11.6	13	µg/kg dry	66.2	ND	17.5	10-150			
MCPA	10800	2600	µg/kg dry	13200	ND	81.8	30-150			
MCPA [2C]	11800	2600	µg/kg dry	13200	ND	89.1	30-150			
MCPP	11300	2600	µg/kg dry	13200	ND	85.5	30-150			
MCPP [2C]	11200	2600	µg/kg dry	13200	ND	84.8	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid	*96.8*		µg/kg dry	106		91.4	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*91.8*		µg/kg dry	106		86.6	30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145504 - SW-846 8151										
Matrix Spike Dup (B145504-MSD1)		**Source: 16C1374-01**		Prepared: 03/31/16 Analyzed: 04/01/16						
2,4-D	110	26	µg/kg dry	132	ND	83.1	30-150	6.90	30	
2,4-D [2C]	92.5	26	µg/kg dry	132	ND	69.9	30-150	5.12	30	
2,4-DB	110	26	µg/kg dry	132	ND	82.7	30-150	13.9	30	
2,4-DB [2C]	130	26	µg/kg dry	132	ND	98.4	30-150	7.55	30	
2,4,5-TP (Silvex)	11.7	2.6	µg/kg dry	13.2	ND	88.5	30-150	8.82	30	
2,4,5-TP (Silvex) [2C]	10.6	2.6	µg/kg dry	13.2	ND	80.4	30-150	14.0	30	
2,4,5-T	11.1	2.6	µg/kg dry	13.2	ND	84.0	30-150	2.65	30	
2,4,5-T [2C]	11.4	2.6	µg/kg dry	13.2	ND	86.3	30-150	7.00	30	
Dalapon	164	66	µg/kg dry	331	ND	49.5	30-150	1.19	30	V-06
Dalapon [2C]	179	66	µg/kg dry	331	ND	54.2	30-150	4.93	30	V-06
Dicamba	12.2	2.6	µg/kg dry	13.2	ND	92.2	30-150	1.46	30	
Dicamba [2C]	10.9	2.6	µg/kg dry	13.2	ND	82.6	30-150	0.141	30	
Dichloroprop	138	26	µg/kg dry	132	ND	104	30-150	4.36	30	
Dichloroprop [2C]	129	26	µg/kg dry	132	ND	97.5	30-150	6.28	30	
Dinoseb	11.9	13	µg/kg dry	66.2	ND	18.0	10-150	6.75	30	
Dinoseb [2C]	13.2	13	µg/kg dry	66.2	ND	19.9	10-150	13.0	30	
MCPA	11200	2600	µg/kg dry	13200	ND	84.5	30-150	3.18	30	
MCPA [2C]	12400	2600	µg/kg dry	13200	ND	93.8	30-150	5.17	30	
MCPP	12000	2600	µg/kg dry	13200	ND	90.9	30-150	6.19	30	
MCPP [2C]	12100	2600	µg/kg dry	13200	ND	91.6	30-150	7.69	30	
Surrogate: 2,4-Dichlorophenylacetic acid	*101*		µg/kg dry	106		95.8	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*99.7*		µg/kg dry	106		94.2	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145517 - SW-846 3540C										
Blank (B145517-BLK1)				Prepared: 03/31/16 Analyzed: 04/01/16						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.183*		mg/Kg wet	0.200		91.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.179*		mg/Kg wet	0.200		89.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.170*		mg/Kg wet	0.200		85.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.170*		mg/Kg wet	0.200		85.1	30-150			
LCS (B145517-BS1)				Prepared: 03/31/16 Analyzed: 04/01/16						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.200		77.0	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		81.2	40-140			
Aroclor-1260	0.16	0.020	mg/Kg wet	0.200		80.7	40-140			
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		81.4	40-140			
Surrogate: Decachlorobiphenyl	*0.203*		mg/Kg wet	0.200		102	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.197*		mg/Kg wet	0.200		98.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.184*		mg/Kg wet	0.200		92.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.184*		mg/Kg wet	0.200		92.0	30-150			
LCS Dup (B145517-BSD1)				Prepared: 03/31/16 Analyzed: 04/01/16						
Aroclor-1016	0.16	0.020	mg/Kg wet	0.200		77.7	40-140	0.927	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		81.6	40-140	0.416	30	
Aroclor-1260	0.16	0.020	mg/Kg wet	0.200		79.7	40-140	1.33	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		80.6	40-140	0.904	30	
Surrogate: Decachlorobiphenyl	*0.196*		mg/Kg wet	0.200		98.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.191*		mg/Kg wet	0.200		95.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.183*		mg/Kg wet	0.200		91.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.184*		mg/Kg wet	0.200		92.1	30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145508 - SW-846 3546										
Blank (B145508-BLK1)				Prepared: 03/31/16 Analyzed: 04/01/16						
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: o-Terphenyl	*2.39*		mg/Kg wet	3.33		71.8	40-140			
LCS (B145508-BS1)				Prepared: 03/31/16 Analyzed: 04/01/16						
TPH (C9-C36)	22.4	8.3	mg/Kg wet	33.3		67.2	40-140			
Surrogate: o-Terphenyl	*2.40*		mg/Kg wet	3.33		72.1	40-140			
LCS Dup (B145508-BSD1)				Prepared: 03/31/16 Analyzed: 04/01/16						
TPH (C9-C36)	23.7	8.3	mg/Kg wet	33.3		71.2	40-140	5.73	30	
Surrogate: o-Terphenyl	*2.44*		mg/Kg wet	3.33		73.3	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145548 - MA VPH										
Blank (B145548-BLK1)				Prepared & Analyzed: 03/31/16						
Unadjusted C5-C8 Aliphatics	ND	10	mg/Kg wet							
C5-C8 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C10 Aromatics	ND	10	mg/Kg wet							
Benzene	ND	0.050	mg/Kg wet							
Butylcyclohexane	ND	0.050	mg/Kg wet							
Decane	ND	0.050	mg/Kg wet							
Ethylbenzene	ND	0.050	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg wet							
2-Methylpentane	ND	0.050	mg/Kg wet							
Naphthalene	ND	0.25	mg/Kg wet							
Nonane	ND	0.050	mg/Kg wet							
Pentane	ND	0.050	mg/Kg wet							
Toluene	ND	0.050	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.050	mg/Kg wet							
2,2,4-Trimethylpentane	ND	0.050	mg/Kg wet							
m+p Xylene	ND	0.10	mg/Kg wet							
o-Xylene	ND	0.050	mg/Kg wet							
Surrogate: 2,5-Dibromotoluene (FID)	*0.0360*		mg/Kg wet	0.0400		90.0	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0361*		mg/Kg wet	0.0400		90.2	70-130			
LCS (B145548-BS1)				Prepared & Analyzed: 03/31/16						
Benzene	0.129	0.0010	mg/Kg wet	0.100		129	70-130			
Butylcyclohexane	0.0947	0.0010	mg/Kg wet	0.100		94.7	70-130			
Decane	0.113	0.0010	mg/Kg wet	0.100		113	70-130			
Ethylbenzene	0.122	0.0010	mg/Kg wet	0.100		122	70-130			
Methyl tert-Butyl Ether (MTBE)	0.117	0.0010	mg/Kg wet	0.100		117	70-130			
2-Methylpentane	0.129	0.0010	mg/Kg wet	0.100		129	70-130			
Naphthalene	0.117	0.0050	mg/Kg wet	0.100		117	70-130			
Nonane	0.0945	0.0010	mg/Kg wet	0.100		94.5	30-130			
Pentane	0.121	0.0010	mg/Kg wet	0.100		121	70-130			
Toluene	0.116	0.0010	mg/Kg wet	0.100		116	70-130			
1,2,4-Trimethylbenzene	0.125	0.0010	mg/Kg wet	0.100		125	70-130			
2,2,4-Trimethylpentane	0.100	0.0010	mg/Kg wet	0.100		100	70-130			
m+p Xylene	0.255	0.0020	mg/Kg wet	0.200		128	70-130			
o-Xylene	0.125	0.0010	mg/Kg wet	0.100		125	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*0.0456*		mg/Kg wet	0.0400		114	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0363*		mg/Kg wet	0.0400		90.7	70-130			
LCS Dup (B145548-BSD1)				Prepared & Analyzed: 03/31/16						
Benzene	0.128	0.0010	mg/Kg wet	0.100		128	70-130	1.40	25	
Butylcyclohexane	0.0931	0.0010	mg/Kg wet	0.100		93.1	70-130	1.67	25	
Decane	0.111	0.0010	mg/Kg wet	0.100		111	70-130	2.24	25	
Ethylbenzene	0.121	0.0010	mg/Kg wet	0.100		121	70-130	0.902	25	
Methyl tert-Butyl Ether (MTBE)	0.118	0.0010	mg/Kg wet	0.100		118	70-130	0.978	25	
2-Methylpentane	0.119	0.0010	mg/Kg wet	0.100		119	70-130	8.20	25	
Naphthalene	0.120	0.0050	mg/Kg wet	0.100		120	70-130	2.86	25	
Nonane	0.0915	0.0010	mg/Kg wet	0.100		91.5	30-130	3.22	25	
Pentane	0.111	0.0010	mg/Kg wet	0.100		111	70-130	8.35	25	
Toluene	0.116	0.0010	mg/Kg wet	0.100		116	70-130	0.780	25	
1,2,4-Trimethylbenzene	0.124	0.0010	mg/Kg wet	0.100		124	70-130	0.800	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145548 - MA VPH										
LCS Dup (B145548-BSD1)				Prepared & Analyzed: 03/31/16						
2,2,4-Trimethylpentane	0.101	0.0010	mg/Kg wet	0.100		101	70-130	0.901	25	
m+p Xylene	0.254	0.0020	mg/Kg wet	0.200		127	70-130	0.565	25	
o-Xylene	0.125	0.0010	mg/Kg wet	0.100		125	70-130	0.0439	25	
Surrogate: 2,5-Dibromotoluene (FID)	*0.0498*		mg/Kg wet	0.0400		125	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0411*		mg/Kg wet	0.0400		103	70-130			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145519 - SW-846 7471										
Blank (B145519-BLK1)				Prepared: 03/31/16 Analyzed: 04/01/16						
Mercury	ND	0.025	mg/Kg wet							
LCS (B145519-BS1)				Prepared: 03/31/16 Analyzed: 04/01/16						
Mercury	7.18	0.80	mg/Kg wet	7.10		101	73.7-126.3			
LCS Dup (B145519-BSD1)				Prepared: 03/31/16 Analyzed: 04/01/16						
Mercury	6.74	0.80	mg/Kg wet	7.10		94.9	73.7-126.3	6.46	30	
Duplicate (B145519-DUP1)		**Source: 16C1374-01**		Prepared: 03/31/16 Analyzed: 04/01/16						
Mercury	0.0661	0.027	mg/Kg dry		0.0502			27.3	35	
Matrix Spike (B145519-MS1)		**Source: 16C1374-01**		Prepared: 03/31/16 Analyzed: 04/01/16						
Mercury	0.206	0.027	mg/Kg dry	0.177	0.0502	88.1	75-125			
Batch B145528 - SW-846 3050B										
Blank (B145528-BLK1)				Prepared: 03/31/16 Analyzed: 04/01/16						
Antimony	ND	2.5	mg/Kg wet							
Arsenic	ND	2.5	mg/Kg wet							
Barium	ND	2.5	mg/Kg wet							
Beryllium	ND	0.25	mg/Kg wet							
Cadmium	ND	0.25	mg/Kg wet							
Chromium	ND	0.50	mg/Kg wet							
Lead	ND	0.75	mg/Kg wet							
Nickel	ND	0.50	mg/Kg wet							
Selenium	ND	5.0	mg/Kg wet							
Silver	ND	0.50	mg/Kg wet							
Thallium	ND	2.5	mg/Kg wet							
Vanadium	ND	1.0	mg/Kg wet							
Zinc	ND	1.0	mg/Kg wet							
LCS (B145528-BS1)				Prepared: 03/31/16 Analyzed: 04/01/16						
Antimony	92.7	5.0	mg/Kg wet	105		88.3	0-210.3			
Arsenic	89.6	5.0	mg/Kg wet	98.5		91.0	77.8-122.1			
Barium	283	5.0	mg/Kg wet	308		91.8	82-117.4			
Beryllium	64.9	0.50	mg/Kg wet	66.0		98.4	82.3-117.7			
Cadmium	143	0.50	mg/Kg wet	146		98.0	81.9-118.2			
Chromium	172	1.0	mg/Kg wet	182		94.6	78.7-120.6			
Lead	109	1.5	mg/Kg wet	130		84.1	82.4-117.8			
Nickel	141	1.0	mg/Kg wet	149		94.9	82.2-117.8			
Selenium	137	10	mg/Kg wet	154		89.2	77.1-122.3			
Silver	36.0	1.0	mg/Kg wet	40.9		88.0	74.3-125.4			
Thallium	184	5.0	mg/Kg wet	175		105	78.2-121.6			
Vanadium	92.0	2.0	mg/Kg wet	96.7		95.1	64.8-135.2			
Zinc	173	2.0	mg/Kg wet	191		90.5	79.7-120.8			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B145528 - SW-846 3050B											
LCS Dup (B145528-BSD1)				Prepared: 03/31/16 Analyzed: 04/01/16							
Antimony	84.9	5.0	mg/Kg wet	105		80.8		0-210.3	8.86	30	
Arsenic	87.7	5.0	mg/Kg wet	98.5		89.1		77.8-122.1	2.13	30	
Barium	274	5.0	mg/Kg wet	308		89.0		82-117.4	3.05	30	
Beryllium	64.2	0.50	mg/Kg wet	66.0		97.3		82.3-117.7	1.12	30	
Cadmium	133	0.50	mg/Kg wet	146		91.3		81.9-118.2	7.09	30	
Chromium	166	1.0	mg/Kg wet	182		91.3		78.7-120.6	3.50	30	
Lead	106	1.5	mg/Kg wet	130		**81.7**	*	82.4-117.8	2.96	30	L-07
Nickel	135	1.0	mg/Kg wet	149		90.3		82.2-117.8	4.99	30	
Selenium	126	10	mg/Kg wet	154		81.8		77.1-122.3	8.74	30	
Silver	35.0	1.0	mg/Kg wet	40.9		85.6		74.3-125.4	2.69	30	
Thallium	165	5.0	mg/Kg wet	175		94.6		78.2-121.6	10.8	30	
Vanadium	86.7	2.0	mg/Kg wet	96.7		89.6		64.8-135.2	5.95	30	
Zinc	167	2.0	mg/Kg wet	191		87.3		79.7-120.8	3.61	30	
MRL Check (B145528-MRL1)				Prepared: 03/31/16 Analyzed: 04/04/16							
Lead	0.783	0.70	mg/Kg wet	0.698		112		80-120			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145592 - SW-846 9045C										
LCS (B145592-BS1)				Prepared & Analyzed: 03/31/16						
pH	5.95		pH Units	6.00		99.2	98.6-102			
Batch B145659 - SM21-22 2510B Modified										
Blank (B145659-BLK1)				Prepared & Analyzed: 04/01/16						
Specific conductance	ND	2.0	µmhos/cm							
LCS (B145659-BS1)				Prepared & Analyzed: 04/01/16						
Specific conductance	230		µmhos/cm	234		98.7	88.6-105			
Batch B145978 - SW-846 9014										
Blank (B145978-BLK1)				Prepared & Analyzed: 04/06/16						
Reactive Cyanide	ND	0.40	mg/Kg							
LCS (B145978-BS1)				Prepared & Analyzed: 04/06/16						
Reactive Cyanide	9.5	0.40	mg/Kg	10.0		95.4	86.4-107			
Batch B145979 - SW-846 9030A										
Blank (B145979-BLK1)				Prepared & Analyzed: 04/06/16						
Reactive Sulfide	ND	2.0	mg/Kg							
LCS (B145979-BS1)				Prepared & Analyzed: 04/06/16						
Reactive Sulfide	15	2.0	mg/Kg	14.8		100	42.9-132			

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BREAKDOWN REPORT

Lab Sample ID: **S011068-PEM1** **Analyzed:** **04/04/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	1.98
Endrin [1]	2.93

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	2.09
Endrin [2]	2.76

BREAKDOWN REPORT

Lab Sample ID: **S011068-PEM2** **Analyzed:** **04/04/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	2.52
Endrin [1]	2.99

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	2.49
Endrin [2]	2.84

BREAKDOWN REPORT

Lab Sample ID: **S011068-PEM3** **Analyzed:** **04/05/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	2.08
Endrin [1]	3.41

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BREAKDOWN REPORT

Lab Sample ID: **S011068-PEM3** **Analyzed:** **04/05/2016**

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	2.14
Endrin [2]	3.15

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

SP-3

Lab Sample ID: 16C1374-01 Date(s) Analyzed: 04/05/2016 04/05/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDT	1	7.67	0.00	0.00	0.019	
	2	7.70	0.00	0.00	0.083	125.0
Aroclor-1254	1	0.00	-0.03	0.03	2.6	
	2	0.00	-0.03	0.03	2.4	8.8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS

Lab Sample ID: B145504-BS1 Date(s) Analyzed: 04/01/2016 04/01/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	13.67	0.00	0.00	9.90	
	2	13.31	0.00	0.00	9.18	8
2,4,5-TP (Silvex)	1	13.09	0.00	0.00	9.99	
	2	12.52	0.00	0.00	9.27	7
2,4-D	1	11.43	0.00	0.00	91.7	
	2	10.99	0.00	0.00	81.1	12
2,4-DB	1	14.80	0.00	0.00	105	
	2	14.35	0.00	0.00	91.9	13
Dalapon	1	3.66	0.00	0.00	146	
	2	3.12	0.00	0.00	149	2
Dicamba	1	9.59	0.00	0.00	9.92	
	2	9.12	0.00	0.00	9.76	2
Dichloroprop	1	10.98	0.00	0.00	110	
	2	10.40	0.00	0.00	112	2
Dinoseb	1	16.76	0.00	0.00	15.5	
	2	14.93	0.00	0.00	15.7	1
MCPA	1	10.31	0.00	0.00	8420	
	2	9.83	0.00	0.00	8310	1
MCPP	1	10.03	0.00	0.00	8630	
	2	9.42	0.00	0.00	8210	5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS Dup

Lab Sample ID: B145504-BSD1 Date(s) Analyzed: 04/01/2016 04/01/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	13.67	0.00	0.00	10.4	
	2	13.31	0.00	0.00	9.75	6
2,4,5-TP (Silvex)	1	13.09	0.00	0.00	10.4	
	2	12.52	0.00	0.00	9.58	8
2,4-D	1	11.43	0.00	0.00	103	
	2	10.99	0.00	0.00	84.9	19
2,4-DB	1	14.80	0.00	0.00	111	
	2	14.35	0.00	0.00	96.5	14
Dalapon	1	3.66	0.00	0.00	145	
	2	3.12	0.00	0.00	147	1
Dicamba	1	9.59	0.00	0.00	10.3	
	2	9.12	0.00	0.00	10.1	2
Dichloroprop	1	10.99	0.00	0.00	117	
	2	10.40	0.00	0.00	116	1
Dinoseb	1	16.76	0.00	0.00	16.6	
	2	14.93	0.00	0.00	16.4	1
MCPA	1	10.31	0.00	0.00	9290	
	2	9.83	0.00	0.00	8770	6
MCPP	1	10.03	0.00	0.00	8990	
	2	9.42	0.00	0.00	8520	5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

Matrix Spike

Lab Sample ID: B145504-MS1 Date(s) Analyzed: 04/01/2016 04/01/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	13.67	0.00	0.00	10.8	
	2	13.31	0.00	0.00	10.6	2
2,4,5-TP (Silvex)	1	13.09	0.00	0.00	10.7	
	2	12.53	0.00	0.00	9.26	14
2,4-D	1	11.43	0.00	0.00	103	
	2	10.99	0.00	0.00	87.9	16
2,4-DB	1	14.80	0.00	0.00	126	
	2	14.36	0.00	0.00	121	4
Dalapon	1	3.66	0.00	0.00	166	
	2	3.13	0.00	0.00	171	3
Dicamba	1	9.59	0.00	0.00	12.0	
	2	9.12	0.00	0.00	10.9	10
Dichloroprop	1	10.99	0.00	0.00	132	
	2	10.40	0.00	0.00	121	9
Dinoseb	1	16.76	0.00	0.00	11.1	
	2	14.93	0.00	0.00	11.6	4
MCPA	1	10.31	0.00	0.00	10800	
	2	9.84	0.00	0.00	11800	9
MCPP	1	10.03	0.00	0.00	11300	
	2	9.42	0.00	0.00	11200	1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

Matrix Spike Dup

Lab Sample ID: B145504-MSD1 Date(s) Analyzed: 04/01/2016 04/01/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	13.67	0.00	0.00	11.1	
	2	13.31	0.00	0.00	11.4	3
2,4,5-TP (Silvex)	1	13.09	0.00	0.00	11.7	
	2	12.53	0.00	0.00	10.6	10
2,4-D	1	11.43	0.00	0.00	110	
	2	10.99	0.00	0.00	92.5	17
2,4-DB	1	14.80	0.00	0.00	110	
	2	14.36	0.00	0.00	130	17
Dalapon	1	3.66	0.00	0.00	164	
	2	3.13	0.00	0.00	179	9
Dicamba	1	9.59	0.00	0.00	12.2	
	2	9.12	0.00	0.00	10.9	11
Dichloroprop	1	10.99	0.00	0.00	138	
	2	10.40	0.00	0.00	129	7
Dinoseb	1	16.76	0.00	0.00	11.9	
	2	14.93	0.00	0.00	13.2	10
MCPA	1	10.31	0.00	0.00	11200	
	2	9.84	0.00	0.00	12400	10
MCPP	1	10.03	0.00	0.00	12000	
	2	9.42	0.00	0.00	12100	1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B145509-BS1 Date(s) Analyzed: 04/04/2016 04/04/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	7.46	0.00	0.00	0.098	
	2	7.45	0.00	0.00	0.10	2
4,4'-DDE	1	7.01	0.00	0.00	0.094	
	2	7.01	0.00	0.00	0.10	6
4,4'-DDT	1	7.68	0.00	0.00	0.094	
	2	7.70	0.00	0.00	0.10	6
Aldrin	1	6.33	0.00	0.00	0.088	
	2	6.23	0.00	0.00	0.090	2
alpha-BHC	1	5.59	0.00	0.00	0.083	
	2	5.50	0.00	0.00	0.077	8
beta-BHC	1	5.85	0.00	0.00	0.090	
	2	5.78	0.00	0.00	0.077	15
delta-BHC	1	5.98	0.00	0.00	0.051	
	2	5.98	0.00	0.00	0.050	2
Dieldrin	1	7.24	0.00	0.00	0.092	
	2	7.13	0.00	0.00	0.099	8
Endosulfan I	1	7.06	0.00	0.00	0.084	
	2	6.92	0.00	0.00	0.090	7
Endosulfan II	1	7.59	0.00	0.00	0.091	
	2	7.52	0.00	0.00	0.096	5
Endosulfan Sulfate	1	8.23	0.00	0.00	0.092	
	2	8.01	0.00	0.00	0.094	3
Endrin	1	7.41	0.00	0.00	0.097	
	2	7.36	0.00	0.00	0.10	3
Endrin Ketone	1	8.42	0.00	0.00	0.096	
	2	8.38	0.00	0.00	0.10	4
gamma-BHC (Lindane)	1	5.80	0.00	0.00	0.088	
	2	5.73	0.00	0.00	0.085	4
Heptachlor	1	6.12	0.00	0.00	0.088	
	2	6.01	0.00	0.00	0.087	1
Heptachlor Epoxide	1	6.76	0.00	0.00	0.087	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B145509-BS1 Date(s) Analyzed: 04/04/2016 04/04/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.64	0.00	0.00	0.092	5
Hexachlorobenzene	1	5.48	0.00	0.00	0.076	
	2	5.41	0.00	0.00	0.070	9
Methoxychlor	1	8.05	0.00	0.00	0.090	
	2	8.23	0.00	0.00	0.11	20

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B145509-BSD1 Date(s) Analyzed: 04/04/2016 04/04/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	7.46	0.00	0.00	0.087	
	2	7.45	0.00	0.00	0.093	6
4,4'-DDE	1	7.01	0.00	0.00	0.084	
	2	7.01	0.00	0.00	0.091	8
4,4'-DDT	1	7.68	0.00	0.00	0.085	
	2	7.70	0.00	0.00	0.090	6
Aldrin	1	6.33	0.00	0.00	0.077	
	2	6.23	0.00	0.00	0.079	3
alpha-BHC	1	5.59	0.00	0.00	0.071	
	2	5.50	0.00	0.00	0.066	8
beta-BHC	1	5.85	0.00	0.00	0.079	
	2	5.78	0.00	0.00	0.069	14
delta-BHC	1	5.98	0.00	0.00	0.032	
	2	5.97	0.00	0.00	0.032	0
Dieldrin	1	7.24	0.00	0.00	0.081	
	2	7.13	0.00	0.00	0.089	9
Endosulfan I	1	7.06	0.00	0.00	0.074	
	2	6.92	0.00	0.00	0.081	9
Endosulfan II	1	7.59	0.00	0.00	0.082	
	2	7.52	0.00	0.00	0.087	6
Endosulfan Sulfate	1	8.23	0.00	0.00	0.081	
	2	8.01	0.00	0.00	0.083	3
Endrin	1	7.41	0.00	0.00	0.086	
	2	7.36	0.00	0.00	0.091	5
Endrin Ketone	1	8.42	0.00	0.00	0.085	
	2	8.37	0.00	0.00	0.089	4
gamma-BHC (Lindane)	1	5.80	0.00	0.00	0.076	
	2	5.73	0.00	0.00	0.074	2
Heptachlor	1	6.12	0.00	0.00	0.077	
	2	6.01	0.00	0.00	0.077	0
Heptachlor Epoxide	1	6.76	0.00	0.00	0.077	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B145509-BSD1 Date(s) Analyzed: 04/04/2016 04/04/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.64	0.00	0.00	0.083	7
Hexachlorobenzene	1	5.48	0.00	0.00	0.066	
	2	5.41	0.00	0.00	0.061	7
Methoxychlor	1	8.05	0.00	0.00	0.081	
	2	8.23	0.00	0.00	0.094	15

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B145517-BS1

Date(s) Analyzed: 04/01/2016 04/01/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.15	
	2	0.00	-0.03	0.03	0.16	4
Aroclor-1260	1	0.00	-0.03	0.03	0.16	
	2	0.00	-0.03	0.03	0.16	1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B145517-BSD1 Date(s) Analyzed: 04/01/2016 04/01/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.16	
	2	0.00	-0.03	0.03	0.16	3
Aroclor-1260	1	0.00	-0.03	0.03	0.16	
	2	0.00	-0.03	0.03	0.16	1

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-15	Sampling time not provided on Chain of Custody.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-07A	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
O-01	Soil/methanol ratio does not meet method specifications. Excess amount of soil. Sample was completely covered with methanol, but with less than the method-specified amount.
P-08	Sample RPD between primary and confirmatory analysis exceeded 100%. Per EPA method 8000, the lower value was reported due to obvious chromatographic interference on the column with the higher result.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-VPH-04-1.1 in Soil	
Unadjusted C5-C8 Aliphatics	CT,NC,ME,NH-P
C5-C8 Aliphatics	CT,NC,ME,NH-P
Unadjusted C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C10 Aromatics	CT,NC,ME,NH-P
Benzene	CT,NC,ME,NH-P
Ethylbenzene	CT,NC,ME,NH-P
Methyl tert-Butyl Ether (MTBE)	CT,NC,ME,NH-P
Naphthalene	CT,NC,ME,NH-P
Toluene	CT,NC,ME,NH-P
m+p Xylene	CT,NC,ME,NH-P
o-Xylene	CT,NC,ME,NH-P
SW-846 1030 in Soil	
Ignitability	NY,NH,CT,NC,ME,VA
SW-846 6010C-D in Soil	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
SW-846 7471B in Soil	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8081B in Soil	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Soil	
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8081B in Water	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Water	
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016	CT,NH,NY,NC,ME,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,NC,ME,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA
Aroclor-1232	CT,NH,NY,NC,ME,VA
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1242	CT,NH,NY,NC,ME,VA
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1248	CT,NH,NY,NC,ME,VA
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1254	CT,NH,NY,NC,ME,VA
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1260	CT,NH,NY,NC,ME,VA
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1262	NH,NY,NC,ME,VA
Aroclor-1262 [2C]	NH,NY,NC,ME,VA
Aroclor-1268	NH,NY,NC,ME,VA
Aroclor-1268 [2C]	NH,NY,NC,ME,VA
SW-846 8151A in Soil	
2,4-D	NY,ME,NC,NH,VA,CT
2,4-D [2C]	NY,ME,NC,NH,VA,CT
2,4-DB	NY,ME,NC,NH,VA,CT
2,4-DB [2C]	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex)	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex) [2C]	NY,ME,NC,NH,VA,CT
2,4,5-T	NY,ME,NC,NH,VA,CT
2,4,5-T [2C]	NY,ME,NC,NH,VA,CT
Dalapon	NY,ME,NC,NH,VA,CT
Dalapon [2C]	NY,ME,NC,NH,VA,CT
Dicamba	NY,ME,NC,NH,VA,CT
Dicamba [2C]	NY,ME,NC,NH,VA,CT
Dichloroprop	NY,ME,NC,NH,VA,CT
Dichloroprop [2C]	NY,ME,NC,NH,VA,CT
Dinoseb	NY,ME,NC,NH,VA,CT
Dinoseb [2C]	NY,ME,NC,NH,VA,CT
MCPA	NY,ME,NC,NH,VA,CT
MCPA [2C]	NY,ME,NC,NH,VA,CT
MCPP	NY,ME,NC,NH,VA,CT
MCPP [2C]	NY,ME,NC,NH,VA,CT
SW-846 8260C in Soil	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Soil	
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

con-test® ANALYTICAL LABORATORY

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D in Soil	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Acetophenone	NY,NH
Aniline	NY,NH
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	NY,NH
1,3-Dichlorobenzene	NY,NH
1,4-Dichlorobenzene	NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
1,2-Diphenylhydrazine (as Azobenzene)	NY,NH
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D in Soil	
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

1661374
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Telephone: 781-356-9140
Address: 60 Brooks Drive
Braintree, MA 02184
Project #
Client PO# 1785-5060
Attention:
Project Location: Lowell
Sampled By: A Foley

DATA DELIVERY (check all that apply)
○ FAX ◉ EMAIL ○ WEBSITE
Fax #
Email:
Format: ○ PDF ◉ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	Flamability	Corrosivity/Conductivity	*VOCs	TPH	*SVOCs	*MA 14 Metals	Reactive Sulfide/Cyanide	PCBs	Pest & Herbicides	VPH	# of Containers / ** Preservation / ***Container Code
01	SP-3	3-29-16		X		S	U	X	X		X	X	X	X	X	X		
		3-29-16			X	S	U			X							X	

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:
*20X Rule: Run TCLP on compounds exceeding unless specified immediately.
#6 Oil

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 3-30-16	
Received by: (signature) [signature] 3/30	Date/Time: 12-
Relinquished by: (signature) [signature] 3/30	Date/Time: 6
Received by: (signature) [signature] 3/30/16	Date/Time: 1800

Turnaround ††
☐ 7-Day
☐ 10-Day
◉ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
◉ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

AIHA LAP, LLC ACCREDITED LABORATORY
nelac
NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY**: JDL **DATE**: 3/30/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 4

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers			# of containers
1 Liter Amber			16 oz amber	
500 mL Amber			8 oz amber/clear jar	3
250 mL Amber (8oz amber)			4 oz amber/clear jar	
1 Liter Plastic			2 oz amber/clear jar	
500 mL Plastic			Plastic Bag / Ziploc	
250 mL plastic			SOC Kit	
40 mL Vial - type listed below	4		Perchlorate Kit	
Colisure / bacteria bottle			Flashpoint bottle	
Dissolved Oxygen bottle			Other glass jar	
Encore			Other	

40 mL vials:	# HCl		# Methanol	2
Doc# 277	# Bisulfate	2	# DI Water	
Rev. 4 August 2013	# Thiosulfate		Unpreserved	

Time and Date Frozen:

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JDL **3/30/16 1800**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C1374
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C1374-01 thru 16C1374-02

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A (X)	8081 Pesticides CAM V B (X)	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B (X)	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C (X)	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Position: Laboratory Manager

Printed Name: Daren J. Damboragian Date: 04/06/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

April 7, 2016

Mike Bradley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location:
Client Job Number:
Project Number: 1785-6080
Laboratory Work Order Number: 16C1456

Enclosed are results of analyses for samples received by the laboratory on March 31, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Mike Bradley

REPORT DATE: 4/7/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6080

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16C1456

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION:

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-11-r5A (0-1')	16C1456-01	Soil		SM 2540G	
				SW-846 8082A	
B-11-r5A (1-3')	16C1456-02	Soil		SM 2540G	
				SW-846 8082A	
B-11-r5A (0-3')	16C1456-03	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
B-11-r5B (0-1')	16C1456-04	Soil		SM 2540G	
				SW-846 8082A	
B-11-r5B (1-3')	16C1456-05	Soil		SM 2540G	
				SW-846 8082A	
B-11-r5B (0-3')	16C1456-06	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
B-11-r5C (0-1')	16C1456-07	Soil		SM 2540G	
				SW-846 8082A	
B-11-r5C (1-3')	16C1456-08	Soil		SM 2540G	
				SW-846 8082A	
B-11-r5C (0-3')	16C1456-09	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	
B-11-r10B (0-1')	16C1456-10	Soil		SM 2540G	
				SW-846 8082A	
B-11-r10B (1-3')	16C1456-11	Soil		SM 2540G	
				SW-846 8082A	
B-11-r10B (0-3')	16C1456-12	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 6010C-D	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016 [2C]
B145617-MS1, B145617-MSD1

Aroclor-1260
B145617-MS1, B145617-MSD1

Aroclor-1260 [2C]
B145617-MS1, B145617-MSD1

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl
16C1456-01[B-11-r5A (0-1')], 16C1456-07[B-11-r5C (0-1')]

Decachlorobiphenyl [2C]
16C1456-01[B-11-r5A (0-1')], 16C1456-07[B-11-r5C (0-1')]

Tetrachloro-m-xylene
16C1456-01[B-11-r5A (0-1')], 16C1456-07[B-11-r5C (0-1')]

Tetrachloro-m-xylene [2C]
16C1456-01[B-11-r5A (0-1')], 16C1456-07[B-11-r5C (0-1')]

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C 11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5A (0-1') Sampled: 3/30/2016 13:20

Sample ID: 16C1456-01

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	4/1/16	4/5/16 9:41	KAL
Aroclor-1221 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	4/1/16	4/5/16 9:41	KAL
Aroclor-1232 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	4/1/16	4/5/16 9:41	KAL
Aroclor-1242 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	4/1/16	4/5/16 9:41	KAL
Aroclor-1248 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	4/1/16	4/5/16 9:41	KAL
Aroclor-1254 [2]	7.6	1.2	mg/Kg dry	50		SW-846 8082A	4/1/16	4/5/16 9:41	KAL
Aroclor-1260 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	4/1/16	4/5/16 9:41	KAL
Aroclor-1262 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	4/1/16	4/5/16 9:41	KAL
Aroclor-1268 [1]	ND	1.2	mg/Kg dry	50		SW-846 8082A	4/1/16	4/5/16 9:41	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	4/5/16 9:41
Decachlorobiphenyl [2]	*	30-150	S-01	4/5/16 9:41
Tetrachloro-m-xylene [1]	*	30-150	S-01	4/5/16 9:41
Tetrachloro-m-xylene [2]	*	30-150	S-01	4/5/16 9:41

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5A (0-1') Sampled: 3/30/2016 13:20

Sample ID: 16C1456-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.2		% Wt	1		SM 2540G	4/1/16	4/2/16 9:40	JW

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5A (1-3') Sampled: 3/30/2016 13:23

Sample ID: 16C1456-02

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 9:54	KAL
Aroclor-1221 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 9:54	KAL
Aroclor-1232 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 9:54	KAL
Aroclor-1242 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 9:54	KAL
Aroclor-1248 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 9:54	KAL
Aroclor-1254 [1]	5.4	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 9:54	KAL
Aroclor-1260 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 9:54	KAL
Aroclor-1262 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 9:54	KAL
Aroclor-1268 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 9:54	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.1	30-150		4/5/16 9:54
Decachlorobiphenyl [2]	109	30-150		4/5/16 9:54
Tetrachloro-m-xylene [1]	74.3	30-150		4/5/16 9:54
Tetrachloro-m-xylene [2]	80.4	30-150		4/5/16 9:54

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5A (1-3') Sampled: 3/30/2016 13:23

Sample ID: 16C1456-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.2		% Wt	1		SM 2540G	4/1/16	4/2/16 9:40	JW

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5A (0-3') Sampled: 3/30/2016 13:25

Sample ID: 16C1456-03

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	42	23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
C19-C36 Aliphatics	230	23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Unadjusted C11-C22 Aromatics	570	23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
C11-C22 Aromatics	400	23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Acenaphthene	0.46	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Acenaphthylene	0.77	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Anthracene	4.0	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Benzo(a)anthracene	15	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Benzo(a)pyrene	15	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Benzo(b)fluoranthene	19	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Benzo(g,h,i)perylene	8.7	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Benzo(k)fluoranthene	7.0	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Chrysene	15	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Dibenz(a,h)anthracene	2.3	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Fluoranthene	31	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Fluorene	0.60	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Indeno(1,2,3-cd)pyrene	10	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
2-Methylnaphthalene	0.31	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Naphthalene	1.2	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Phenanthrene	11	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS
Pyrene	31	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 13:51	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	53.1	40-140		4/6/16 13:51
o-Terphenyl (OTP)	56.0	40-140		4/6/16 13:51
2-Bromonaphthalene	97.4	40-140		4/6/16 13:51
2-Fluorobiphenyl	95.6	40-140		4/6/16 13:51

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5A (0-3') Sampled: 3/30/2016 13:25

Sample ID: 16C1456-03

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	140	1.1	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/5/16 19:11	MJH

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5A (0-3') Sampled: 3/30/2016 13:25

Sample ID: 16C1456-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.7		% Wt	1		SM 2540G	4/1/16	4/2/16 9:40	JW

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5B (0-1') Sampled: 3/30/2016 13:30

Sample ID: 16C1456-04

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:07	KAL
Aroclor-1221 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:07	KAL
Aroclor-1232 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:07	KAL
Aroclor-1242 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:07	KAL
Aroclor-1248 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:07	KAL
Aroclor-1254 [1]	4.0	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:07	KAL
Aroclor-1260 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:07	KAL
Aroclor-1262 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:07	KAL
Aroclor-1268 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:07	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	97.9	30-150		4/5/16 10:07
Decachlorobiphenyl [2]	108	30-150		4/5/16 10:07
Tetrachloro-m-xylene [1]	88.0	30-150		4/5/16 10:07
Tetrachloro-m-xylene [2]	95.0	30-150		4/5/16 10:07

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5B (0-1') Sampled: 3/30/2016 13:30

Sample ID: 16C1456-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	82.2		% Wt	1		SM 2540G	4/1/16	4/2/16 9:40	JW

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5B (1-3') Sampled: 3/30/2016 13:35

Sample ID: 16C1456-05

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 19:33	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 19:33	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 19:33	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 19:33	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 19:33	KAL
Aroclor-1254 [2]	0.19	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 19:33	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 19:33	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 19:33	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 19:33	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	83.7	30-150		4/4/16 19:33
Decachlorobiphenyl [2]	84.5	30-150		4/4/16 19:33
Tetrachloro-m-xylene [1]	85.5	30-150		4/4/16 19:33
Tetrachloro-m-xylene [2]	87.7	30-150		4/4/16 19:33

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5B (1-3') Sampled: 3/30/2016 13:35

Sample ID: 16C1456-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.3		% Wt	1		SM 2540G	4/1/16	4/2/16 9:40	JW

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5B (0-3') Sampled: 3/30/2016 13:40

Sample ID: 16C1456-06

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	24	23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
C19-C36 Aliphatics	120	23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Unadjusted C11-C22 Aromatics	120	23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
C11-C22 Aromatics	97	23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Acenaphthene	0.58	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Acenaphthylene	ND	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Anthracene	0.86	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Benzo(a)anthracene	1.4	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Benzo(a)pyrene	1.2	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Benzo(b)fluoranthene	1.5	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Benzo(g,h,i)perylene	0.58	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Benzo(k)fluoranthene	0.53	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Chrysene	1.6	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Dibenz(a,h)anthracene	ND	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Fluoranthene	3.3	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Fluorene	0.41	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Indeno(1,2,3-cd)pyrene	0.70	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
2-Methylnaphthalene	ND	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Naphthalene	ND	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Phenanthrene	4.0	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS
Pyrene	3.5	0.23	mg/Kg dry	2		MADEP-EPH-04-1.1	4/1/16	4/4/16 17:56	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	51.3	40-140		4/4/16 17:56
o-Terphenyl (OTP)	58.1	40-140		4/4/16 17:56
2-Bromonaphthalene	90.4	40-140		4/4/16 17:56
2-Fluorobiphenyl	88.6	40-140		4/4/16 17:56

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5B (0-3') Sampled: 3/30/2016 13:40

Sample ID: 16C1456-06

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	550	1.1	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/5/16 19:15	MJH

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5B (0-3') Sampled: 3/30/2016 13:40

Sample ID: 16C1456-06

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.4		% Wt	1		SM 2540G	4/1/16	4/2/16 9:40	JW

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5C (0-1') Sampled: 3/30/2016 13:45

Sample ID: 16C1456-07

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	4/1/16	4/5/16 10:20	KAL
Aroclor-1221 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	4/1/16	4/5/16 10:20	KAL
Aroclor-1232 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	4/1/16	4/5/16 10:20	KAL
Aroclor-1242 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	4/1/16	4/5/16 10:20	KAL
Aroclor-1248 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	4/1/16	4/5/16 10:20	KAL
Aroclor-1254 [1]	97	13	mg/Kg dry	500		SW-846 8082A	4/1/16	4/5/16 10:20	KAL
Aroclor-1260 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	4/1/16	4/5/16 10:20	KAL
Aroclor-1262 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	4/1/16	4/5/16 10:20	KAL
Aroclor-1268 [1]	ND	13	mg/Kg dry	500		SW-846 8082A	4/1/16	4/5/16 10:20	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	4/5/16 10:20
Decachlorobiphenyl [2]	*	30-150	S-01	4/5/16 10:20
Tetrachloro-m-xylene [1]	*	30-150	S-01	4/5/16 10:20
Tetrachloro-m-xylene [2]	*	30-150	S-01	4/5/16 10:20

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5C (0-1') Sampled: 3/30/2016 13:45

Sample ID: 16C1456-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	77.4		% Wt	1		SM 2540G	4/1/16	4/2/16 9:40	JW

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5C (1-3') Sampled: 3/30/2016 13:50

Sample ID: 16C1456-08

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:33	KAL
Aroclor-1221 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:33	KAL
Aroclor-1232 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:33	KAL
Aroclor-1242 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:33	KAL
Aroclor-1248 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:33	KAL
Aroclor-1254 [1]	2.9	0.57	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:33	KAL
Aroclor-1260 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:33	KAL
Aroclor-1262 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:33	KAL
Aroclor-1268 [1]	ND	0.57	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:33	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.7	30-150		4/5/16 10:33
Decachlorobiphenyl [2]	105	30-150		4/5/16 10:33
Tetrachloro-m-xylene [1]	89.6	30-150		4/5/16 10:33
Tetrachloro-m-xylene [2]	100	30-150		4/5/16 10:33

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5C (1-3') Sampled: 3/30/2016 13:50

Sample ID: 16C1456-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.3		% Wt	1		SM 2540G	4/1/16	4/2/16 9:40	JW

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5C (0-3') Sampled: 3/30/2016 13:55

Sample ID: 16C1456-09

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	57	24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
C19-C36 Aliphatics	310	24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Unadjusted C11-C22 Aromatics	320	24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
C11-C22 Aromatics	290	24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Acenaphthene	0.49	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Acenaphthylene	ND	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Anthracene	0.88	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Benzo(a)anthracene	1.5	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Benzo(a)pyrene	1.6	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Benzo(b)fluoranthene	2.0	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Benzo(g,h,i)perylene	0.98	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Benzo(k)fluoranthene	0.78	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Chrysene	1.8	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Dibenz(a,h)anthracene	ND	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Fluoranthene	5.1	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Fluorene	0.42	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Indeno(1,2,3-cd)pyrene	1.0	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
2-Methylnaphthalene	0.28	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Naphthalene	0.88	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Phenanthrene	3.2	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS
Pyrene	3.7	0.24	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:12	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	63.3	40-140		4/6/16 14:12
o-Terphenyl (OTP)	60.3	40-140		4/6/16 14:12
2-Bromonaphthalene	98.6	40-140		4/6/16 14:12
2-Fluorobiphenyl	97.9	40-140		4/6/16 14:12

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5C (0-3') Sampled: 3/30/2016 13:55

Sample ID: 16C1456-09

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	640	1.1	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/5/16 19:20	MJH

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r5C (0-3') Sampled: 3/30/2016 13:55

Sample ID: 16C1456-09

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.7		% Wt	1		SM 2540G	4/1/16	4/2/16 9:40	JW

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r10B (0-1') Sampled: 3/30/2016 14:25

Sample ID: 16C1456-10

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:46	KAL
Aroclor-1221 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:46	KAL
Aroclor-1232 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:46	KAL
Aroclor-1242 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:46	KAL
Aroclor-1248 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:46	KAL
Aroclor-1254 [1]	6.2	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:46	KAL
Aroclor-1260 [2]	0.75	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:46	KAL
Aroclor-1262 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:46	KAL
Aroclor-1268 [1]	ND	0.59	mg/Kg dry	25		SW-846 8082A	4/1/16	4/5/16 10:46	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	74.0	30-150		4/5/16 10:46
Decachlorobiphenyl [2]	71.3	30-150		4/5/16 10:46
Tetrachloro-m-xylene [1]	69.6	30-150		4/5/16 10:46
Tetrachloro-m-xylene [2]	74.5	30-150		4/5/16 10:46

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r10B (0-1') Sampled: 3/30/2016 14:25

Sample ID: 16C1456-10

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.6		% Wt	1		SM 2540G	4/1/16	4/2/16 9:40	JW

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r10B (1-3') Sampled: 3/30/2016 14:30

Sample ID: 16C1456-11

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 20:45	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 20:45	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 20:45	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 20:45	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 20:45	KAL
Aroclor-1254 [1]	0.48	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 20:45	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 20:45	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 20:45	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	4/1/16	4/4/16 20:45	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	51.3	30-150		4/4/16 20:45
Decachlorobiphenyl [2]	45.9	30-150		4/4/16 20:45
Tetrachloro-m-xylene [1]	55.6	30-150		4/4/16 20:45
Tetrachloro-m-xylene [2]	56.2	30-150		4/4/16 20:45

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r10B (1-3') Sampled: 3/30/2016 14:30

Sample ID: 16C1456-11

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.3		% Wt	1		SM 2540G	4/1/16	4/2/16 9:40	JW

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r10B (0-3') Sampled: 3/30/2016 14:35

Sample ID: 16C1456-12

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	180	23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
C19-C36 Aliphatics	530	120	mg/Kg dry	5		MADEP-EPH-04-1.1	4/5/16	4/7/16 8:23	SCS
Unadjusted C11-C22 Aromatics	1100	120	mg/Kg dry	5		MADEP-EPH-04-1.1	4/5/16	4/6/16 17:15	SCS
C11-C22 Aromatics	1100	120	mg/Kg dry	5		MADEP-EPH-04-1.1	4/5/16	4/6/16 17:15	SCS
Acenaphthene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Acenaphthylene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Anthracene	0.38	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Benzo(a)anthracene	0.74	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Benzo(a)pyrene	0.68	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Benzo(b)fluoranthene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Benzo(g,h,i)perylene	0.89	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Benzo(k)fluoranthene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Chrysene	1.3	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Dibenz(a,h)anthracene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Fluoranthene	1.7	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Fluorene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Indeno(1,2,3-cd)pyrene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
2-Methylnaphthalene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Naphthalene	ND	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Phenanthrene	1.7	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS
Pyrene	1.2	0.23	mg/Kg dry	1		MADEP-EPH-04-1.1	4/5/16	4/6/16 14:33	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	61.5	40-140		4/6/16 14:33
o-Terphenyl (OTP)	80.3	40-140		4/6/16 14:33
2-Bromonaphthalene	124	40-140		4/6/16 14:33
2-Fluorobiphenyl	124	40-140		4/6/16 14:33

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r10B (0-3') Sampled: 3/30/2016 14:35

Sample ID: 16C1456-12

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Vanadium	380	1.1	mg/Kg dry	1		SW-846 6010C-D	3/31/16	4/5/16 19:24	MJH

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Project Location: Sample Description: Work Order: 16C1456

Date Received: 3/31/2016

Field Sample #: B-11-r10B (0-3') Sampled: 3/30/2016 14:35

Sample ID: 16C1456-12

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.5		% Wt	1		SM 2540G	4/1/16	4/2/16 9:40	JW

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Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1456-06 [B-11-r5B (0-3')]	B145603	20.0	2.00	04/01/16

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1456-03RE1 [B-11-r5A (0-3')]	B145876	10.0	2.00	04/05/16
16C1456-09RE1 [B-11-r5C (0-3')]	B145876	10.0	2.00	04/05/16
16C1456-12RE1 [B-11-r10B (0-3')]	B145876	10.0	2.00	04/05/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16C1456-01 [B-11-r5A (0-1')]	B145656	04/01/16
16C1456-02 [B-11-r5A (1-3')]	B145656	04/01/16
16C1456-03 [B-11-r5A (0-3')]	B145656	04/01/16
16C1456-04 [B-11-r5B (0-1')]	B145656	04/01/16
16C1456-05 [B-11-r5B (1-3')]	B145656	04/01/16
16C1456-06 [B-11-r5B (0-3')]	B145656	04/01/16
16C1456-07 [B-11-r5C (0-1')]	B145656	04/01/16
16C1456-08 [B-11-r5C (1-3')]	B145656	04/01/16
16C1456-09 [B-11-r5C (0-3')]	B145656	04/01/16
16C1456-10 [B-11-r10B (0-1')]	B145656	04/01/16
16C1456-11 [B-11-r10B (1-3')]	B145656	04/01/16
16C1456-12 [B-11-r10B (0-3')]	B145656	04/01/16

Prep Method: SW-846 3050B-SW-846 6010C-D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1456-03 [B-11-r5A (0-3')]	B145588	1.08	50.0	03/31/16
16C1456-06 [B-11-r5B (0-3')]	B145588	1.01	50.0	03/31/16
16C1456-09 [B-11-r5C (0-3')]	B145588	1.07	50.0	03/31/16
16C1456-12 [B-11-r10B (0-3')]	B145588	1.04	50.0	03/31/16

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16C1456-01 [B-11-r5A (0-1')]	B145617	10.3	10.0	04/01/16
16C1456-02 [B-11-r5A (1-3')]	B145617	10.3	10.0	04/01/16
16C1456-04 [B-11-r5B (0-1')]	B145617	10.3	10.0	04/01/16
16C1456-05 [B-11-r5B (1-3')]	B145617	10.2	10.0	04/01/16
16C1456-07 [B-11-r5C (0-1')]	B145617	10.0	10.0	04/01/16
16C1456-08 [B-11-r5C (1-3')]	B145617	10.2	10.0	04/01/16
16C1456-10 [B-11-r10B (0-1')]	B145617	10.2	10.0	04/01/16
16C1456-11 [B-11-r10B (1-3')]	B145617	10.3	10.0	04/01/16

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145617 - SW-846 3540C										
Blank (B145617-BLK1)				Prepared: 04/01/16 Analyzed: 04/04/16						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.180*		mg/Kg wet	0.199		90.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.165*		mg/Kg wet	0.199		82.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.173*		mg/Kg wet	0.199		86.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.158*		mg/Kg wet	0.199		79.1	30-150			
LCS (B145617-BS1)				Prepared: 04/01/16 Analyzed: 04/04/16						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.197		76.3	40-140			
Aroclor-1016 [2C]	0.15	0.020	mg/Kg wet	0.197		74.9	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.197		74.2	40-140			
Aroclor-1260 [2C]	0.15	0.020	mg/Kg wet	0.197		75.0	40-140			
Surrogate: Decachlorobiphenyl	*0.166*		mg/Kg wet	0.197		84.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.156*		mg/Kg wet	0.197		78.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.174*		mg/Kg wet	0.197		88.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.164*		mg/Kg wet	0.197		83.4	30-150			
LCS Dup (B145617-BSD1)				Prepared: 04/01/16 Analyzed: 04/04/16						
Aroclor-1016	0.15	0.020	mg/Kg wet	0.196		77.2	40-140	0.848	30	
Aroclor-1016 [2C]	0.15	0.020	mg/Kg wet	0.196		76.3	40-140	1.56	30	
Aroclor-1260	0.15	0.020	mg/Kg wet	0.196		76.1	40-140	2.08	30	
Aroclor-1260 [2C]	0.15	0.020	mg/Kg wet	0.196		76.5	40-140	1.68	30	
Surrogate: Decachlorobiphenyl	*0.176*		mg/Kg wet	0.196		89.8	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.164*		mg/Kg wet	0.196		83.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.172*		mg/Kg wet	0.196		87.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.159*		mg/Kg wet	0.196		81.0	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B145617 - SW-846 3540C											
Matrix Spike (B145617-MS1)		**Source: 16C1456-01**		Prepared: 04/01/16 Analyzed: 04/04/16							
Aroclor-1016	0.25	0.12	mg/Kg dry	0.244	ND	102		40-140			
Aroclor-1016 [2C]	2.0	0.12	mg/Kg dry	0.244	ND	**827**	*	40-140			MS-21
Aroclor-1260	2.8	0.12	mg/Kg dry	0.244	ND	**1130**	*	40-140			MS-21
Aroclor-1260 [2C]	2.4	0.12	mg/Kg dry	0.244	ND	**986**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.209*		mg/Kg dry	0.244		85.5		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.267*		mg/Kg dry	0.244		109		30-150			
Surrogate: Tetrachloro-m-xylene	*0.209*		mg/Kg dry	0.244		85.6		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.205*		mg/Kg dry	0.244		83.8		30-150			
Matrix Spike Dup (B145617-MSD1)		**Source: 16C1456-01**		Prepared: 04/01/16 Analyzed: 04/04/16							
Aroclor-1016	0.21	0.12	mg/Kg dry	0.242	ND	87.6		40-140		50	
Aroclor-1016 [2C]	1.7	0.12	mg/Kg dry	0.242	ND	**715**	*	40-140	15.6	50	MS-21
Aroclor-1260	2.6	0.12	mg/Kg dry	0.242	ND	**1070**	*	40-140	6.72	50	MS-21
Aroclor-1260 [2C]	2.3	0.12	mg/Kg dry	0.242	ND	**944**	*	40-140	5.40	50	MS-21
Surrogate: Decachlorobiphenyl	*0.173*		mg/Kg dry	0.242		71.7		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.195*		mg/Kg dry	0.242		80.8		30-150			
Surrogate: Tetrachloro-m-xylene	*0.176*		mg/Kg dry	0.242		72.7		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.169*		mg/Kg dry	0.242		69.9		30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145603 - SW-846 3546										
Blank (B145603-BLK1)				Prepared & Analyzed: 04/01/16						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*3.62*		mg/Kg wet	4.99		72.6	40-140			
Surrogate: o-Terphenyl (OTP)	*3.66*		mg/Kg wet	5.00		73.2	40-140			
Surrogate: 2-Bromonaphthalene	*4.22*		mg/Kg wet	5.00		84.3	40-140			
Surrogate: 2-Fluorobiphenyl	*4.31*		mg/Kg wet	5.00		86.2	40-140			
LCS (B145603-BS1)				Prepared & Analyzed: 04/01/16						
Acenaphthene	3.29	0.10	mg/Kg wet	5.00		65.7	40-140			
Acenaphthylene	3.20	0.10	mg/Kg wet	5.00		63.9	40-140			
Anthracene	3.49	0.10	mg/Kg wet	5.00		69.8	40-140			
Benzo(a)anthracene	3.33	0.10	mg/Kg wet	5.00		66.6	40-140			
Benzo(a)pyrene	3.26	0.10	mg/Kg wet	5.00		65.2	40-140			
Benzo(b)fluoranthene	3.31	0.10	mg/Kg wet	5.00		66.1	40-140			
Benzo(g,h,i)perylene	3.19	0.10	mg/Kg wet	5.00		63.8	40-140			
Benzo(k)fluoranthene	3.25	0.10	mg/Kg wet	5.00		65.0	40-140			
Chrysene	3.36	0.10	mg/Kg wet	5.00		67.2	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145603 - SW-846 3546										
LCS (B145603-BS1)				Prepared & Analyzed: 04/01/16						
Dibenz(a,h)anthracene	3.37	0.10	mg/Kg wet	5.00		67.4	40-140			
Fluoranthene	3.44	0.10	mg/Kg wet	5.00		68.9	40-140			
Fluorene	3.35	0.10	mg/Kg wet	5.00		66.9	40-140			
Indeno(1,2,3-cd)pyrene	3.13	0.10	mg/Kg wet	5.00		62.7	40-140			
2-Methylnaphthalene	3.01	0.10	mg/Kg wet	5.00		60.3	40-140			
Naphthalene	2.88	0.10	mg/Kg wet	5.00		57.6	40-140			
Phenanthrene	3.50	0.10	mg/Kg wet	5.00		70.0	40-140			
Pyrene	3.44	0.10	mg/Kg wet	5.00		68.9	40-140			
n-Decane	2.65	0.10	mg/Kg wet	5.00		53.0	40-140			
n-Docosane	3.79	0.10	mg/Kg wet	5.00		75.7	40-140			
n-Dodecane	3.10	0.10	mg/Kg wet	5.00		61.9	40-140			
n-Eicosane	3.60	0.10	mg/Kg wet	5.00		72.1	40-140			
n-Hexacosane	3.44	0.10	mg/Kg wet	5.00		68.8	40-140			
n-Hexadecane	3.64	0.10	mg/Kg wet	5.00		72.8	40-140			
n-Hexatriacontane	3.44	0.10	mg/Kg wet	5.00		68.7	40-140			
n-Nonadecane	3.65	0.10	mg/Kg wet	5.00		73.0	40-140			
n-Nonane	2.05	0.10	mg/Kg wet	5.00		41.1	30-140			
n-Octacosane	3.42	0.10	mg/Kg wet	5.00		68.5	40-140			
n-Octadecane	3.64	0.10	mg/Kg wet	5.00		72.8	40-140			
n-Tetracosane	3.78	0.10	mg/Kg wet	5.00		75.7	40-140			
n-Tetradecane	3.36	0.10	mg/Kg wet	5.00		67.3	40-140			
n-Triacontane	3.40	0.10	mg/Kg wet	5.00		68.0	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.17*		mg/Kg wet	4.99		63.5	40-140			
Surrogate: o-Terphenyl (OTP)	*3.23*		mg/Kg wet	5.00		64.6	40-140			
Surrogate: 2-Bromonaphthalene	*3.98*		mg/Kg wet	5.00		79.5	40-140			
Surrogate: 2-Fluorobiphenyl	*4.10*		mg/Kg wet	5.00		82.0	40-140			
LCS Dup (B145603-BSD1)				Prepared & Analyzed: 04/01/16						
Acenaphthene	3.88	0.10	mg/Kg wet	5.00		77.6	40-140	16.6	25	
Acenaphthylene	3.79	0.10	mg/Kg wet	5.00		75.9	40-140	17.1	25	
Anthracene	4.11	0.10	mg/Kg wet	5.00		82.2	40-140	16.3	25	
Benzo(a)anthracene	3.98	0.10	mg/Kg wet	5.00		79.5	40-140	17.7	25	
Benzo(a)pyrene	3.89	0.10	mg/Kg wet	5.00		77.7	40-140	17.5	25	
Benzo(b)fluoranthene	3.88	0.10	mg/Kg wet	5.00		77.6	40-140	15.9	25	
Benzo(g,h,i)perylene	3.74	0.10	mg/Kg wet	5.00		74.9	40-140	16.0	25	
Benzo(k)fluoranthene	3.88	0.10	mg/Kg wet	5.00		77.5	40-140	17.6	25	
Chrysene	4.02	0.10	mg/Kg wet	5.00		80.3	40-140	17.8	25	
Dibenz(a,h)anthracene	4.00	0.10	mg/Kg wet	5.00		79.9	40-140	16.9	25	
Fluoranthene	4.07	0.10	mg/Kg wet	5.00		81.5	40-140	16.8	25	
Fluorene	3.95	0.10	mg/Kg wet	5.00		79.0	40-140	16.5	25	
Indeno(1,2,3-cd)pyrene	3.72	0.10	mg/Kg wet	5.00		74.3	40-140	17.0	25	
2-Methylnaphthalene	3.54	0.10	mg/Kg wet	5.00		70.9	40-140	16.1	25	
Naphthalene	3.36	0.10	mg/Kg wet	5.00		67.1	40-140	15.3	25	
Phenanthrene	4.10	0.10	mg/Kg wet	5.00		82.0	40-140	15.8	25	
Pyrene	4.08	0.10	mg/Kg wet	5.00		81.5	40-140	16.8	25	
n-Decane	3.06	0.10	mg/Kg wet	5.00		61.3	40-140	14.5	25	
n-Docosane	4.32	0.10	mg/Kg wet	5.00		86.4	40-140	13.2	25	
n-Dodecane	3.61	0.10	mg/Kg wet	5.00		72.3	40-140	15.4	25	
n-Eicosane	4.12	0.10	mg/Kg wet	5.00		82.4	40-140	13.4	25	
n-Hexacosane	4.00	0.10	mg/Kg wet	5.00		79.9	40-140	14.9	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145603 - SW-846 3546										
LCS Dup (B145603-BSD1)				Prepared & Analyzed: 04/01/16						
n-Hexadecane	4.15	0.10	mg/Kg wet	5.00		83.0	40-140	13.1	25	
n-Hexatriacontane	3.96	0.10	mg/Kg wet	5.00		79.3	40-140	14.2	25	
n-Nonadecane	4.14	0.10	mg/Kg wet	5.00		82.8	40-140	12.5	25	
n-Nonane	2.40	0.10	mg/Kg wet	5.00		48.0	30-140	15.5	25	
n-Octacosane	4.00	0.10	mg/Kg wet	5.00		80.1	40-140	15.6	25	
n-Octadecane	4.14	0.10	mg/Kg wet	5.00		82.8	40-140	12.9	25	
n-Tetracosane	4.36	0.10	mg/Kg wet	5.00		87.2	40-140	14.2	25	
n-Tetradecane	3.94	0.10	mg/Kg wet	5.00		78.9	40-140	15.9	25	
n-Triacontane	3.98	0.10	mg/Kg wet	5.00		79.6	40-140	15.7	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.58*		mg/Kg wet	4.99		71.8	40-140			
Surrogate: o-Terphenyl (OTP)	*3.68*		mg/Kg wet	5.00		73.7	40-140			
Surrogate: 2-Bromonaphthalene	*3.85*		mg/Kg wet	5.00		77.1	40-140			
Surrogate: 2-Fluorobiphenyl	*3.97*		mg/Kg wet	5.00		79.5	40-140			
Batch B145876 - SW-846 3546										
Blank (B145876-BLK1)				Prepared: 04/05/16 Analyzed: 04/06/16						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145876 - SW-846 3546										
Blank (B145876-BLK1)				Prepared: 04/05/16 Analyzed: 04/06/16						
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*4.07*		mg/Kg wet	4.99		81.6	40-140			
Surrogate: o-Terphenyl (OTP)	*4.52*		mg/Kg wet	5.00		90.4	40-140			
Surrogate: 2-Bromonaphthalene	*5.42*		mg/Kg wet	5.00		108	40-140			
Surrogate: 2-Fluorobiphenyl	*5.22*		mg/Kg wet	5.00		104	40-140			
LCS (B145876-BS1)				Prepared: 04/05/16 Analyzed: 04/06/16						
Acenaphthene	4.85	0.10	mg/Kg wet	5.00		97.1	40-140			
Acenaphthylene	4.65	0.10	mg/Kg wet	5.00		93.0	40-140			
Anthracene	5.73	0.10	mg/Kg wet	5.00		115	40-140			
Benzo(a)anthracene	5.18	0.10	mg/Kg wet	5.00		104	40-140			
Benzo(a)pyrene	5.18	0.10	mg/Kg wet	5.00		104	40-140			
Benzo(b)fluoranthene	5.20	0.10	mg/Kg wet	5.00		104	40-140			
Benzo(g,h,i)perylene	5.09	0.10	mg/Kg wet	5.00		102	40-140			
Benzo(k)fluoranthene	5.16	0.10	mg/Kg wet	5.00		103	40-140			
Chrysene	5.18	0.10	mg/Kg wet	5.00		104	40-140			
Dibenz(a,h)anthracene	5.34	0.10	mg/Kg wet	5.00		107	40-140			
Fluoranthene	5.15	0.10	mg/Kg wet	5.00		103	40-140			
Fluorene	4.86	0.10	mg/Kg wet	5.00		97.2	40-140			
Indeno(1,2,3-cd)pyrene	5.04	0.10	mg/Kg wet	5.00		101	40-140			
2-Methylnaphthalene	4.36	0.10	mg/Kg wet	5.00		87.2	40-140			
Naphthalene	4.16	0.10	mg/Kg wet	5.00		83.2	40-140			
Phenanthrene	5.08	0.10	mg/Kg wet	5.00		102	40-140			
Pyrene	5.15	0.10	mg/Kg wet	5.00		103	40-140			
n-Decane	3.22	0.10	mg/Kg wet	5.00		64.5	40-140			
n-Docosane	4.75	0.10	mg/Kg wet	5.00		94.9	40-140			
n-Dodecane	3.88	0.10	mg/Kg wet	5.00		77.6	40-140			
n-Eicosane	4.83	0.10	mg/Kg wet	5.00		96.6	40-140			
n-Hexacosane	5.03	0.10	mg/Kg wet	5.00		101	40-140			
n-Hexadecane	4.62	0.10	mg/Kg wet	5.00		92.4	40-140			
n-Hexatriacontane	4.78	0.10	mg/Kg wet	5.00		95.6	40-140			
n-Nonadecane	4.77	0.10	mg/Kg wet	5.00		95.4	40-140			
n-Nonane	2.49	0.10	mg/Kg wet	5.00		49.7	30-140			
n-Octacosane	5.08	0.10	mg/Kg wet	5.00		102	40-140			
n-Octadecane	4.75	0.10	mg/Kg wet	5.00		95.0	40-140			
n-Tetracosane	5.35	0.10	mg/Kg wet	5.00		107	40-140			
n-Tetradecane	4.32	0.10	mg/Kg wet	5.00		86.4	40-140			
n-Triacontane	5.16	0.10	mg/Kg wet	5.00		103	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*4.33*		mg/Kg wet	4.99		86.9	40-140			
Surrogate: o-Terphenyl (OTP)	*5.10*		mg/Kg wet	5.00		102	40-140			
Surrogate: 2-Bromonaphthalene	*5.72*		mg/Kg wet	5.00		114	40-140			
Surrogate: 2-Fluorobiphenyl	*5.57*		mg/Kg wet	5.00		111	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145876 - SW-846 3546										
LCS Dup (B145876-BSD1)				Prepared: 04/05/16 Analyzed: 04/06/16						
Acenaphthene	4.85	0.10	mg/Kg wet	5.00		96.9	40-140	0.161	25	
Acenaphthylene	4.64	0.10	mg/Kg wet	5.00		92.9	40-140	0.0968	25	
Anthracene	5.71	0.10	mg/Kg wet	5.00		114	40-140	0.313	25	
Benzo(a)anthracene	5.17	0.10	mg/Kg wet	5.00		103	40-140	0.145	25	
Benzo(a)pyrene	5.16	0.10	mg/Kg wet	5.00		103	40-140	0.259	25	
Benzo(b)fluoranthene	5.20	0.10	mg/Kg wet	5.00		104	40-140	0.0481	25	
Benzo(g,h,i)perylene	5.07	0.10	mg/Kg wet	5.00		101	40-140	0.366	25	
Benzo(k)fluoranthene	5.15	0.10	mg/Kg wet	5.00		103	40-140	0.246	25	
Chrysene	5.18	0.10	mg/Kg wet	5.00		104	40-140	0.147	25	
Dibenz(a,h)anthracene	5.32	0.10	mg/Kg wet	5.00		106	40-140	0.431	25	
Fluoranthene	5.12	0.10	mg/Kg wet	5.00		102	40-140	0.481	25	
Fluorene	4.84	0.10	mg/Kg wet	5.00		96.9	40-140	0.320	25	
Indeno(1,2,3-cd)pyrene	5.05	0.10	mg/Kg wet	5.00		101	40-140	0.246	25	
2-Methylnaphthalene	4.37	0.10	mg/Kg wet	5.00		87.4	40-140	0.275	25	
Naphthalene	4.18	0.10	mg/Kg wet	5.00		83.7	40-140	0.609	25	
Phenanthrene	5.08	0.10	mg/Kg wet	5.00		102	40-140	0.0630	25	
Pyrene	5.13	0.10	mg/Kg wet	5.00		103	40-140	0.305	25	
n-Decane	3.14	0.10	mg/Kg wet	5.00		62.9	40-140	2.52	25	
n-Docosane	4.56	0.10	mg/Kg wet	5.00		91.1	40-140	4.07	25	
n-Dodecane	3.75	0.10	mg/Kg wet	5.00		75.0	40-140	3.38	25	
n-Eicosane	4.60	0.10	mg/Kg wet	5.00		92.0	40-140	4.85	25	
n-Hexacosane	4.78	0.10	mg/Kg wet	5.00		95.5	40-140	5.08	25	
n-Hexadecane	4.41	0.10	mg/Kg wet	5.00		88.3	40-140	4.55	25	
n-Hexatriacontane	4.55	0.10	mg/Kg wet	5.00		91.1	40-140	4.84	25	
n-Nonadecane	4.56	0.10	mg/Kg wet	5.00		91.3	40-140	4.44	25	
n-Nonane	2.43	0.10	mg/Kg wet	5.00		48.6	30-140	2.36	25	
n-Octacosane	4.81	0.10	mg/Kg wet	5.00		96.3	40-140	5.32	25	
n-Octadecane	4.54	0.10	mg/Kg wet	5.00		90.8	40-140	4.45	25	
n-Tetracosane	5.08	0.10	mg/Kg wet	5.00		102	40-140	5.31	25	
n-Tetradecane	4.14	0.10	mg/Kg wet	5.00		82.7	40-140	4.35	25	
n-Triacontane	4.89	0.10	mg/Kg wet	5.00		97.8	40-140	5.43	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*4.09*		mg/Kg wet	4.99		82.1	40-140			
Surrogate: o-Terphenyl (OTP)	*5.09*		mg/Kg wet	5.00		102	40-140			
Surrogate: 2-Bromonaphthalene	*5.81*		mg/Kg wet	5.00		116	40-140			
Surrogate: 2-Fluorobiphenyl	*5.66*		mg/Kg wet	5.00		113	40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145588 - SW-846 3050B										
Blank (B145588-BLK1)				Prepared: 03/31/16 Analyzed: 04/05/16						
Vanadium	ND	1.0	mg/Kg wet							
LCS (B145588-BS1)				Prepared: 03/31/16 Analyzed: 04/05/16						
Vanadium	70.2	2.0	mg/Kg wet	67.1		105	64.8-135.2			
LCS Dup (B145588-BSD1)				Prepared: 03/31/16 Analyzed: 04/05/16						
Vanadium	68.2	1.8	mg/Kg wet	67.1		102	64.8-135.2	2.96	30	

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B145656 - % Solids										
Duplicate (B145656-DUP2)		**Source: 16C1456-01**		Prepared: 04/01/16 Analyzed: 04/02/16						
% Solids	84.0		% Wt		81.2			3.39	20	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-11-r5A (0-1')

Lab Sample ID: 16C1456-01

Date(s) Analyzed: 04/05/2016 04/05/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	7.3	
	2	0.00	-0.03	0.03	7.6	3.5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-11-r5A (1-3')

Lab Sample ID: 16C1456-02 Date(s) Analyzed: 04/05/2016 04/05/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	5.4	
	2	0.00	-0.03	0.03	5.2	3.6

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-11-r5B (0-1')

Lab Sample ID: 16C1456-04 Date(s) Analyzed: 04/05/2016 04/05/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	4.0	
	2	0.00	-0.03	0.03	3.9	3.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-11-r5B (1-3')

Lab Sample ID: 16C1456-05 Date(s) Analyzed: 04/04/2016 04/04/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.18	
	2	0.00	-0.03	0.03	0.19	6.5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-11-r5C (0-1')

Lab Sample ID: 16C1456-07 Date(s) Analyzed: 04/05/2016 04/05/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	97	
	2	0.00	-0.03	0.03	94	3.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-11-r5C (1-3')

Lab Sample ID: 16C1456-08 Date(s) Analyzed: 04/05/2016 04/05/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	2.9	
	2	0.00	-0.03	0.03	2.9	0.3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-11-r10B (0-1')

Lab Sample ID: 16C1456-10 Date(s) Analyzed: 04/05/2016 04/05/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	6.2	
	2	0.00	-0.03	0.03	5.2	17.9
Aroclor-1260	1	0.00	-0.03	0.03	0.64	
	2	0.00	-0.03	0.03	0.75	15.4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-11-r10B (1-3')

Lab Sample ID: 16C1456-11 Date(s) Analyzed: 04/04/2016 04/04/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.48	
	2	0.00	-0.03	0.03	0.41	16.6

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B145617-BS1

Date(s) Analyzed: 04/04/2016 04/04/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.15	
	2	0.00	-0.03	0.03	0.15	0
Aroclor-1260	1	0.00	-0.03	0.03	0.15	
	2	0.00	-0.03	0.03	0.15	3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B145617-BSD1

Date(s) Analyzed: 04/04/2016 04/04/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.15	
	2	0.00	-0.03	0.03	0.15	1
Aroclor-1260	1	0.00	-0.03	0.03	0.15	
	2	0.00	-0.03	0.03	0.15	1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B145617-MS1 Date(s) Analyzed: 04/04/2016 04/04/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.25	
	2	0.00	-0.03	0.03	2.0	156
Aroclor-1260	1	0.00	-0.03	0.03	2.8	
	2	0.00	-0.03	0.03	2.4	14

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B145617-MSD1

Date(s) Analyzed: 04/04/2016 04/04/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.21	
	2	0.00	-0.03	0.03	1.7	156
Aroclor-1260	1	0.00	-0.03	0.03	2.6	
	2	0.00	-0.03	0.03	2.3	12

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,ME,NH-P
C19-C36 Aliphatics	CT,NC,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,ME,NH-P
C11-C22 Aromatics	CT,NC,ME,NH-P
Acenaphthene	CT,NC,ME,NH-P
Acenaphthylene	CT,NC,ME,NH-P
Anthracene	CT,NC,ME,NH-P
Benzo(a)anthracene	CT,NC,ME,NH-P
Benzo(a)pyrene	CT,NC,ME,NH-P
Benzo(b)fluoranthene	CT,NC,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,ME,NH-P
Benzo(k)fluoranthene	CT,NC,ME,NH-P
Chrysene	CT,NC,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,ME,NH-P
Fluoranthene	CT,NC,ME,NH-P
Fluorene	CT,NC,ME
Indeno(1,2,3-cd)pyrene	CT,NC,ME,NH-P
2-Methylnaphthalene	CT,NC,ME
Naphthalene	CT,NC,ME,NH-P
Phenanthrene	CT,NC,ME,NH-P
Pyrene	CT,NC,ME,NH-P
SW-846 6010C-D in Soil	
Vanadium	CT,NH,NY,ME,VA,NC
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

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www.contestlabs.com

CHAIN OF CUSTODY RECORD

16C1456

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks
Attention:
Project Location:
Sampled By:

Telephone:
Project # 1785-6080
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley@golder
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB Soxhlet	EPH w/ PAHs	VANADIUM
01	B-11-r5A(0-1')	3/30/16	1:20		X	S	U	X		
02	B-11-r5A(1-3')		1:23		X			X		
03	B-11-r5A(0-3		1:25	X					X	X
04	B-11-r5B(0-1')		1:30		X			X		
05	B-11-r5B(1-3')		1:35		X			X		
06	B-11-r5B(0-3')		1:40	X					X	X
07	B-11-r5c (0-1')		1:45		X			X		
08	B-11-r5c (1-3')		1:50		X			X		
09	B-11-r5c (0-3')		1:55	X				—	X	X

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Comments: 20x rule: TCLP on Compounds exceeding

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
Ann Foley 3/30/16	18:00
Received by: (signature) 3/31/16	Date/Time: 4:00
Relinquished by: (signature) 3/31/16	Date/Time: 6:45
Received by: (signature) 3/31/16	Date/Time: 1945

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: 5-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16C1456

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks
Attention:
Project Location: Lowell MM III
Sampled By:

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1785-6080
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley
Format: ○ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCB (Soxhlet)	EPH w/ PAH	Vanadium	# of Containers	** Preservation	***Container Code
10	B-11-r10B (0-1')	3/30/16	2:25		X	S	U	X					
11	B-11-r10B (1-3')	↓	2:30		X	↓	↓	X					
12	B-11-r10B (0-3')	↓	2:35	X		↓	↓		X	X			

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Comments: 20X Rule: TCLP on Compounds Exceeding

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	3/30/16	Date/Time: 18:00
Received by: (signature)	3/31/16	Date/Time: 4:00
Relinquished by: (signature)	3/31/16	Date/Time: 6:43
Received by: (signature)	3/31/16	Date/Time: 18:45

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: SCL
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: Goldman **RECEIVED BY**: JDL **DATE**: 3/31/2016

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6℃)? **Yes** X **No** ____ **N/A** ____

Temperature ℃ by Temp blank ____ Temperature ℃ by Temp gun 3.8

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

7) Location where samples are stored:

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	12
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		SOC Kit	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials:	# HCl		# Methanol	**Time and Date Frozen:**
Doc# 277	# Bisulfate		# DI Water	
Rev. 4 August 2013	# Thiosulfate		Unpreserved	

Page 2 of 2

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JDL **3/31/16 1845**

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16C1456
Project Location:	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16C1456-01 thru 16C1456-12

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Project Manager

Printed Name: Lisa A. Worthington Date: 04/07/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

June 1, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-6080
Laboratory Work Order Number: 16E1240

Enclosed are results of analyses for samples received by the laboratory on May 27, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 6/1/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6080

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16E1240

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
ESW-B11-ex	16E1240-01	Soil		SM 2540G	
				SW-846 8082A	
WSW-B11-ex	16E1240-02	Soil		SM 2540G	
				SW-846 8082A	
Btm-B11-ex	16E1240-03	Soil		SM 2540G	
				SW-846 8082A	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

MS-22

Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.

Analyte & Samples(s) Qualified:

Aroclor-1260
B150254-MSD1

Aroclor-1260 [2C]
B150254-MSD1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16E1240
Date Received: 5/27/2016
Field Sample #: ESW-B11-ex
Sampled: 5/27/2016 12:00
Sample ID: 16E1240-01
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 12:52	JMB
Aroclor-1221 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 12:52	JMB
Aroclor-1232 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 12:52	JMB
Aroclor-1242 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 12:52	JMB
Aroclor-1248 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 12:52	JMB
Aroclor-1254 [2]	0.38	0.12	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 12:52	JMB
Aroclor-1260 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 12:52	JMB
Aroclor-1262 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 12:52	JMB
Aroclor-1268 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 12:52	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	134	30-150		5/31/16 12:52
Decachlorobiphenyl [2]	102	30-150		5/31/16 12:52
Tetrachloro-m-xylene [1]	115	30-150		5/31/16 12:52
Tetrachloro-m-xylene [2]	99.9	30-150		5/31/16 12:52

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16E1240

Date Received: 5/27/2016

Field Sample #: ESW-B11-ex | Sampled: 5/27/2016 12:00

Sample ID: 16E1240-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.8		% Wt	1		SM 2540G	5/31/16	6/1/16 8:35	MRL

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16E1240
Date Received: 5/27/2016
Field Sample #: WSW-B11-ex
Sampled: 5/27/2016 10:30
Sample ID: 16E1240-02
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:10	JMB
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:10	JMB
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:10	JMB
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:10	JMB
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:10	JMB
Aroclor-1254 [2]	1.1	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:10	JMB
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:10	JMB
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:10	JMB
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:10	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	120	30-150		5/31/16 13:10
Decachlorobiphenyl [2]	99.4	30-150		5/31/16 13:10
Tetrachloro-m-xylene [1]	108	30-150		5/31/16 13:10
Tetrachloro-m-xylene [2]	92.4	30-150		5/31/16 13:10

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16E1240
Date Received: 5/27/2016
Field Sample #: WSW-B11-ex
Sampled: 5/27/2016 10:30
Sample ID: 16E1240-02
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.1		% Wt	1		SM 2540G	5/31/16	6/1/16 8:35	MRL

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16E1240
Date Received: 5/27/2016
Field Sample #: Btm-B11-ex
Sampled: 5/27/2016 11:30
Sample ID: 16E1240-03
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:28	JMB
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:28	JMB
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:28	JMB
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:28	JMB
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:28	JMB
Aroclor-1254 [2]	0.79	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:28	JMB
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:28	JMB
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:28	JMB
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	5/27/16	5/31/16 13:28	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	122	30-150		5/31/16 13:28
Decachlorobiphenyl [2]	92.9	30-150		5/31/16 13:28
Tetrachloro-m-xylene [1]	108	30-150		5/31/16 13:28
Tetrachloro-m-xylene [2]	91.0	30-150		5/31/16 13:28

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16E1240
Date Received: 5/27/2016
Field Sample #: Btm-B11-ex
Sampled: 5/27/2016 11:30
Sample ID: 16E1240-03
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.3		% Wt	1		SM 2540G	5/31/16	6/1/16 8:35	MRL

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16E1240-01 [ESW-B11-ex]	B150293	05/31/16
16E1240-02 [WSW-B11-ex]	B150293	05/31/16
16E1240-03 [Btm-B11-ex]	B150293	05/31/16

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16E1240-01 [ESW-B11-ex]	B150254	10.0	10.0	05/27/16
16E1240-02 [WSW-B11-ex]	B150254	10.0	10.0	05/27/16
16E1240-03 [Btm-B11-ex]	B150254	10.0	10.0	05/27/16

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B150254 - SW-846 3540C										
Blank (B150254-BLK1)				Prepared: 05/27/16 Analyzed: 05/31/16						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.228*		mg/Kg wet	0.200		114	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.185*		mg/Kg wet	0.200		92.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.175*		mg/Kg wet	0.200		87.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.166*		mg/Kg wet	0.200		82.9	30-150			
LCS (B150254-BS1)				Prepared: 05/27/16 Analyzed: 05/31/16						
Aroclor-1016	0.16	0.020	mg/Kg wet	0.200		77.5	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.3	40-140			
Aroclor-1260	0.17	0.020	mg/Kg wet	0.200		85.5	40-140			
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		78.9	40-140			
Surrogate: Decachlorobiphenyl	*0.229*		mg/Kg wet	0.200		114	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.186*		mg/Kg wet	0.200		92.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.181*		mg/Kg wet	0.200		90.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.171*		mg/Kg wet	0.200		85.3	30-150			
LCS Dup (B150254-BSD1)				Prepared: 05/27/16 Analyzed: 05/31/16						
Aroclor-1016	0.16	0.020	mg/Kg wet	0.200		81.8	40-140	5.44	30	
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		78.9	40-140	0.834	30	
Aroclor-1260	0.18	0.020	mg/Kg wet	0.200		88.2	40-140	3.03	30	
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		79.7	40-140	1.02	30	
Surrogate: Decachlorobiphenyl	*0.236*		mg/Kg wet	0.200		118	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.190*		mg/Kg wet	0.200		95.0	30-150			
Surrogate: Tetrachloro-m-xylene	*0.192*		mg/Kg wet	0.200		96.2	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.180*		mg/Kg wet	0.200		89.8	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B150254 - SW-846 3540C											
Matrix Spike (B150254-MS1)		**Source: 16E1240-01**		Prepared: 05/27/16 Analyzed: 05/31/16							
Aroclor-1016	0.26	0.12	mg/Kg dry	0.230	ND	114		40-140			
Aroclor-1016 [2C]	0.23	0.12	mg/Kg dry	0.230	ND	102		40-140			
Aroclor-1260	0.30	0.12	mg/Kg dry	0.230	ND	131		40-140			
Aroclor-1260 [2C]	0.30	0.12	mg/Kg dry	0.230	ND	131		40-140			
Surrogate: Decachlorobiphenyl	*0.291*		mg/Kg dry	0.230		126		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.221*		mg/Kg dry	0.230		95.8		30-150			
Surrogate: Tetrachloro-m-xylene	*0.261*		mg/Kg dry	0.230		113		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.217*		mg/Kg dry	0.230		94.1		30-150			
Matrix Spike Dup (B150254-MSD1)		**Source: 16E1240-01**		Prepared: 05/27/16 Analyzed: 05/31/16							
Aroclor-1016	0.27	0.12	mg/Kg dry	0.230	ND	117		40-140	2.04	50	
Aroclor-1016 [2C]	0.24	0.12	mg/Kg dry	0.230	ND	106		40-140	4.12	50	
Aroclor-1260	0.34	0.12	mg/Kg dry	0.230	ND	**146**	*	40-140	10.5	50	MS-22
Aroclor-1260 [2C]	0.34	0.12	mg/Kg dry	0.230	ND	**147**	*	40-140	11.0	50	MS-22
Surrogate: Decachlorobiphenyl	*0.308*		mg/Kg dry	0.230		134		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.231*		mg/Kg dry	0.230		100		30-150			
Surrogate: Tetrachloro-m-xylene	*0.273*		mg/Kg dry	0.230		118		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.229*		mg/Kg dry	0.230		99.4		30-150			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B150293 - % Solids										
Duplicate (B150293-DUP1)		**Source: 16E1240-01**		Prepared: 05/31/16 Analyzed: 06/01/16						
% Solids	87.7		% Wt		86.8			1.03	20	
Duplicate (B150293-DUP2)		**Source: 16E1240-02**		Prepared: 05/31/16 Analyzed: 06/01/16						
% Solids	85.4		% Wt		87.1			1.97	20	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

ESW-B11-ex

Lab Sample ID: 16E1240-01 Date(s) Analyzed: 05/31/2016 05/31/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.33	
	2	0.00	-0.03	0.03	0.38	14.4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

WSW-B11-ex

Lab Sample ID: 16E1240-02 Date(s) Analyzed: 05/31/2016 05/31/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.91	
	2	0.00	-0.03	0.03	1.1	19.1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Btm-B11-ex

Lab Sample ID: 16E1240-03 Date(s) Analyzed: 05/31/2016 05/31/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.70	
	2	0.00	-0.03	0.03	0.79	12.8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B150254-BS1

Date(s) Analyzed: 05/31/2016 05/31/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.16	
	2	0.00	-0.03	0.03	0.16	3
Aroclor-1260	1	0.00	-0.03	0.03	0.17	
	2	0.00	-0.03	0.03	0.16	7

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B150254-BSD1 Date(s) Analyzed: 05/31/2016 05/31/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.16	
	2	0.00	-0.03	0.03	0.16	2
Aroclor-1260	1	0.00	-0.03	0.03	0.18	
	2	0.00	-0.03	0.03	0.16	10

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B150254-MS1

Date(s) Analyzed: 05/31/2016 05/31/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.26	
	2	0.00	-0.03	0.03	0.23	14
Aroclor-1260	1	0.00	-0.03	0.03	0.30	
	2	0.00	-0.03	0.03	0.30	1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B150254-MSD1 Date(s) Analyzed: 05/31/2016 05/31/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.27	
	2	0.00	-0.03	0.03	0.24	11
Aroclor-1260	1	0.00	-0.03	0.03	0.34	
	2	0.00	-0.03	0.03	0.34	1

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
MS-22	Either matrix spike or MS duplicate is outside of control limits, but the other is within limits. RPD between the two MS/MSD results is within method specified criteria.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
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Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16E1240
Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks Dr
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1755-6080
Client PO#

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: afoley@goldman.env.
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER _____
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs (Soxhlet extract)										
01	ESW-B11-ex	~~4~~ 5/27	12:00	X		S	U	X										
02	WSW-B11-ex	↓	10:30	X		↓	↓	X										
03	Btm-BH-ex	↓	11:30	X		↓	↓	X										

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature) [signature]	5/27/16	Date/Time: 1:35
Received by: (signature) [signature]	5/27/16	Date/Time: 1455
Relinquished by: (signature) [signature]	5/27/16	Date/Time: 1900
Received by: (signature) [signature] 4.3	5/27/16	Date/Time: 1900

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other ____
RUSH †
☐ †24-Hr ☑ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

Table of Contents

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
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con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY:** VP **DATE:** 5/27/16

1) **Was the chain(s) of custody relinquished and signed?** **Yes** X **No** ____ **No COC Incl.**
2) **Does the chain agree with the samples?** **Yes** X **No** ____
   If not, explain:
3) **Are all the samples in good condition?** **Yes** X **No** ____
   If not, explain:
4) **How were the samples received:**

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6°C)? **Yes** X **No** ____ **N/A** ____

Temperature °C by Temp blank ____ Temperature °C by Temp gun 4.3

5) **Are there Dissolved samples for the lab to filter?** **Yes** ____ **No** X
   Who was notified ____ Date ____ Time ____
6) **Are there any RUSH or SHORT HOLDING TIME samples?** **Yes** X **No** ____
   Who was notified ____ Date ____ Time ____
7) **Location where samples are stored:** 19

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) **Do all samples have the proper Acid pH:** **Yes** ____ **No** ____ **N/A** ____
9) **Do all samples have the proper Base pH:** **Yes** ____ **No** ____ **N/A** ____
10) **Was the PC notified of any discrepancies with the CoC vs the samples:** **Yes** ____ **N/A**

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	3
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		SOC Kit	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials: # HCl ____ # Methanol ____
Bisulfate ____ # DI Water ____
Thiosulfate ____ Unpreserved ____

Time and Date Frozen:

Doc# 277
Rev. 4 August 2013

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** VC **Date/Time:** 5/27/16 1400

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16E1240
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16E1240-01 thru 16E1240-03

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Project Manager

Printed Name: Lisa A. Worthington Date: 06/01/16

con-test®
ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 23, 2016

Drew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-6100
Laboratory Work Order Number: 16I0708

Enclosed are results of analyses for samples received by the laboratory on September 16, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Drew Foley

REPORT DATE: 9/23/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6100

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16I0708

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-15 (0-5)	16I0708-01	Soil		SM 2540G	
				SW-846 8082A	
B-15 (5-10)	16I0708-02	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
				MADEP-EPH-04-1.1	
				SM 2540G	
B-16 (0-5)	16I0708-03	Soil		SM 2540G	
				SW-846 8082A	
B-16 (5-10)	16I0708-04	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
B-16 (10-15)	16I0708-05	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
B-17 (5-7.5)	16I0708-07	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
				MADEP-EPH-04-1.1	
				SM 2540G	
B-18 (0-5)	16I0708-08	Soil		SM 2540G	
				SW-846 8082A	
B-18 (10-15)	16I0708-10	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
B-19 (0-5)	16I0708-11	Soil		SM 2540G	
				SW-846 8082A	
B-19 (5-10)	16I0708-12	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
B-19 (15-17)	16I0708-13	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
B-20 (0-5)	16I0708-14	Soil		SM 2540G	
				SW-846 8082A	
B-20 (5-8)	16I0708-15	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
B-21 (0-5)	16I0708-16	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
				MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 8082A	

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Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Drew Foley

REPORT DATE: 9/23/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6100

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16I0708

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-21 (5-10)	16I0708-17	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
				MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 8082A	
B-21 (10-13.5)	16I0708-18	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
				MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 8082A	
B-22 (10-15)	16I0708-19	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
B-22 (15-20)	16I0708-20	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
B-23 (5-9)	16I0708-21	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
B-14A (0-5)	16I0708-22	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
				MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 8082A	
B-14A (5-10)	16I0708-23	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
				MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 8082A	
B-14A (10-15)	16I0708-24	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
				MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 8082A	
B-14A (15-16.5)	16I0708-25	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
				MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 8082A	
B-14 (10-15)	16I0708-26	Soil		SW-846 8260C	
B-14A (10-15)	16I0708-27	Soil		SW-846 8260C	

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Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Drew Foley

REPORT DATE: 9/23/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6100

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16I0708

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-26 (10-13)	16I0708-28	Soil		SW-846 8260C	
B-27 (5-10)	16I0708-29	Soil		SW-846 8260C	
B-28 (10-15)	16I0708-30	Soil		SW-846 8260C	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

MADEP-EPH-04-1.1

Qualifications:

RL-08

Elevated reporting limit due to sample matrix interference. MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

2-Methylnaphthalene
16I0708-02[B-15 (5-10)]

Acenaphthene
16I0708-02[B-15 (5-10)], 16I0708-22[B-14A (0-5)], 16I0708-24[B-14A (10-15)], 16I0708-25[B-14A (15-16.5)]

Acenaphthylene
16I0708-02[B-15 (5-10)], 16I0708-22[B-14A (0-5)], 16I0708-24[B-14A (10-15)], 16I0708-25[B-14A (15-16.5)]

Anthracene
16I0708-02[B-15 (5-10)], 16I0708-22[B-14A (0-5)], 16I0708-25[B-14A (15-16.5)]

Benzo(a)anthracene
16I0708-02[B-15 (5-10)], 16I0708-22[B-14A (0-5)], 16I0708-24[B-14A (10-15)], 16I0708-25[B-14A (15-16.5)]

Benzo(a)pyrene
16I0708-02[B-15 (5-10)], 16I0708-22[B-14A (0-5)], 16I0708-24[B-14A (10-15)], 16I0708-25[B-14A (15-16.5)]

Benzo(b)fluoranthene
16I0708-02[B-15 (5-10)], 16I0708-22[B-14A (0-5)], 16I0708-24[B-14A (10-15)], 16I0708-25[B-14A (15-16.5)]

Benzo(g,h,i)perylene
16I0708-02[B-15 (5-10)], 16I0708-22[B-14A (0-5)], 16I0708-24[B-14A (10-15)], 16I0708-25[B-14A (15-16.5)]

Benzo(k)fluoranthene
16I0708-02[B-15 (5-10)], 16I0708-22[B-14A (0-5)], 16I0708-24[B-14A (10-15)], 16I0708-25[B-14A (15-16.5)]

C9-C18 Aliphatics
16I0708-22[B-14A (0-5)]

Chrysene
16I0708-02[B-15 (5-10)], 16I0708-22[B-14A (0-5)], 16I0708-24[B-14A (10-15)], 16I0708-25[B-14A (15-16.5)]

Dibenz(a,h)anthracene
16I0708-02[B-15 (5-10)], 16I0708-22[B-14A (0-5)], 16I0708-24[B-14A (10-15)], 16I0708-25[B-14A (15-16.5)]

Fluoranthene
16I0708-02[B-15 (5-10)], 16I0708-25[B-14A (15-16.5)]

Fluorene
16I0708-02[B-15 (5-10)], 16I0708-22[B-14A (0-5)]

Indeno(1,2,3-cd)pyrene
16I0708-02[B-15 (5-10)], 16I0708-22[B-14A (0-5)], 16I0708-24[B-14A (10-15)], 16I0708-25[B-14A (15-16.5)]

Naphthalene
16I0708-02[B-15 (5-10)], 16I0708-22[B-14A (0-5)], 16I0708-25[B-14A (15-16.5)]

Phenanthrene
16I0708-02[B-15 (5-10)]

Pyrene
16I0708-02[B-15 (5-10)], 16I0708-25[B-14A (15-16.5)]

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Chlorooctadecane (COD)
16I0708-22[B-14A (0-5)], 16I0708-24[B-14A (10-15)], 16I0708-25[B-14A (15-16.5)]

o-Terphenyl (OTP)
16I0708-22[B-14A (0-5)], 16I0708-24[B-14A (10-15)]

S-15

Surrogate recovery outside of control limits due to suspected sample matrix interference. Chromatogram(s) is attached.

Analyte & Samples(s) Qualified:

Chlorooctadecane (COD)
16I0708-23[B-14A (5-10)]

SW-846 8082A

Qualifications:

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MS-21

Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.

Analyte & Samples(s) Qualified:

Aroclor-1016 [2C]
B158646-MS1, B158646-MSD1

Aroclor-1260
B158646-MS1, B158646-MSD1

Aroclor-1260 [2C]
B158646-MS1, B158646-MSD1

O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

16I0708-14[B-20 (0-5)], 16I0708-25[B-14A (15-16.5)]

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl
16I0708-01[B-15 (0-5)], 16I0708-08[B-18 (0-5)], 16I0708-11[B-19 (0-5)], 16I0708-16[B-21 (0-5)]

Decachlorobiphenyl [2C]
16I0708-01[B-15 (0-5)], 16I0708-08[B-18 (0-5)], 16I0708-11[B-19 (0-5)], 16I0708-16[B-21 (0-5)]

Tetrachloro-m-xylene
16I0708-01[B-15 (0-5)], 16I0708-08[B-18 (0-5)], 16I0708-11[B-19 (0-5)], 16I0708-16[B-21 (0-5)]

Tetrachloro-m-xylene [2C]
16I0708-01[B-15 (0-5)], 16I0708-08[B-18 (0-5)], 16I0708-11[B-19 (0-5)], 16I0708-16[B-21 (0-5)]

SW-846 8260C

Qualifications:

L-06

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Isopropylbenzene (Cumene)
16I0708-28[B-26 (10-13)], B158583-BS1, B158583-BSD1

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Vinyl Chloride
B158583-BSD1

RL-05

Elevated reporting limit due to high concentration of target compounds. MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

16I0708-26[B-14 (10-15)], 16I0708-27[B-14A (10-15)], 16I0708-28[B-26 (10-13)], 16I0708-30[B-28 (10-15)]

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RL-07

Elevated reporting limit based on lowest point in calibration.
MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

1,2,3-Trichlorobenzene
16I0708-29[B-27 (5-10)]

1,2-Dibromo-3-chloropropane (DB
16I0708-29[B-27 (5-10)]

Bromomethane
16I0708-29[B-27 (5-10)]

Carbon Disulfide
16I0708-29[B-27 (5-10)]

Methylene Chloride
16I0708-29[B-27 (5-10)]

Naphthalene
16I0708-29[B-27 (5-10)]

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

2,2-Dichloropropane
16I0708-26[B-14 (10-15)], 16I0708-27[B-14A (10-15)], 16I0708-28[B-26 (10-13)], 16I0708-29[B-27 (5-10)], 16I0708-30[B-28 (10-15)], B158583-BLK1, B158583-BS1, B158583-BSD1

Chloromethane
16I0708-26[B-14 (10-15)], 16I0708-27[B-14A (10-15)], 16I0708-28[B-26 (10-13)], 16I0708-29[B-27 (5-10)], 16I0708-30[B-28 (10-15)], B158583-BLK1, B158583-BS1, B158583-BSD1

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
16I0708-26[B-14 (10-15)], 16I0708-27[B-14A (10-15)], 16I0708-28[B-26 (10-13)], 16I0708-29[B-27 (5-10)], 16I0708-30[B-28 (10-15)], B158583-BLK1, B158583-BS1, B158583-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Bromomethane
B158583-BS1, B158583-BSD1

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for “difficult analytes” where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-15 (0-5) | Sampled: 9/15/2016 10:15

Sample ID: 16I0708-01

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 9:49	KAL
Aroclor-1221 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 9:49	KAL
Aroclor-1232 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 9:49	KAL
Aroclor-1242 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 9:49	KAL
Aroclor-1248 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 9:49	KAL
Aroclor-1254 [2]	12	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 9:49	KAL
Aroclor-1260 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 9:49	KAL
Aroclor-1262 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 9:49	KAL
Aroclor-1268 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 9:49	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/22/16 9:49
Decachlorobiphenyl [2]	*	30-150	S-01	9/22/16 9:49
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/22/16 9:49
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/22/16 9:49

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-15 (0-5)
Sampled: 9/15/2016 10:15

Sample ID: 16I0708-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.1		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-15 (5-10) | Sampled: 9/15/2016 10:30

Sample ID: 16I0708-02

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	140	110	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
C19-C36 Aliphatics	4700	540	mg/Kg dry	50		MADEP-EPH-04-1.1	9/20/16	9/23/16 10:37	SCS
Unadjusted C11-C22 Aromatics	3700	540	mg/Kg dry	50		MADEP-EPH-04-1.1	9/20/16	9/23/16 10:37	SCS
C11-C22 Aromatics	3700	540	mg/Kg dry	50		MADEP-EPH-04-1.1	9/20/16	9/23/16 10:37	SCS
Acenaphthene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Acenaphthylene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Anthracene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Benzo(a)anthracene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Benzo(a)pyrene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Benzo(b)fluoranthene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Benzo(g,h,i)perylene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Benzo(k)fluoranthene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Chrysene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Dibenz(a,h)anthracene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Fluoranthene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Fluorene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Indeno(1,2,3-cd)pyrene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
2-Methylnaphthalene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Naphthalene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Phenanthrene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS
Pyrene	ND	1.1	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/22/16 23:29	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	61.4	40-140		9/22/16 23:29
o-Terphenyl (OTP)	60.7	40-140		9/22/16 23:29
2-Bromonaphthalene	67.0	40-140		9/22/16 23:29
2-Fluorobiphenyl	89.6	40-140		9/22/16 23:29

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-15 (5-10)
Sampled: 9/15/2016 10:30

Sample ID: 16I0708-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.3		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-15 (5-10)
Sampled: 9/15/2016 10:30

Sample ID: 16I0708-02

Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116			PRO
Fiberglass	ND		%	1		EPA/600/R-93/116			PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116			PRO
Cellulose	ND		%	1		EPA/600/R-93/116			PRO
Hair	ND		%	1		EPA/600/R-93/116			PRO
Synthetic	ND		%	1		EPA/600/R-93/116			PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116			PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116			PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116			PRO
Organic Material	ND		%	1		EPA/600/R-93/116			PRO
Gypsum	ND		%	1		EPA/600/R-93/116			PRO

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-16 (0-5) | Sampled: 9/15/2016 09:15

Sample ID: 16I0708-03

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 21:34	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 21:34	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 21:34	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 21:34	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 21:34	KAL
Aroclor-1254 [1]	0.90	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 21:34	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 21:34	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 21:34	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 21:34	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	83.4	30-150		9/21/16 21:34
Decachlorobiphenyl [2]	88.4	30-150		9/21/16 21:34
Tetrachloro-m-xylene [1]	89.2	30-150		9/21/16 21:34
Tetrachloro-m-xylene [2]	86.3	30-150		9/21/16 21:34

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-16 (0-5)
Sampled: 9/15/2016 09:15

Sample ID: 16I0708-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.5		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-16 (5-10) | Sampled: 9/15/2016 09:30

Sample ID: 16I0708-04

Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116			PRO
Fiberglass	ND		%	1		EPA/600/R-93/116			PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116			PRO
Cellulose	ND		%	1		EPA/600/R-93/116			PRO
Hair	ND		%	1		EPA/600/R-93/116			PRO
Synthetic	ND		%	1		EPA/600/R-93/116			PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116			PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116			PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116			PRO
Organic Material	ND		%	1		EPA/600/R-93/116			PRO
Gypsum	ND		%	1		EPA/600/R-93/116			PRO

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-16 (10-15) | Sampled: 9/15/2016 09:45

Sample ID: 16I0708-05

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	150	20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
C19-C36 Aliphatics	380	100	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 10:57	SCS
Unadjusted C11-C22 Aromatics	850	100	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 10:57	SCS
C11-C22 Aromatics	850	100	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 10:57	SCS
Acenaphthene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Acenaphthylene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Anthracene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Benzo(a)anthracene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Benzo(a)pyrene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Benzo(b)fluoranthene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Benzo(g,h,i)perylene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Benzo(k)fluoranthene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Chrysene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Dibenz(a,h)anthracene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Fluoranthene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Fluorene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Indeno(1,2,3-cd)pyrene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
2-Methylnaphthalene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Naphthalene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Phenanthrene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS
Pyrene	ND	0.20	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:48	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	66.3	40-140		9/22/16 23:48
o-Terphenyl (OTP)	81.1	40-140		9/22/16 23:48
2-Bromonaphthalene	74.5	40-140		9/22/16 23:48
2-Fluorobiphenyl	96.8	40-140		9/22/16 23:48

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-16 (10-15)
Sampled: 9/15/2016 09:45

Sample ID: 16I0708-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.3		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-17 (5-7.5) | Sampled: 9/15/2016 11:45

Sample ID: 16I0708-07

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	85	21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
C19-C36 Aliphatics	670	110	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 11:17	SCS
Unadjusted C11-C22 Aromatics	660	21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
C11-C22 Aromatics	650	21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Acenaphthene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Acenaphthylene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Anthracene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Benzo(a)anthracene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Benzo(a)pyrene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Benzo(b)fluoranthene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Benzo(g,h,i)perylene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Benzo(k)fluoranthene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Chrysene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Dibenz(a,h)anthracene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Fluoranthene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Fluorene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Indeno(1,2,3-cd)pyrene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
2-Methylnaphthalene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Naphthalene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Phenanthrene	0.63	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS
Pyrene	ND	0.21	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:06	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	58.8	40-140		9/23/16 0:06
o-Terphenyl (OTP)	73.8	40-140		9/23/16 0:06
2-Bromonaphthalene	78.7	40-140		9/23/16 0:06
2-Fluorobiphenyl	105	40-140		9/23/16 0:06

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-17 (5-7.5)
Sampled: 9/15/2016 11:45

Sample ID: 16I0708-07

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.4		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-17 (5-7.5) | Sampled: 9/15/2016 11:45

Sample ID: 16I0708-07

Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116			PRO
Fiberglass	ND		%	1		EPA/600/R-93/116			PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116			PRO
Cellulose	ND		%	1		EPA/600/R-93/116			PRO
Hair	ND		%	1		EPA/600/R-93/116			PRO
Synthetic	ND		%	1		EPA/600/R-93/116			PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116			PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116			PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116			PRO
Organic Material	ND		%	1		EPA/600/R-93/116			PRO
Gypsum	ND		%	1		EPA/600/R-93/116			PRO

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-18 (0-5) | Sampled: 9/15/2016 10:45

Sample ID: 16I0708-08

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	5.5	mg/Kg dry	250		SW-846 8082A	9/20/16	9/22/16 10:02	KAL
Aroclor-1221 [1]	ND	5.5	mg/Kg dry	250		SW-846 8082A	9/20/16	9/22/16 10:02	KAL
Aroclor-1232 [1]	ND	5.5	mg/Kg dry	250		SW-846 8082A	9/20/16	9/22/16 10:02	KAL
Aroclor-1242 [1]	ND	5.5	mg/Kg dry	250		SW-846 8082A	9/20/16	9/22/16 10:02	KAL
Aroclor-1248 [1]	ND	5.5	mg/Kg dry	250		SW-846 8082A	9/20/16	9/22/16 10:02	KAL
Aroclor-1254 [2]	29	5.5	mg/Kg dry	250		SW-846 8082A	9/20/16	9/22/16 10:02	KAL
Aroclor-1260 [1]	ND	5.5	mg/Kg dry	250		SW-846 8082A	9/20/16	9/22/16 10:02	KAL
Aroclor-1262 [1]	ND	5.5	mg/Kg dry	250		SW-846 8082A	9/20/16	9/22/16 10:02	KAL
Aroclor-1268 [1]	ND	5.5	mg/Kg dry	250		SW-846 8082A	9/20/16	9/22/16 10:02	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/22/16 10:02
Decachlorobiphenyl [2]	*	30-150	S-01	9/22/16 10:02
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/22/16 10:02
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/22/16 10:02

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-18 (0-5)
Sampled: 9/15/2016 10:45

Sample ID: 16I0708-08

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.4		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-18 (10-15) | Sampled: 9/15/2016 11:15

Sample ID: 16I0708-10

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	59	52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
C19-C36 Aliphatics	310	52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Unadjusted C11-C22 Aromatics	530	52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
C11-C22 Aromatics	530	52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Acenaphthene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Acenaphthylene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Anthracene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Benzo(a)anthracene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Benzo(a)pyrene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Benzo(b)fluoranthene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Benzo(g,h,i)perylene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Benzo(k)fluoranthene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Chrysene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Dibenz(a,h)anthracene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Fluoranthene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Fluorene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Indeno(1,2,3-cd)pyrene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
2-Methylnaphthalene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Naphthalene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Phenanthrene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS
Pyrene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:25	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	58.7	40-140		9/23/16 0:25
o-Terphenyl (OTP)	70.4	40-140		9/23/16 0:25
2-Bromonaphthalene	87.6	40-140		9/23/16 0:25
2-Fluorobiphenyl	101	40-140		9/23/16 0:25

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-18 (10-15)
Sampled: 9/15/2016 11:15

Sample ID: 16I0708-10

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.1		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-19 (0-5) | Sampled: 9/15/2016 12:30

Sample ID: 16I0708-11

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/20/16	9/22/16 10:15	KAL
Aroclor-1221 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/20/16	9/22/16 10:15	KAL
Aroclor-1232 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/20/16	9/22/16 10:15	KAL
Aroclor-1242 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/20/16	9/22/16 10:15	KAL
Aroclor-1248 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/20/16	9/22/16 10:15	KAL
Aroclor-1254 [2]	6.7	1.1	mg/Kg dry	50		SW-846 8082A	9/20/16	9/22/16 10:15	KAL
Aroclor-1260 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/20/16	9/22/16 10:15	KAL
Aroclor-1262 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/20/16	9/22/16 10:15	KAL
Aroclor-1268 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/20/16	9/22/16 10:15	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/22/16 10:15
Decachlorobiphenyl [2]	*	30-150	S-01	9/22/16 10:15
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/22/16 10:15
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/22/16 10:15

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-19 (0-5)
Sampled: 9/15/2016 12:30

Sample ID: 16I0708-11

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.1		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-19 (5-10) | Sampled: 9/15/2016 12:45

Sample ID: 16I0708-12

Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116			PRO
Fiberglass	ND		%	1		EPA/600/R-93/116			PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116			PRO
Cellulose	ND		%	1		EPA/600/R-93/116			PRO
Hair	ND		%	1		EPA/600/R-93/116			PRO
Synthetic	ND		%	1		EPA/600/R-93/116			PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116			PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116			PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116			PRO
Organic Material	ND		%	1		EPA/600/R-93/116			PRO
Gypsum	ND		%	1		EPA/600/R-93/116			PRO

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-19 (15-17) | Sampled: 9/15/2016 13:30

Sample ID: 16I0708-13

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	200	53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
C19-C36 Aliphatics	730	53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Unadjusted C11-C22 Aromatics	1600	53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
C11-C22 Aromatics	1600	53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Acenaphthene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Acenaphthylene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Anthracene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Benzo(a)anthracene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Benzo(a)pyrene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Benzo(b)fluoranthene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Benzo(g,h,i)perylene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Benzo(k)fluoranthene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Chrysene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Dibenz(a,h)anthracene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Fluoranthene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Fluorene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Indeno(1,2,3-cd)pyrene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
2-Methylnaphthalene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Naphthalene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Phenanthrene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS
Pyrene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 0:44	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	47.6	40-140		9/23/16 0:44
o-Terphenyl (OTP)	77.6	40-140		9/23/16 0:44
2-Bromonaphthalene	83.5	40-140		9/23/16 0:44
2-Fluorobiphenyl	102	40-140		9/23/16 0:44

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-19 (15-17)
Sampled: 9/15/2016 13:30

Sample ID: 16I0708-13

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.5		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-20 (0-5) | Sampled: 9/16/2016 09:59

Sample ID: 16I0708-14

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 23:58	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 23:58	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 23:58	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 23:58	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 23:58	KAL
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 23:58	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 23:58	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 23:58	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/21/16 23:58	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	110	30-150		9/21/16 23:58
Decachlorobiphenyl [2]	109	30-150		9/21/16 23:58
Tetrachloro-m-xylene [1]	101	30-150		9/21/16 23:58
Tetrachloro-m-xylene [2]	101	30-150		9/21/16 23:58

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-20 (0-5)
Sampled: 9/16/2016 09:59

Sample ID: 16I0708-14

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.1		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-20 (5-8) | Sampled: 9/16/2016 10:05

Sample ID: 16I0708-15

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
C19-C36 Aliphatics	32	11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Unadjusted C11-C22 Aromatics	69	11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
C11-C22 Aromatics	67	11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Benzo(a)anthracene	0.14	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Benzo(a)pyrene	0.12	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Benzo(b)fluoranthene	0.23	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Benzo(g,h,i)perylene	0.13	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Chrysene	0.28	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Fluoranthene	0.30	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Phenanthrene	0.37	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS
Pyrene	0.37	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:03	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	59.9	40-140		9/23/16 1:03
o-Terphenyl (OTP)	71.6	40-140		9/23/16 1:03
2-Bromonaphthalene	94.3	40-140		9/23/16 1:03
2-Fluorobiphenyl	108	40-140		9/23/16 1:03

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-20 (5-8)
Sampled: 9/16/2016 10:05

Sample ID: 16I0708-15

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.2		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-21 (0-5) | Sampled: 9/16/2016 10:30

Sample ID: 16I0708-16

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 10:27	KAL
Aroclor-1221 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 10:27	KAL
Aroclor-1232 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 10:27	KAL
Aroclor-1242 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 10:27	KAL
Aroclor-1248 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 10:27	KAL
Aroclor-1254 [2]	11	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 10:27	KAL
Aroclor-1260 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 10:27	KAL
Aroclor-1262 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 10:27	KAL
Aroclor-1268 [1]	ND	2.2	mg/Kg dry	100		SW-846 8082A	9/20/16	9/22/16 10:27	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/22/16 10:27
Decachlorobiphenyl [2]	*	30-150	S-01	9/22/16 10:27
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/22/16 10:27
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/22/16 10:27

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-21 (0-5) | Sampled: 9/16/2016 10:30

Sample ID: 16I0708-16

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	28	22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
C19-C36 Aliphatics	180	22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Unadjusted C11-C22 Aromatics	490	22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
C11-C22 Aromatics	390	22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Acenaphthene	1.6	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Acenaphthylene	ND	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Anthracene	3.0	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Benzo(a)anthracene	6.7	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Benzo(a)pyrene	6.3	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Benzo(b)fluoranthene	8.4	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Benzo(g,h,i)perylene	3.2	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Benzo(k)fluoranthene	3.2	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Chrysene	7.9	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Dibenz(a,h)anthracene	1.2	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Fluoranthene	18	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Fluorene	1.7	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Indeno(1,2,3-cd)pyrene	3.9	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
2-Methylnaphthalene	0.39	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Naphthalene	0.41	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Phenanthrene	14	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS
Pyrene	17	0.22	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:22	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	62.2	40-140		9/23/16 1:22
o-Terphenyl (OTP)	70.8	40-140		9/23/16 1:22
2-Bromonaphthalene	84.1	40-140		9/23/16 1:22
2-Fluorobiphenyl	102	40-140		9/23/16 1:22

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-21 (0-5)
Sampled: 9/16/2016 10:30

Sample ID: 16I0708-16

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.0		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-21 (0-5)
Sampled: 9/16/2016 10:30

Sample ID: 16I0708-16

Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	2		%	1		EPA/600/R-93/116			PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116			PRO
Fiberglass	ND		%	1		EPA/600/R-93/116			PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116			PRO
Cellulose	ND		%	1		EPA/600/R-93/116			PRO
Hair	ND		%	1		EPA/600/R-93/116			PRO
Synthetic	ND		%	1		EPA/600/R-93/116			PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116			PRO
Non-Fibrous Minerals	98		%	1		EPA/600/R-93/116			PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116			PRO
Organic Material	ND		%	1		EPA/600/R-93/116			PRO
Gypsum	ND		%	1		EPA/600/R-93/116			PRO

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-21 (5-10) | Sampled: 9/16/2016 10:40

Sample ID: 16I0708-17

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:34	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:34	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:34	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:34	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:34	KAL
Aroclor-1254 [1]	0.63	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:34	KAL
Aroclor-1260 [2]	0.12	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:34	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:34	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:34	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	88.7	30-150		9/22/16 0:34
Decachlorobiphenyl [2]	81.8	30-150		9/22/16 0:34
Tetrachloro-m-xylene [1]	84.5	30-150		9/22/16 0:34
Tetrachloro-m-xylene [2]	76.5	30-150		9/22/16 0:34

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-21 (5-10) | Sampled: 9/16/2016 10:40

Sample ID: 16I0708-17

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	860	260	mg/Kg dry	25		MADEP-EPH-04-1.1	9/20/16	9/23/16 11:38	SCS
C19-C36 Aliphatics	1200	260	mg/Kg dry	25		MADEP-EPH-04-1.1	9/20/16	9/23/16 11:38	SCS
Unadjusted C11-C22 Aromatics	2400	260	mg/Kg dry	25		MADEP-EPH-04-1.1	9/20/16	9/23/16 11:38	SCS
C11-C22 Aromatics	2400	260	mg/Kg dry	25		MADEP-EPH-04-1.1	9/20/16	9/23/16 11:38	SCS
Acenaphthene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Acenaphthylene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Anthracene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Benzo(a)anthracene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Benzo(a)pyrene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Benzo(b)fluoranthene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Benzo(g,h,i)perylene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Benzo(k)fluoranthene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Chrysene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Dibenz(a,h)anthracene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Fluoranthene	1.8	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Fluorene	1.5	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Indeno(1,2,3-cd)pyrene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
2-Methylnaphthalene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Naphthalene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Phenanthrene	3.3	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS
Pyrene	ND	0.52	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:40	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	48.5	40-140		9/23/16 1:40
o-Terphenyl (OTP)	82.4	40-140		9/23/16 1:40
2-Bromonaphthalene	84.7	40-140		9/23/16 1:40
2-Fluorobiphenyl	108	40-140		9/23/16 1:40

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-21 (5-10)
Sampled: 9/16/2016 10:40

Sample ID: 16I0708-17

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	94.0		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-21 (5-10) | Sampled: 9/16/2016 10:40

Sample ID: 16I0708-17

Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116			PRO
Fiberglass	ND		%	1		EPA/600/R-93/116			PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116			PRO
Cellulose	ND		%	1		EPA/600/R-93/116			PRO
Hair	ND		%	1		EPA/600/R-93/116			PRO
Synthetic	ND		%	1		EPA/600/R-93/116			PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116			PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116			PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116			PRO
Organic Material	ND		%	1		EPA/600/R-93/116			PRO
Gypsum	ND		%	1		EPA/600/R-93/116			PRO

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-21 (10-13.5) | Sampled: 9/16/2016 10:56

Sample ID: 16I0708-18

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:52	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:52	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:52	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:52	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:52	KAL
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:52	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:52	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:52	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 0:52	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	93.0	30-150		9/22/16 0:52
Decachlorobiphenyl [2]	86.0	30-150		9/22/16 0:52
Tetrachloro-m-xylene [1]	95.6	30-150		9/22/16 0:52
Tetrachloro-m-xylene [2]	91.1	30-150		9/22/16 0:52

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-21 (10-13.5) | Sampled: 9/16/2016 10:56

Sample ID: 16I0708-18

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	110	55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
C19-C36 Aliphatics	500	55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Unadjusted C11-C22 Aromatics	1000	55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
C11-C22 Aromatics	1000	55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Acenaphthene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Acenaphthylene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Anthracene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Benzo(a)anthracene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Benzo(a)pyrene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Benzo(b)fluoranthene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Benzo(g,h,i)perylene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Benzo(k)fluoranthene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Chrysene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Dibenz(a,h)anthracene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Fluoranthene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Fluorene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Indeno(1,2,3-cd)pyrene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
2-Methylnaphthalene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Naphthalene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Phenanthrene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS
Pyrene	ND	0.55	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 1:59	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	48.7	40-140		9/23/16 1:59
o-Terphenyl (OTP)	63.1	40-140		9/23/16 1:59
2-Bromonaphthalene	95.7	40-140		9/23/16 1:59
2-Fluorobiphenyl	110	40-140		9/23/16 1:59

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-21 (10-13.5)
Sampled: 9/16/2016 10:56

Sample ID: 16I0708-18

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.3		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-21 (10-13.5) | Sampled: 9/16/2016 10:56

Sample ID: 16I0708-18

Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116			PRO
Fiberglass	ND		%	1		EPA/600/R-93/116			PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116			PRO
Cellulose	ND		%	1		EPA/600/R-93/116			PRO
Hair	ND		%	1		EPA/600/R-93/116			PRO
Synthetic	ND		%	1		EPA/600/R-93/116			PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116			PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116			PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116			PRO
Organic Material	ND		%	1		EPA/600/R-93/116			PRO
Gypsum	ND		%	1		EPA/600/R-93/116			PRO

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-22 (10-15) | Sampled: 9/16/2016 00:00

Sample ID: 16I0708-19

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	63	24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
C19-C36 Aliphatics	330	24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Unadjusted C11-C22 Aromatics	560	24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
C11-C22 Aromatics	560	24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Acenaphthene	ND	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Acenaphthylene	ND	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Anthracene	0.28	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Benzo(a)anthracene	0.53	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Benzo(a)pyrene	0.64	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Benzo(b)fluoranthene	0.85	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Benzo(g,h,i)perylene	ND	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Benzo(k)fluoranthene	ND	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Chrysene	0.74	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Dibenz(a,h)anthracene	ND	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Fluoranthene	1.8	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Fluorene	ND	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Indeno(1,2,3-cd)pyrene	ND	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
2-Methylnaphthalene	ND	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Naphthalene	ND	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Phenanthrene	0.41	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS
Pyrene	1.7	0.24	mg/Kg dry	2		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:18	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	58.1	40-140		9/23/16 2:18
o-Terphenyl (OTP)	65.9	40-140		9/23/16 2:18
2-Bromonaphthalene	92.6	40-140		9/23/16 2:18
2-Fluorobiphenyl	117	40-140		9/23/16 2:18

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-22 (10-15)
Sampled: 9/16/2016 00:00

Sample ID: 16I0708-19

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.6		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-22 (15-20) | Sampled: 9/16/2016 00:00

Sample ID: 16I0708-20

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Chrysene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Fluorene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS
Pyrene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/22/16 23:10	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	54.1	40-140		9/22/16 23:10
o-Terphenyl (OTP)	62.2	40-140		9/22/16 23:10
2-Bromonaphthalene	95.5	40-140		9/22/16 23:10
2-Fluorobiphenyl	102	40-140		9/22/16 23:10

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-22 (15-20)
Sampled: 9/16/2016 00:00

Sample ID: 16I0708-20

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	91.6		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-23 (5-9) | Sampled: 9/16/2016 00:00

Sample ID: 16I0708-21

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
C19-C36 Aliphatics	18	11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Unadjusted C11-C22 Aromatics	64	11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
C11-C22 Aromatics	48	11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Acenaphthene	0.32	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Anthracene	0.32	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Benzo(a)anthracene	1.2	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Benzo(a)pyrene	1.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Benzo(b)fluoranthene	1.6	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Benzo(g,h,i)perylene	0.82	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Benzo(k)fluoranthene	0.57	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Chrysene	1.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Dibenz(a,h)anthracene	0.19	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Fluoranthene	2.8	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Fluorene	0.15	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Indeno(1,2,3-cd)pyrene	0.79	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Naphthalene	0.18	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Phenanthrene	1.9	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS
Pyrene	2.7	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:37	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	60.0	40-140		9/23/16 2:37
o-Terphenyl (OTP)	67.0	40-140		9/23/16 2:37
2-Bromonaphthalene	86.3	40-140		9/23/16 2:37
2-Fluorobiphenyl	100	40-140		9/23/16 2:37

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-23 (5-9)
Sampled: 9/16/2016 00:00

Sample ID: 16I0708-21

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.3		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (0-5) | Sampled: 9/16/2016 08:55

Sample ID: 16I0708-22

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.15	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:10	KAL
Aroclor-1221 [1]	ND	0.15	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:10	KAL
Aroclor-1232 [1]	ND	0.15	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:10	KAL
Aroclor-1242 [1]	ND	0.15	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:10	KAL
Aroclor-1248 [1]	ND	0.15	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:10	KAL
Aroclor-1254 [1]	ND	0.15	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:10	KAL
Aroclor-1260 [1]	ND	0.15	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:10	KAL
Aroclor-1262 [1]	ND	0.15	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:10	KAL
Aroclor-1268 [1]	ND	0.15	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:10	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.1	30-150		9/22/16 1:10
Decachlorobiphenyl [2]	83.4	30-150		9/22/16 1:10
Tetrachloro-m-xylene [1]	80.8	30-150		9/22/16 1:10
Tetrachloro-m-xylene [2]	73.0	30-150		9/22/16 1:10

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (0-5) | Sampled: 9/16/2016 08:55

Sample ID: 16I0708-22

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	2400	290	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
C19-C36 Aliphatics	3400	290	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Unadjusted C11-C22 Aromatics	7300	290	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
C11-C22 Aromatics	7200	290	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Acenaphthene	ND	2.9	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Acenaphthylene	ND	2.9	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Anthracene	ND	2.9	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Benzo(a)anthracene	ND	2.9	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Benzo(a)pyrene	ND	2.9	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Benzo(b)fluoranthene	ND	2.9	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Benzo(g,h,i)perylene	ND	2.9	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Benzo(k)fluoranthene	ND	2.9	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Chrysene	ND	2.9	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Dibenz(a,h)anthracene	ND	2.9	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Fluoranthene	12	2.9	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Fluorene	ND	2.9	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Indeno(1,2,3-cd)pyrene	ND	2.9	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
2-Methylnaphthalene	12	2.9	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Naphthalene	ND	2.9	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Phenanthrene	12	2.9	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS
Pyrene	7.1	2.9	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 2:56	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	*	40-140	S-01	9/23/16 2:56
o-Terphenyl (OTP)	*	40-140	S-01	9/23/16 2:56
2-Bromonaphthalene	99.9	40-140		9/23/16 2:56
2-Fluorobiphenyl	112	40-140		9/23/16 2:56

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (0-5)
Sampled: 9/16/2016 08:55

Sample ID: 16I0708-22

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	68.0		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (0-5) | Sampled: 9/16/2016 08:55

Sample ID: 16I0708-22

Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116			PRO
Fiberglass	ND		%	1		EPA/600/R-93/116			PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116			PRO
Cellulose	ND		%	1		EPA/600/R-93/116			PRO
Hair	ND		%	1		EPA/600/R-93/116			PRO
Synthetic	ND		%	1		EPA/600/R-93/116			PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116			PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116			PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116			PRO
Organic Material	ND		%	1		EPA/600/R-93/116			PRO
Gypsum	ND		%	1		EPA/600/R-93/116			PRO

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (5-10) | Sampled: 9/16/2016 09:00

Sample ID: 16I0708-23

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:27	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:27	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:27	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:27	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:27	KAL
Aroclor-1254 [1]	0.14	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:27	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:27	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:27	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:27	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	68.6	30-150		9/22/16 1:27
Decachlorobiphenyl [2]	69.1	30-150		9/22/16 1:27
Tetrachloro-m-xylene [1]	69.0	30-150		9/22/16 1:27
Tetrachloro-m-xylene [2]	62.7	30-150		9/22/16 1:27

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (5-10) | Sampled: 9/16/2016 09:00

Sample ID: 16I0708-23

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	1300	280	mg/Kg dry	25		MADEP-EPH-04-1.1	9/20/16	9/23/16 11:58	SCS
C19-C36 Aliphatics	2100	280	mg/Kg dry	25		MADEP-EPH-04-1.1	9/20/16	9/23/16 11:58	SCS
Unadjusted C11-C22 Aromatics	2600	280	mg/Kg dry	25		MADEP-EPH-04-1.1	9/20/16	9/23/16 11:58	SCS
C11-C22 Aromatics	2500	280	mg/Kg dry	25		MADEP-EPH-04-1.1	9/20/16	9/23/16 11:58	SCS
Acenaphthene	ND	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Acenaphthylene	ND	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Anthracene	1.4	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Benzo(a)anthracene	ND	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Benzo(a)pyrene	ND	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Benzo(b)fluoranthene	ND	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Benzo(g,h,i)perylene	ND	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Benzo(k)fluoranthene	ND	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Chrysene	ND	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Dibenz(a,h)anthracene	ND	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Fluoranthene	4.6	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Fluorene	3.1	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Indeno(1,2,3-cd)pyrene	ND	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
2-Methylnaphthalene	5.7	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Naphthalene	3.1	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Phenanthrene	4.0	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS
Pyrene	1.7	0.56	mg/Kg dry	5		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:15	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	**18.5** *	40-140	S-15	9/23/16 3:15
o-Terphenyl (OTP)	49.7	40-140		9/23/16 3:15
2-Bromonaphthalene	82.3	40-140		9/23/16 3:15
2-Fluorobiphenyl	110	40-140		9/23/16 3:15

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (5-10)
Sampled: 9/16/2016 09:00

Sample ID: 16I0708-23

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.8		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (5-10) | Sampled: 9/16/2016 09:00

Sample ID: 16I0708-23

Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116			PRO
Fiberglass	ND		%	1		EPA/600/R-93/116			PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116			PRO
Cellulose	ND		%	1		EPA/600/R-93/116			PRO
Hair	ND		%	1		EPA/600/R-93/116			PRO
Synthetic	ND		%	1		EPA/600/R-93/116			PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116			PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116			PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116			PRO
Organic Material	ND		%	1		EPA/600/R-93/116			PRO
Gypsum	ND		%	1		EPA/600/R-93/116			PRO

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (10-15) | Sampled: 9/16/2016 09:05

Sample ID: 16I0708-24

Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:45	KAL
Aroclor-1221 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:45	KAL
Aroclor-1232 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:45	KAL
Aroclor-1242 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:45	KAL
Aroclor-1248 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:45	KAL
Aroclor-1254 [1]	0.14	0.12	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:45	KAL
Aroclor-1260 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:45	KAL
Aroclor-1262 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:45	KAL
Aroclor-1268 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 1:45	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	80.8	30-150		9/22/16 1:45
Decachlorobiphenyl [2]	83.0	30-150		9/22/16 1:45
Tetrachloro-m-xylene [1]	75.1	30-150		9/22/16 1:45
Tetrachloro-m-xylene [2]	67.4	30-150		9/22/16 1:45

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (10-15) | Sampled: 9/16/2016 09:05

Sample ID: 16I0708-24

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	8300	1200	mg/Kg dry	50		MADEP-EPH-04-1.1	9/20/16	9/23/16 12:18	SCS
C19-C36 Aliphatics	11000	1200	mg/Kg dry	50		MADEP-EPH-04-1.1	9/20/16	9/23/16 12:18	SCS
Unadjusted C11-C22 Aromatics	15000	1200	mg/Kg dry	50		MADEP-EPH-04-1.1	9/20/16	9/23/16 12:18	SCS
C11-C22 Aromatics	15000	1200	mg/Kg dry	50		MADEP-EPH-04-1.1	9/20/16	9/23/16 12:18	SCS
Acenaphthene	ND	2.4	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Acenaphthylene	ND	2.4	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Anthracene	11	2.4	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Benzo(a)anthracene	ND	2.4	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Benzo(a)pyrene	ND	2.4	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Benzo(b)fluoranthene	ND	2.4	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Benzo(g,h,i)perylene	ND	2.4	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Benzo(k)fluoranthene	ND	2.4	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Chrysene	ND	2.4	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Dibenz(a,h)anthracene	ND	2.4	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Fluoranthene	22	2.4	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Fluorene	29	2.4	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Indeno(1,2,3-cd)pyrene	ND	2.4	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
2-Methylnaphthalene	65	2.4	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Naphthalene	27	2.4	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Phenanthrene	35	2.4	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS
Pyrene	12	2.4	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:34	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	*	40-140	S-01	9/23/16 3:34
o-Terphenyl (OTP)	*	40-140	S-01	9/23/16 3:34
2-Bromonaphthalene	85.4	40-140		9/23/16 3:34
2-Fluorobiphenyl	114	40-140		9/23/16 3:34

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (10-15)
Sampled: 9/16/2016 09:05

Sample ID: 16I0708-24

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.7		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (10-15)
Sampled: 9/16/2016 09:05

Sample ID: 16I0708-24

Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116			PRO
Fiberglass	ND		%	1		EPA/600/R-93/116			PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116			PRO
Cellulose	ND		%	1		EPA/600/R-93/116			PRO
Hair	ND		%	1		EPA/600/R-93/116			PRO
Synthetic	ND		%	1		EPA/600/R-93/116			PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116			PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116			PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116			PRO
Organic Material	ND		%	1		EPA/600/R-93/116			PRO
Gypsum	ND		%	1		EPA/600/R-93/116			PRO

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (15-16.5) | Sampled: 9/16/2016 09:20

Sample ID: 16I0708-25

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 2:03	KAL
Aroclor-1221 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 2:03	KAL
Aroclor-1232 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 2:03	KAL
Aroclor-1242 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 2:03	KAL
Aroclor-1248 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 2:03	KAL
Aroclor-1254 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 2:03	KAL
Aroclor-1260 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 2:03	KAL
Aroclor-1262 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 2:03	KAL
Aroclor-1268 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/20/16	9/22/16 2:03	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	91.7	30-150		9/22/16 2:03
Decachlorobiphenyl [2]	83.4	30-150		9/22/16 2:03
Tetrachloro-m-xylene [1]	90.5	30-150		9/22/16 2:03
Tetrachloro-m-xylene [2]	82.5	30-150		9/22/16 2:03

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (15-16.5) | Sampled: 9/16/2016 09:20

Sample ID: 16I0708-25

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	220	130	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
C19-C36 Aliphatics	420	130	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Unadjusted C11-C22 Aromatics	1600	130	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
C11-C22 Aromatics	1600	130	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Acenaphthene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Acenaphthylene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Anthracene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Benzo(a)anthracene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Benzo(a)pyrene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Benzo(b)fluoranthene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Benzo(g,h,i)perylene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Benzo(k)fluoranthene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Chrysene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Dibenz(a,h)anthracene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Fluoranthene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Fluorene	4.9	1.3	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Indeno(1,2,3-cd)pyrene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
2-Methylnaphthalene	1.9	1.3	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Naphthalene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Phenanthrene	4.6	1.3	mg/Kg dry	10		MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS
Pyrene	ND	1.3	mg/Kg dry	10	RL-08	MADEP-EPH-04-1.1	9/20/16	9/23/16 3:52	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	*	40-140	S-01	9/23/16 3:52
o-Terphenyl (OTP)	44.2	40-140		9/23/16 3:52
2-Bromonaphthalene	69.5	40-140		9/23/16 3:52
2-Fluorobiphenyl	96.5	40-140		9/23/16 3:52

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Project Location: Lowell
Sample Description:
Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (15-16.5)
Sampled: 9/16/2016 09:20

Sample ID: 16I0708-25

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	75.4		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (15-16.5) | Sampled: 9/16/2016 09:20

Sample ID: 16I0708-25

Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116			PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116			PRO
Fiberglass	ND		%	1		EPA/600/R-93/116			PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116			PRO
Cellulose	ND		%	1		EPA/600/R-93/116			PRO
Hair	ND		%	1		EPA/600/R-93/116			PRO
Synthetic	ND		%	1		EPA/600/R-93/116			PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116			PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116			PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116			PRO
Organic Material	ND		%	1		EPA/600/R-93/116			PRO
Gypsum	ND		%	1		EPA/600/R-93/116			PRO

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14 (10-15) | Sampled: 9/15/2016 09:30

Sample ID: 16I0708-26

Sample Matrix: Soil

Sample Flags: RL-05

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	23	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.23	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Benzene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Bromobenzene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Bromochloromethane	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Bromodichloromethane	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Bromoform	ND	0.91	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Bromomethane	ND	2.3	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
2-Butanone (MEK)	ND	9.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
n-Butylbenzene	0.93	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
sec-Butylbenzene	0.48	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
tert-Butylbenzene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.23	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Carbon Disulfide	ND	4.5	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Carbon Tetrachloride	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Chlorobenzene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Chlorodibromomethane	ND	0.91	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Chloroethane	ND	0.91	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Chloroform	ND	0.91	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Chloromethane	ND	0.91	mg/Kg wet	10	V-05	SW-846 8260C	9/19/16	9/22/16 3:53	EEH
2-Chlorotoluene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
4-Chlorotoluene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.3	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,2-Dibromoethane (EDB)	ND	0.23	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Dibromomethane	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,2-Dichlorobenzene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,3-Dichlorobenzene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,4-Dichlorobenzene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Dichlorodifluoromethane (Freon 12)	ND	0.91	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,1-Dichloroethane	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,2-Dichloroethane	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,1-Dichloroethylene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
cis-1,2-Dichloroethylene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
trans-1,2-Dichloroethylene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,2-Dichloropropane	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,3-Dichloropropane	ND	0.23	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
2,2-Dichloropropane	ND	0.45	mg/Kg wet	10	V-05	SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,1-Dichloropropene	ND	0.91	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
cis-1,3-Dichloropropene	ND	0.23	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
trans-1,3-Dichloropropene	ND	0.23	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Diethyl Ether	ND	0.91	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Diisopropyl Ether (DIPE)	ND	0.23	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,4-Dioxane	ND	23	mg/Kg wet	10	V-16	SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Ethylbenzene	0.46	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14 (10-15) | Sampled: 9/15/2016 09:30

Sample ID: 16I0708-26

Sample Matrix: Soil

Sample Flags: RL-05

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
2-Hexanone (MBK)	ND	4.5	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Isopropylbenzene (Cumene)	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
p-Isopropyltoluene (p-Cymene)	0.90	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Methylene Chloride	ND	2.3	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
4-Methyl-2-pentanone (MIBK)	ND	4.5	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Naphthalene	13	2.3	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
n-Propylbenzene	0.68	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Styrene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,1,1,2-Tetrachloroethane	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,1,2,2-Tetrachloroethane	ND	0.23	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Tetrachloroethylene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Tetrahydrofuran	ND	1.8	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Toluene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,2,3-Trichlorobenzene	ND	2.3	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,2,4-Trichlorobenzene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,1,1-Trichloroethane	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,1,2-Trichloroethane	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Trichloroethylene	ND	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Trichlorofluoromethane (Freon 11)	ND	0.91	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,2,3-Trichloropropane	ND	0.91	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,2,4-Trimethylbenzene	8.3	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
1,3,5-Trimethylbenzene	2.9	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
Vinyl Chloride	ND	0.91	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
m+p Xylene	1.7	0.91	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH
o-Xylene	1.4	0.45	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 3:53	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	94.5	70-130		9/22/16 3:53
Toluene-d8	101	70-130		9/22/16 3:53
4-Bromofluorobenzene	103	70-130		9/22/16 3:53

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (10-15) | Sampled: 9/16/2016 09:30

Sample ID: 16I0708-27

Sample Matrix: Soil

Sample Flags: RL-05

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	31	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.31	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Benzene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Bromobenzene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Bromochloromethane	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Bromodichloromethane	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Bromoform	ND	1.2	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Bromomethane	ND	3.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
2-Butanone (MEK)	ND	12	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
n-Butylbenzene	1.1	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
sec-Butylbenzene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
tert-Butylbenzene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.31	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Carbon Disulfide	ND	6.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Carbon Tetrachloride	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Chlorobenzene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Chlorodibromomethane	ND	1.2	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Chloroethane	ND	1.2	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Chloroform	ND	1.2	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Chloromethane	ND	1.2	mg/Kg wet	10	V-05	SW-846 8260C	9/19/16	9/22/16 4:20	EEH
2-Chlorotoluene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
4-Chlorotoluene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	3.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,2-Dibromoethane (EDB)	ND	0.31	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Dibromomethane	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,2-Dichlorobenzene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,3-Dichlorobenzene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,4-Dichlorobenzene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Dichlorodifluoromethane (Freon 12)	ND	1.2	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,1-Dichloroethane	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,2-Dichloroethane	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,1-Dichloroethylene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
cis-1,2-Dichloroethylene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
trans-1,2-Dichloroethylene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,2-Dichloropropane	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,3-Dichloropropane	ND	0.31	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
2,2-Dichloropropane	ND	0.61	mg/Kg wet	10	V-05	SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,1-Dichloropropene	ND	1.2	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
cis-1,3-Dichloropropene	ND	0.31	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
trans-1,3-Dichloropropene	ND	0.31	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Diethyl Ether	ND	1.2	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Diisopropyl Ether (DIPE)	ND	0.31	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,4-Dioxane	ND	31	mg/Kg wet	10	V-16	SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Ethylbenzene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-14A (10-15) | Sampled: 9/16/2016 09:30

Sample ID: 16I0708-27

Sample Matrix: Soil

Sample Flags: RL-05

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
2-Hexanone (MBK)	ND	6.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Isopropylbenzene (Cumene)	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
p-Isopropyltoluene (p-Cymene)	1.2	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Methylene Chloride	ND	3.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
4-Methyl-2-pentanone (MIBK)	ND	6.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Naphthalene	19	3.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
n-Propylbenzene	0.86	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Styrene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,1,1,2-Tetrachloroethane	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,1,2,2-Tetrachloroethane	ND	0.31	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Tetrachloroethylene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Tetrahydrofuran	ND	2.5	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Toluene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,2,3-Trichlorobenzene	ND	3.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,2,4-Trichlorobenzene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,1,1-Trichloroethane	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,1,2-Trichloroethane	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Trichloroethylene	ND	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Trichlorofluoromethane (Freon 11)	ND	1.2	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,2,3-Trichloropropane	ND	1.2	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,2,4-Trimethylbenzene	11	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
1,3,5-Trimethylbenzene	3.8	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
Vinyl Chloride	ND	1.2	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
m+p Xylene	2.4	1.2	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH
o-Xylene	1.9	0.61	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 4:20	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	91.9	70-130		9/22/16 4:20
Toluene-d8	99.8	70-130		9/22/16 4:20
4-Bromofluorobenzene	101	70-130		9/22/16 4:20

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Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-26 (10-13) | Sampled: 9/16/2016 09:30

Sample ID: 16I0708-28

Sample Matrix: Soil

Sample Flags: RL-05

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	28	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.28	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Benzene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Bromobenzene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Bromochloromethane	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Bromodichloromethane	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Bromoform	ND	1.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Bromomethane	ND	2.8	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
2-Butanone (MEK)	ND	11	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
n-Butylbenzene	2.4	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
sec-Butylbenzene	1.1	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
tert-Butylbenzene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.28	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Carbon Disulfide	ND	5.5	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Carbon Tetrachloride	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Chlorobenzene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Chlorodibromomethane	ND	1.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Chloroethane	ND	1.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Chloroform	ND	1.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Chloromethane	ND	1.1	mg/Kg wet	10	V-05	SW-846 8260C	9/19/16	9/22/16 5:13	EEH
2-Chlorotoluene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
4-Chlorotoluene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.8	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,2-Dibromoethane (EDB)	ND	0.28	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Dibromomethane	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,2-Dichlorobenzene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,3-Dichlorobenzene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,4-Dichlorobenzene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Dichlorodifluoromethane (Freon 12)	ND	1.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,1-Dichloroethane	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,2-Dichloroethane	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,1-Dichloroethylene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
cis-1,2-Dichloroethylene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
trans-1,2-Dichloroethylene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,2-Dichloropropane	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,3-Dichloropropane	ND	0.28	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
2,2-Dichloropropane	ND	0.55	mg/Kg wet	10	V-05	SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,1-Dichloropropene	ND	1.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
cis-1,3-Dichloropropene	ND	0.28	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
trans-1,3-Dichloropropene	ND	0.28	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Diethyl Ether	ND	1.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Diisopropyl Ether (DIPE)	ND	0.28	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,4-Dioxane	ND	28	mg/Kg wet	10	V-16	SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Ethylbenzene	0.62	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-26 (10-13) | Sampled: 9/16/2016 09:30

Sample ID: 16I0708-28

Sample Matrix: Soil

Sample Flags: RL-05

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
2-Hexanone (MBK)	ND	5.5	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Isopropylbenzene (Cumene)	0.79	0.55	mg/Kg wet	10	L-06	SW-846 8260C	9/19/16	9/22/16 5:13	EEH
p-Isopropyltoluene (p-Cymene)	2.5	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Methylene Chloride	ND	2.8	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
4-Methyl-2-pentanone (MIBK)	ND	5.5	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Naphthalene	20	2.8	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
n-Propylbenzene	1.2	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Styrene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,1,1,2-Tetrachloroethane	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,1,2,2-Tetrachloroethane	ND	0.28	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Tetrachloroethylene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Tetrahydrofuran	ND	2.2	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Toluene	0.78	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,2,3-Trichlorobenzene	ND	2.8	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,2,4-Trichlorobenzene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,1,1-Trichloroethane	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,1,2-Trichloroethane	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Trichloroethylene	ND	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Trichlorofluoromethane (Freon 11)	ND	1.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,2,3-Trichloropropane	ND	1.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,2,4-Trimethylbenzene	12	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
1,3,5-Trimethylbenzene	5.4	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
Vinyl Chloride	ND	1.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
m+p Xylene	2.4	1.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH
o-Xylene	4.4	0.55	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:13	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	98.2	70-130		9/22/16 5:13
Toluene-d8	103	70-130		9/22/16 5:13
4-Bromofluorobenzene	105	70-130		9/22/16 5:13

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-27 (5-10) | Sampled: 9/16/2016 09:30

Sample ID: 16I0708-29

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	4.6	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.046	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Benzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Bromobenzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Bromochloromethane	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Bromodichloromethane	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Bromoform	ND	0.19	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Bromomethane	ND	0.46	mg/Kg wet	1	RL-07	SW-846 8260C	9/19/16	9/22/16 8:46	EEH
2-Butanone (MEK)	ND	1.9	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
n-Butylbenzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
sec-Butylbenzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
tert-Butylbenzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.046	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Carbon Disulfide	ND	0.93	mg/Kg wet	1	RL-07	SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Carbon Tetrachloride	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Chlorobenzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Chlorodibromomethane	ND	0.19	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Chloroethane	ND	0.19	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Chloroform	ND	0.19	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Chloromethane	ND	0.19	mg/Kg wet	1	V-05	SW-846 8260C	9/19/16	9/22/16 8:46	EEH
2-Chlorotoluene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
4-Chlorotoluene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.46	mg/Kg wet	1	RL-07	SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,2-Dibromoethane (EDB)	ND	0.046	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Dibromomethane	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,2-Dichlorobenzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,3-Dichlorobenzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,4-Dichlorobenzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Dichlorodifluoromethane (Freon 12)	ND	0.19	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,1-Dichloroethane	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,2-Dichloroethane	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,1-Dichloroethylene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
cis-1,2-Dichloroethylene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
trans-1,2-Dichloroethylene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,2-Dichloropropane	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,3-Dichloropropane	ND	0.046	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
2,2-Dichloropropane	ND	0.093	mg/Kg wet	1	V-05	SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,1-Dichloropropene	ND	0.19	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
cis-1,3-Dichloropropene	ND	0.046	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
trans-1,3-Dichloropropene	ND	0.046	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Diethyl Ether	ND	0.19	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Diisopropyl Ether (DIPE)	ND	0.046	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,4-Dioxane	ND	4.6	mg/Kg wet	1	V-16	SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Ethylbenzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-27 (5-10) | Sampled: 9/16/2016 09:30

Sample ID: 16I0708-29

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
2-Hexanone (MBK)	ND	0.93	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Isopropylbenzene (Cumene)	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
p-Isopropyltoluene (p-Cymene)	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Methylene Chloride	ND	0.46	mg/Kg wet	1	RL-07	SW-846 8260C	9/19/16	9/22/16 8:46	EEH
4-Methyl-2-pentanone (MIBK)	ND	0.93	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Naphthalene	ND	0.46	mg/Kg wet	1	RL-07	SW-846 8260C	9/19/16	9/22/16 8:46	EEH
n-Propylbenzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Styrene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,1,1,2-Tetrachloroethane	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,1,2,2-Tetrachloroethane	ND	0.046	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Tetrachloroethylene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Tetrahydrofuran	ND	0.37	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Toluene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,2,3-Trichlorobenzene	ND	0.46	mg/Kg wet	1	RL-07	SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,2,4-Trichlorobenzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,1,1-Trichloroethane	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,1,2-Trichloroethane	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Trichloroethylene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Trichlorofluoromethane (Freon 11)	ND	0.19	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,2,3-Trichloropropane	ND	0.19	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,2,4-Trimethylbenzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
1,3,5-Trimethylbenzene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
Vinyl Chloride	ND	0.19	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
m+p Xylene	ND	0.19	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH
o-Xylene	ND	0.093	mg/Kg wet	1		SW-846 8260C	9/19/16	9/22/16 8:46	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	93.4	70-130		9/22/16 8:46
Toluene-d8	101	70-130		9/22/16 8:46
4-Bromofluorobenzene	101	70-130		9/22/16 8:46

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-28 (10-15) | Sampled: 9/16/2016 09:30

Sample ID: 16I0708-30

Sample Matrix: Soil

Sample Flags: RL-05

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	26	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.26	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Benzene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Bromobenzene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Bromochloromethane	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Bromodichloromethane	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Bromoform	ND	1.0	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Bromomethane	ND	2.6	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
2-Butanone (MEK)	ND	10	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
n-Butylbenzene	1.3	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
sec-Butylbenzene	0.68	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
tert-Butylbenzene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.26	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Carbon Disulfide	ND	5.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Carbon Tetrachloride	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Chlorobenzene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Chlorodibromomethane	ND	1.0	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Chloroethane	ND	1.0	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Chloroform	ND	1.0	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Chloromethane	ND	1.0	mg/Kg wet	10	V-05	SW-846 8260C	9/19/16	9/22/16 5:40	EEH
2-Chlorotoluene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
4-Chlorotoluene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.6	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,2-Dibromoethane (EDB)	ND	0.26	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Dibromomethane	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,2-Dichlorobenzene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,3-Dichlorobenzene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,4-Dichlorobenzene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Dichlorodifluoromethane (Freon 12)	ND	1.0	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,1-Dichloroethane	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,2-Dichloroethane	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,1-Dichloroethylene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
cis-1,2-Dichloroethylene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
trans-1,2-Dichloroethylene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,2-Dichloropropane	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,3-Dichloropropane	ND	0.26	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
2,2-Dichloropropane	ND	0.51	mg/Kg wet	10	V-05	SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,1-Dichloropropene	ND	1.0	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
cis-1,3-Dichloropropene	ND	0.26	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
trans-1,3-Dichloropropene	ND	0.26	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Diethyl Ether	ND	1.0	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Diisopropyl Ether (DIPE)	ND	0.26	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,4-Dioxane	ND	26	mg/Kg wet	10	V-16	SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Ethylbenzene	0.97	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16I0708

Date Received: 9/16/2016

Field Sample #: B-28 (10-15) | Sampled: 9/16/2016 09:30

Sample ID: 16I0708-30

Sample Matrix: Soil

Sample Flags: RL-05

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
2-Hexanone (MBK)	ND	5.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Isopropylbenzene (Cumene)	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
p-Isopropyltoluene (p-Cymene)	3.2	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Methylene Chloride	ND	2.6	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
4-Methyl-2-pentanone (MIBK)	ND	5.1	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Naphthalene	6.7	2.6	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
n-Propylbenzene	0.68	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Styrene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,1,1,2-Tetrachloroethane	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,1,2,2-Tetrachloroethane	ND	0.26	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Tetrachloroethylene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Tetrahydrofuran	ND	2.0	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Toluene	0.69	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,2,3-Trichlorobenzene	ND	2.6	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,2,4-Trichlorobenzene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,1,1-Trichloroethane	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,1,2-Trichloroethane	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Trichloroethylene	ND	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Trichlorofluoromethane (Freon 11)	ND	1.0	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,2,3-Trichloropropane	ND	1.0	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,2,4-Trimethylbenzene	9.0	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
1,3,5-Trimethylbenzene	6.2	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
Vinyl Chloride	ND	1.0	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
m+p Xylene	2.7	1.0	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH
o-Xylene	1.8	0.51	mg/Kg wet	10		SW-846 8260C	9/19/16	9/22/16 5:40	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	97.8	70-130		9/22/16 5:40
Toluene-d8	101	70-130		9/22/16 5:40
4-Bromofluorobenzene	106	70-130		9/22/16 5:40

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16I0708-02 [B-15 (5-10)]	B158642	20.1	2.00	09/20/16
16I0708-05 [B-16 (10-15)]	B158642	20.5	2.00	09/20/16
16I0708-07 [B-17 (5-7.5)]	B158642	20.5	2.00	09/20/16
16I0708-10 [B-18 (10-15)]	B158642	20.1	2.00	09/20/16
16I0708-13 [B-19 (15-17)]	B158642	20.3	2.00	09/20/16
16I0708-15 [B-20 (5-8)]	B158642	20.4	2.00	09/20/16
16I0708-16 [B-21 (0-5)]	B158642	20.3	2.00	09/20/16
16I0708-17 [B-21 (5-10)]	B158642	20.6	2.00	09/20/16
16I0708-18 [B-21 (10-13.5)]	B158642	20.2	2.00	09/20/16
16I0708-19 [B-22 (10-15)]	B158642	20.0	2.00	09/20/16
16I0708-20 [B-22 (15-20)]	B158642	20.1	2.00	09/20/16
16I0708-21 [B-23 (5-9)]	B158642	20.4	2.00	09/20/16
16I0708-22 [B-14A (0-5)]	B158642	20.3	4.00	09/20/16
16I0708-23 [B-14A (5-10)]	B158642	20.1	2.00	09/20/16
16I0708-24 [B-14A (10-15)]	B158642	20.4	4.00	09/20/16
16I0708-25 [B-14A (15-16.5)]	B158642	20.2	2.00	09/20/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16I0708-01 [B-15 (0-5)]	B158556	09/19/16
16I0708-02 [B-15 (5-10)]	B158556	09/19/16
16I0708-03 [B-16 (0-5)]	B158556	09/19/16
16I0708-05 [B-16 (10-15)]	B158556	09/19/16
16I0708-07 [B-17 (5-7.5)]	B158556	09/19/16
16I0708-08 [B-18 (0-5)]	B158556	09/19/16
16I0708-10 [B-18 (10-15)]	B158556	09/19/16
16I0708-11 [B-19 (0-5)]	B158556	09/19/16
16I0708-13 [B-19 (15-17)]	B158556	09/19/16
16I0708-14 [B-20 (0-5)]	B158556	09/19/16
16I0708-15 [B-20 (5-8)]	B158556	09/19/16
16I0708-16 [B-21 (0-5)]	B158556	09/19/16
16I0708-17 [B-21 (5-10)]	B158556	09/19/16
16I0708-18 [B-21 (10-13.5)]	B158556	09/19/16
16I0708-19 [B-22 (10-15)]	B158556	09/19/16
16I0708-20 [B-22 (15-20)]	B158556	09/19/16
16I0708-21 [B-23 (5-9)]	B158556	09/19/16
16I0708-22 [B-14A (0-5)]	B158556	09/19/16
16I0708-23 [B-14A (5-10)]	B158556	09/19/16
16I0708-24 [B-14A (10-15)]	B158556	09/19/16
16I0708-25 [B-14A (15-16.5)]	B158556	09/19/16

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16I0708-01 [B-15 (0-5)]	B158646	10.0	10.0	09/20/16
16I0708-03 [B-16 (0-5)]	B158646	10.0	10.0	09/20/16
16I0708-08 [B-18 (0-5)]	B158646	10.0	10.0	09/20/16
16I0708-11 [B-19 (0-5)]	B158646	10.0	10.0	09/20/16
16I0708-14 [B-20 (0-5)]	B158646	10.0	10.0	09/20/16
16I0708-16 [B-21 (0-5)]	B158646	10.0	10.0	09/20/16
16I0708-17 [B-21 (5-10)]	B158646	10.1	10.0	09/20/16
16I0708-18 [B-21 (10-13.5)]	B158646	10.0	10.0	09/20/16

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16I0708-22 [B-14A (0-5)]	B158646	10.1	10.0	09/20/16
16I0708-23 [B-14A (5-10)]	B158646	10.1	10.0	09/20/16
16I0708-24 [B-14A (10-15)]	B158646	10.2	10.0	09/20/16
16I0708-25 [B-14A (15-16.5)]	B158646	10.0	10.0	09/20/16

Prep Method: SW-846 5035-SW-846 8260C

Lab Number [Field ID]	Batch	Sample Amount(g)	Methanol Volume(mL)	Methanol Aliquot(mL)	Final Volume(mL)	Date
16I0708-26 [B-14 (10-15)]	B158583	5.52	5.00	0.1	50	09/19/16
16I0708-27 [B-14A (10-15)]	B158583	4.08	5.00	0.1	50	09/19/16
16I0708-28 [B-26 (10-13)]	B158583	4.51	5.00	0.1	50	09/19/16
16I0708-29 [B-27 (5-10)]	B158583	2.69	5.00	1	50	09/19/16
16I0708-30 [B-28 (10-15)]	B158583	4.89	5.00	0.1	50	09/19/16

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158583 - SW-846 5035										
Blank (B158583-BLK1)				Prepared: 09/19/16 Analyzed: 09/22/16						
Acetone	ND	2.5	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.025	mg/Kg wet							
Benzene	ND	0.050	mg/Kg wet							
Bromobenzene	ND	0.050	mg/Kg wet							
Bromochloromethane	ND	0.050	mg/Kg wet							
Bromodichloromethane	ND	0.050	mg/Kg wet							
Bromoform	ND	0.10	mg/Kg wet							
Bromomethane	ND	0.25	mg/Kg wet							
2-Butanone (MEK)	ND	1.0	mg/Kg wet							
n-Butylbenzene	ND	0.050	mg/Kg wet							
sec-Butylbenzene	ND	0.050	mg/Kg wet							
tert-Butylbenzene	ND	0.050	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.025	mg/Kg wet							
Carbon Disulfide	ND	0.50	mg/Kg wet							
Carbon Tetrachloride	ND	0.050	mg/Kg wet							
Chlorobenzene	ND	0.050	mg/Kg wet							
Chlorodibromomethane	ND	0.10	mg/Kg wet							
Chloroethane	ND	0.10	mg/Kg wet							
Chloroform	ND	0.10	mg/Kg wet							
Chloromethane	ND	0.10	mg/Kg wet							V-05
2-Chlorotoluene	ND	0.050	mg/Kg wet							
4-Chlorotoluene	ND	0.050	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.25	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.025	mg/Kg wet							
Dibromomethane	ND	0.050	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.050	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.050	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.050	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.10	mg/Kg wet							
1,1-Dichloroethane	ND	0.050	mg/Kg wet							
1,2-Dichloroethane	ND	0.050	mg/Kg wet							
1,1-Dichloroethylene	ND	0.050	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.050	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.050	mg/Kg wet							
1,2-Dichloropropane	ND	0.050	mg/Kg wet							
1,3-Dichloropropane	ND	0.025	mg/Kg wet							
2,2-Dichloropropane	ND	0.050	mg/Kg wet							V-05
1,1-Dichloropropene	ND	0.10	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.025	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.025	mg/Kg wet							
Diethyl Ether	ND	0.10	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.025	mg/Kg wet							
1,4-Dioxane	ND	2.5	mg/Kg wet							V-16
Ethylbenzene	ND	0.050	mg/Kg wet							
Hexachlorobutadiene	ND	0.050	mg/Kg wet							
2-Hexanone (MBK)	ND	0.50	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.050	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.050	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg wet							
Methylene Chloride	ND	0.25	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.50	mg/Kg wet							
Naphthalene	ND	0.25	mg/Kg wet							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B158583 - SW-846 5035											
Blank (B158583-BLK1)				Prepared: 09/19/16 Analyzed: 09/22/16							
n-Propylbenzene	ND	0.050	mg/Kg wet								
Styrene	ND	0.050	mg/Kg wet								
1,1,1,2-Tetrachloroethane	ND	0.050	mg/Kg wet								
1,1,2,2-Tetrachloroethane	ND	0.025	mg/Kg wet								
Tetrachloroethylene	ND	0.050	mg/Kg wet								
Tetrahydrofuran	ND	0.20	mg/Kg wet								
Toluene	ND	0.050	mg/Kg wet								
1,2,3-Trichlorobenzene	ND	0.25	mg/Kg wet								
1,2,4-Trichlorobenzene	ND	0.050	mg/Kg wet								
1,1,1-Trichloroethane	ND	0.050	mg/Kg wet								
1,1,2-Trichloroethane	ND	0.050	mg/Kg wet								
Trichloroethylene	ND	0.050	mg/Kg wet								
Trichlorofluoromethane (Freon 11)	ND	0.10	mg/Kg wet								
1,2,3-Trichloropropane	ND	0.10	mg/Kg wet								
1,2,4-Trimethylbenzene	ND	0.050	mg/Kg wet								
1,3,5-Trimethylbenzene	ND	0.050	mg/Kg wet								
Vinyl Chloride	ND	0.10	mg/Kg wet								
m+p Xylene	ND	0.10	mg/Kg wet								
o-Xylene	ND	0.050	mg/Kg wet								
Surrogate: 1,2-Dichloroethane-d4	*0.0227*		mg/Kg wet	0.0250		90.6	70-130				
Surrogate: Toluene-d8	*0.0248*		mg/Kg wet	0.0250		99.2	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0248*		mg/Kg wet	0.0250		99.1	70-130				
LCS (B158583-BS1)				Prepared: 09/19/16 Analyzed: 09/21/16							
Acetone	0.0849	0.057	mg/Kg wet	0.113		74.9	40-160				†
tert-Amyl Methyl Ether (TAME)	0.0102	0.00057	mg/Kg wet	0.0113		90.3	70-130				
Benzene	0.0126	0.0011	mg/Kg wet	0.0113		111	70-130				
Bromobenzene	0.0129	0.0011	mg/Kg wet	0.0113		114	70-130				
Bromochloromethane	0.0125	0.0011	mg/Kg wet	0.0113		110	70-130				
Bromodichloromethane	0.0122	0.0011	mg/Kg wet	0.0113		108	70-130				
Bromoform	0.0110	0.0023	mg/Kg wet	0.0113		97.3	70-130				
Bromomethane	0.00647	0.0057	mg/Kg wet	0.0113		57.1	40-160			L-14, V-20	†
2-Butanone (MEK)	0.105	0.023	mg/Kg wet	0.113		92.8	40-160				†
n-Butylbenzene	0.0133	0.0011	mg/Kg wet	0.0113		117	70-130				
sec-Butylbenzene	0.0134	0.0011	mg/Kg wet	0.0113		118	70-130				
tert-Butylbenzene	0.0131	0.0011	mg/Kg wet	0.0113		116	70-130				
tert-Butyl Ethyl Ether (TBEE)	0.0107	0.00057	mg/Kg wet	0.0113		94.1	70-130				
Carbon Disulfide	0.0106	0.011	mg/Kg wet	0.0113		93.1	70-130				
Carbon Tetrachloride	0.0116	0.0011	mg/Kg wet	0.0113		102	70-130				
Chlorobenzene	0.0134	0.0011	mg/Kg wet	0.0113		118	70-130				
Chlorodibromomethane	0.0110	0.0023	mg/Kg wet	0.0113		97.0	70-130				
Chloroethane	0.00985	0.0023	mg/Kg wet	0.0113		86.9	70-130				
Chloroform	0.0123	0.0023	mg/Kg wet	0.0113		109	70-130				
Chloromethane	0.00522	0.0023	mg/Kg wet	0.0113		46.1	40-160			L-14, V-05	†
2-Chlorotoluene	0.0131	0.0011	mg/Kg wet	0.0113		116	70-130				
4-Chlorotoluene	0.0134	0.0011	mg/Kg wet	0.0113		118	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0116	0.0057	mg/Kg wet	0.0113		102	70-130				
1,2-Dibromoethane (EDB)	0.0123	0.00057	mg/Kg wet	0.0113		109	70-130				
Dibromomethane	0.0124	0.0011	mg/Kg wet	0.0113		110	70-130				
1,2-Dichlorobenzene	0.0128	0.0011	mg/Kg wet	0.0113		113	70-130				
1,3-Dichlorobenzene	0.0131	0.0011	mg/Kg wet	0.0113		115	70-130				
1,4-Dichlorobenzene	0.0123	0.0011	mg/Kg wet	0.0113		109	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B158583 - SW-846 5035												
LCS (B158583-BS1)				Prepared: 09/19/16 Analyzed: 09/21/16								
Dichlorodifluoromethane (Freon 12)	0.00537	0.0023	mg/Kg wet	0.0113		47.4		40-160			L-14	†
1,1-Dichloroethane	0.0126	0.0011	mg/Kg wet	0.0113		111		70-130				
1,2-Dichloroethane	0.0113	0.0011	mg/Kg wet	0.0113		99.3		70-130				
1,1-Dichloroethylene	0.0113	0.0011	mg/Kg wet	0.0113		99.6		70-130				
cis-1,2-Dichloroethylene	0.0122	0.0011	mg/Kg wet	0.0113		108		70-130				
trans-1,2-Dichloroethylene	0.0120	0.0011	mg/Kg wet	0.0113		106		70-130				
1,2-Dichloropropane	0.0121	0.0011	mg/Kg wet	0.0113		106		70-130				
1,3-Dichloropropane	0.0119	0.00057	mg/Kg wet	0.0113		105		70-130				
2,2-Dichloropropane	0.0107	0.0011	mg/Kg wet	0.0113		94.5		70-130			V-05	
1,1-Dichloropropene	0.0127	0.0023	mg/Kg wet	0.0113		112		70-130				
cis-1,3-Dichloropropene	0.0110	0.00057	mg/Kg wet	0.0113		96.8		70-130				
trans-1,3-Dichloropropene	0.0124	0.00057	mg/Kg wet	0.0113		109		70-130				
Diethyl Ether	0.0103	0.0023	mg/Kg wet	0.0113		91.3		70-130				
Diisopropyl Ether (DIPE)	0.0105	0.00057	mg/Kg wet	0.0113		92.6		70-130				
1,4-Dioxane	0.0795	0.057	mg/Kg wet	0.113		70.2		40-160			V-16	†
Ethylbenzene	0.0133	0.0011	mg/Kg wet	0.0113		117		70-130				
Hexachlorobutadiene	0.0137	0.0011	mg/Kg wet	0.0113		121		70-130				
2-Hexanone (MBK)	0.0991	0.011	mg/Kg wet	0.113		87.5		40-160				†
Isopropylbenzene (Cumene)	0.0157	0.0011	mg/Kg wet	0.0113		**139**	*	70-130			L-06	
p-Isopropyltoluene (p-Cymene)	0.0129	0.0011	mg/Kg wet	0.0113		114		70-130				
Methyl tert-Butyl Ether (MTBE)	0.0104	0.0011	mg/Kg wet	0.0113		91.6		70-130				
Methylene Chloride	0.0117	0.0057	mg/Kg wet	0.0113		103		70-130				
4-Methyl-2-pentanone (MIBK)	0.107	0.011	mg/Kg wet	0.113		94.0		40-160				†
Naphthalene	0.0131	0.0057	mg/Kg wet	0.0113		116		70-130				
n-Propylbenzene	0.0138	0.0011	mg/Kg wet	0.0113		122		70-130				
Styrene	0.0134	0.0011	mg/Kg wet	0.0113		118		70-130				
1,1,1,2-Tetrachloroethane	0.0120	0.0011	mg/Kg wet	0.0113		106		70-130				
1,1,2,2-Tetrachloroethane	0.0132	0.00057	mg/Kg wet	0.0113		116		70-130				
Tetrachloroethylene	0.0130	0.0011	mg/Kg wet	0.0113		115		70-130				
Tetrahydrofuran	0.0104	0.0045	mg/Kg wet	0.0113		91.4		70-130				
Toluene	0.0128	0.0011	mg/Kg wet	0.0113		113		70-130				
1,2,3-Trichlorobenzene	0.0124	0.0057	mg/Kg wet	0.0113		110		70-130				
1,2,4-Trichlorobenzene	0.0124	0.0011	mg/Kg wet	0.0113		110		70-130				
1,1,1-Trichloroethane	0.0117	0.0011	mg/Kg wet	0.0113		104		70-130				
1,1,2-Trichloroethane	0.0128	0.0011	mg/Kg wet	0.0113		113		70-130				
Trichloroethylene	0.0129	0.0011	mg/Kg wet	0.0113		114		70-130				
Trichlorofluoromethane (Freon 11)	0.0110	0.0023	mg/Kg wet	0.0113		97.2		70-130				
1,2,3-Trichloropropane	0.0127	0.0023	mg/Kg wet	0.0113		112		70-130				
1,2,4-Trimethylbenzene	0.0127	0.0011	mg/Kg wet	0.0113		112		70-130				
1,3,5-Trimethylbenzene	0.0135	0.0011	mg/Kg wet	0.0113		119		70-130				
Vinyl Chloride	0.00862	0.0023	mg/Kg wet	0.0113		76.1		70-130				
m+p Xylene	0.0266	0.0023	mg/Kg wet	0.0227		117		70-130				
o-Xylene	0.0132	0.0011	mg/Kg wet	0.0113		117		70-130				
Surrogate: 1,2-Dichloroethane-d4	*0.0260*		mg/Kg wet	0.0283		91.6		70-130				
Surrogate: Toluene-d8	*0.0284*		mg/Kg wet	0.0283		100		70-130				
Surrogate: 4-Bromofluorobenzene	*0.0286*		mg/Kg wet	0.0283		101		70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B158583 - SW-846 5035												
LCS Dup (B158583-BSD1)				Prepared: 09/19/16 Analyzed: 09/22/16								
Acetone	0.0839	0.057	mg/Kg wet	0.113		74.1		40-160	1.14	20		†
tert-Amyl Methyl Ether (TAME)	0.0102	0.00057	mg/Kg wet	0.0113		90.3		70-130	0.00	20		
Benzene	0.0119	0.0011	mg/Kg wet	0.0113		105		70-130	5.27	20		
Bromobenzene	0.0124	0.0011	mg/Kg wet	0.0113		110		70-130	3.85	20		
Bromochloromethane	0.0121	0.0011	mg/Kg wet	0.0113		107		70-130	3.22	20		
Bromodichloromethane	0.0115	0.0011	mg/Kg wet	0.0113		101		70-130	6.23	20		
Bromoform	0.0110	0.0023	mg/Kg wet	0.0113		97.3		70-130	0.00	20		
Bromomethane	0.00689	0.0057	mg/Kg wet	0.0113		60.8		40-160	6.28	20	V-20, L-14	†
2-Butanone (MEK)	0.101	0.023	mg/Kg wet	0.113		89.1		40-160	4.06	20		†
n-Butylbenzene	0.0130	0.0011	mg/Kg wet	0.0113		115		70-130	2.24	20		
sec-Butylbenzene	0.0127	0.0011	mg/Kg wet	0.0113		112		70-130	5.57	20		
tert-Butylbenzene	0.0127	0.0011	mg/Kg wet	0.0113		112		70-130	3.60	20		
tert-Butyl Ethyl Ether (TBEE)	0.0107	0.00057	mg/Kg wet	0.0113		94.8		70-130	0.741	20		
Carbon Disulfide	0.00979	0.011	mg/Kg wet	0.0113		86.4		70-130	7.47	20		
Carbon Tetrachloride	0.0108	0.0011	mg/Kg wet	0.0113		95.0		70-130	7.11	20		
Chlorobenzene	0.0124	0.0011	mg/Kg wet	0.0113		109		70-130	7.48	20		
Chlorodibromomethane	0.0109	0.0023	mg/Kg wet	0.0113		96.2		70-130	0.828	20		
Chloroethane	0.00983	0.0023	mg/Kg wet	0.0113		86.7		70-130	0.230	20		
Chloroform	0.0116	0.0023	mg/Kg wet	0.0113		102		70-130	6.17	20		
Chloromethane	0.00526	0.0023	mg/Kg wet	0.0113		46.4		40-160	0.649	20	L-14, V-05	†
2-Chlorotoluene	0.0126	0.0011	mg/Kg wet	0.0113		111		70-130	4.05	20		
4-Chlorotoluene	0.0127	0.0011	mg/Kg wet	0.0113		112		70-130	5.82	20		
1,2-Dibromo-3-chloropropane (DBCP)	0.0115	0.0057	mg/Kg wet	0.0113		101		70-130	0.886	20		
1,2-Dibromoethane (EDB)	0.0123	0.00057	mg/Kg wet	0.0113		108		70-130	0.368	20		
Dibromomethane	0.0121	0.0011	mg/Kg wet	0.0113		107		70-130	2.40	20		
1,2-Dichlorobenzene	0.0125	0.0011	mg/Kg wet	0.0113		110		70-130	2.60	20		
1,3-Dichlorobenzene	0.0127	0.0011	mg/Kg wet	0.0113		112		70-130	3.26	20		
1,4-Dichlorobenzene	0.0118	0.0011	mg/Kg wet	0.0113		104		70-130	4.22	20		
Dichlorodifluoromethane (Freon 12)	0.00492	0.0023	mg/Kg wet	0.0113		43.4		40-160	8.81	20	L-14	†
1,1-Dichloroethane	0.0119	0.0011	mg/Kg wet	0.0113		105		70-130	5.37	20		
1,2-Dichloroethane	0.0108	0.0011	mg/Kg wet	0.0113		95.7		70-130	3.69	20		
1,1-Dichloroethylene	0.0107	0.0011	mg/Kg wet	0.0113		94.1		70-130	5.68	20		
cis-1,2-Dichloroethylene	0.0118	0.0011	mg/Kg wet	0.0113		104		70-130	3.59	20		
trans-1,2-Dichloroethylene	0.0116	0.0011	mg/Kg wet	0.0113		102		70-130	3.55	20		
1,2-Dichloropropane	0.0114	0.0011	mg/Kg wet	0.0113		101		70-130	5.50	20		
1,3-Dichloropropane	0.0117	0.00057	mg/Kg wet	0.0113		103		70-130	1.82	20		
2,2-Dichloropropane	0.0106	0.0011	mg/Kg wet	0.0113		93.1		70-130	1.49	20	V-05	
1,1-Dichloropropene	0.0118	0.0023	mg/Kg wet	0.0113		104		70-130	7.33	20		
cis-1,3-Dichloropropene	0.0105	0.00057	mg/Kg wet	0.0113		92.8		70-130	4.22	20		
trans-1,3-Dichloropropene	0.0124	0.00057	mg/Kg wet	0.0113		109		70-130	0.183	20		
Diethyl Ether	0.0102	0.0023	mg/Kg wet	0.0113		89.8		70-130	1.66	20		
Diisopropyl Ether (DIPE)	0.0102	0.00057	mg/Kg wet	0.0113		89.7		70-130	3.18	20		
1,4-Dioxane	0.0845	0.057	mg/Kg wet	0.113		74.6		40-160	6.08	20	V-16	†
Ethylbenzene	0.0125	0.0011	mg/Kg wet	0.0113		110		70-130	6.51	20		
Hexachlorobutadiene	0.0133	0.0011	mg/Kg wet	0.0113		117		70-130	3.27	20		
2-Hexanone (MBK)	0.0991	0.011	mg/Kg wet	0.113		87.5		40-160	0.0114	20		†
Isopropylbenzene (Cumene)	0.0151	0.0011	mg/Kg wet	0.0113		**133**	*	70-130	4.19	20	L-06	
p-Isopropyltoluene (p-Cymene)	0.0123	0.0011	mg/Kg wet	0.0113		109		70-130	4.75	20		
Methyl tert-Butyl Ether (MTBE)	0.0103	0.0011	mg/Kg wet	0.0113		90.7		70-130	0.987	20		
Methylene Chloride	0.0116	0.0057	mg/Kg wet	0.0113		102		70-130	1.07	20		
4-Methyl-2-pentanone (MIBK)	0.104	0.011	mg/Kg wet	0.113		91.4		40-160	2.86	20		†
Naphthalene	0.0131	0.0057	mg/Kg wet	0.0113		116		70-130	0.173	20		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B158583 - SW-846 5035											
LCS Dup (B158583-BSD1)				Prepared: 09/19/16 Analyzed: 09/22/16							
n-Propylbenzene	0.0127	0.0011	mg/Kg wet	0.0113		112		70-130	8.40	20	
Styrene	0.0130	0.0011	mg/Kg wet	0.0113		114		70-130	3.61	20	
1,1,1,2-Tetrachloroethane	0.0118	0.0011	mg/Kg wet	0.0113		104		70-130	2.19	20	
1,1,2,2-Tetrachloroethane	0.0128	0.00057	mg/Kg wet	0.0113		113		70-130	2.79	20	
Tetrachloroethylene	0.0124	0.0011	mg/Kg wet	0.0113		110		70-130	4.46	20	
Tetrahydrofuran	0.0119	0.0045	mg/Kg wet	0.0113		105		70-130	14.1	20	
Toluene	0.0122	0.0011	mg/Kg wet	0.0113		108		70-130	4.35	20	
1,2,3-Trichlorobenzene	0.0125	0.0057	mg/Kg wet	0.0113		111		70-130	0.999	20	
1,2,4-Trichlorobenzene	0.0119	0.0011	mg/Kg wet	0.0113		105		70-130	4.01	20	
1,1,1-Trichloroethane	0.0112	0.0011	mg/Kg wet	0.0113		99.0		70-130	4.44	20	
1,1,2-Trichloroethane	0.0123	0.0011	mg/Kg wet	0.0113		109		70-130	3.78	20	
Trichloroethylene	0.0123	0.0011	mg/Kg wet	0.0113		109		70-130	4.94	20	
Trichlorofluoromethane (Freon 11)	0.0104	0.0023	mg/Kg wet	0.0113		92.2		70-130	5.28	20	
1,2,3-Trichloropropane	0.0123	0.0023	mg/Kg wet	0.0113		108		70-130	3.45	20	
1,2,4-Trimethylbenzene	0.0123	0.0011	mg/Kg wet	0.0113		109		70-130	3.53	20	
1,3,5-Trimethylbenzene	0.0129	0.0011	mg/Kg wet	0.0113		113		70-130	4.99	20	
Vinyl Chloride	0.00763	0.0023	mg/Kg wet	0.0113		**67.3**	*	70-130	12.3	20	L-07
m+p Xylene	0.0251	0.0023	mg/Kg wet	0.0227		111		70-130	5.48	20	
o-Xylene	0.0127	0.0011	mg/Kg wet	0.0113		112		70-130	4.29	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0261*		mg/Kg wet	0.0283		92.0		70-130			
Surrogate: Toluene-d8	*0.0285*		mg/Kg wet	0.0283		100		70-130			
Surrogate: 4-Bromofluorobenzene	*0.0286*		mg/Kg wet	0.0283		101		70-130			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158646 - SW-846 3540C										
Blank (B158646-BLK1)				Prepared: 09/20/16 Analyzed: 09/21/16						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.206*		mg/Kg wet	0.200		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.202*		mg/Kg wet	0.200		101	30-150			
Surrogate: Tetrachloro-m-xylene	*0.189*		mg/Kg wet	0.200		94.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.184*		mg/Kg wet	0.200		92.0	30-150			
LCS (B158646-BS1)				Prepared: 09/20/16 Analyzed: 09/21/16						
Aroclor-1016	0.19	0.020	mg/Kg wet	0.200		92.9	40-140			
Aroclor-1016 [2C]	0.19	0.020	mg/Kg wet	0.200		93.9	40-140			
Aroclor-1260	0.17	0.020	mg/Kg wet	0.200		87.1	40-140			
Aroclor-1260 [2C]	0.16	0.020	mg/Kg wet	0.200		82.2	40-140			
Surrogate: Decachlorobiphenyl	*0.197*		mg/Kg wet	0.200		98.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.193*		mg/Kg wet	0.200		96.7	30-150			
Surrogate: Tetrachloro-m-xylene	*0.181*		mg/Kg wet	0.200		90.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.177*		mg/Kg wet	0.200		88.6	30-150			
LCS Dup (B158646-BSD1)				Prepared: 09/20/16 Analyzed: 09/21/16						
Aroclor-1016	0.19	0.020	mg/Kg wet	0.200		97.1	40-140	4.37	30	
Aroclor-1016 [2C]	0.20	0.020	mg/Kg wet	0.200		97.9	40-140	4.18	30	
Aroclor-1260	0.18	0.020	mg/Kg wet	0.200		92.3	40-140	5.77	30	
Aroclor-1260 [2C]	0.17	0.020	mg/Kg wet	0.200		87.3	40-140	6.08	30	
Surrogate: Decachlorobiphenyl	*0.207*		mg/Kg wet	0.200		103	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.203*		mg/Kg wet	0.200		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.188*		mg/Kg wet	0.200		93.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.183*		mg/Kg wet	0.200		91.6	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes
Batch B158646 - SW-846 3540C											
Matrix Spike (B158646-MS1)		**Source: 16I0708-01**		Prepared: 09/20/16 Analyzed: 09/22/16							
Aroclor-1016	0.28	0.11	mg/Kg dry	0.217	ND	129		40-140			
Aroclor-1016 [2C]	0.34	0.11	mg/Kg dry	0.217	ND	**155**	*	40-140			MS-21
Aroclor-1260	2.5	0.11	mg/Kg dry	0.217	ND	**1160**	*	40-140			MS-21
Aroclor-1260 [2C]	2.3	0.11	mg/Kg dry	0.217	ND	**1060**	*	40-140			MS-21
Surrogate: Decachlorobiphenyl	*0.177*		mg/Kg dry	0.217		81.3		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.214*		mg/Kg dry	0.217		98.5		30-150			
Surrogate: Tetrachloro-m-xylene	*0.196*		mg/Kg dry	0.217		90.2		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.188*		mg/Kg dry	0.217		86.3		30-150			
Matrix Spike Dup (B158646-MSD1)		**Source: 16I0708-01**		Prepared: 09/20/16 Analyzed: 09/22/16							
Aroclor-1016	0.28	0.11	mg/Kg dry	0.220	ND	128		40-140		50	
Aroclor-1016 [2C]	0.34	0.11	mg/Kg dry	0.220	ND	**155**	*	40-140		50	MS-21
Aroclor-1260	2.7	0.11	mg/Kg dry	0.220	ND	**1220**	*	40-140	5.81	50	MS-21
Aroclor-1260 [2C]	2.5	0.11	mg/Kg dry	0.220	ND	**1120**	*	40-140	6.39	50	MS-21
Surrogate: Decachlorobiphenyl	*0.181*		mg/Kg dry	0.220		82.4		30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.226*		mg/Kg dry	0.220		103		30-150			
Surrogate: Tetrachloro-m-xylene	*0.196*		mg/Kg dry	0.220		89.2		30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg dry	0.220		84.9		30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158642 - SW-846 3546										
Blank (B158642-BLK1)				Prepared: 09/20/16 Analyzed: 09/21/16						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*3.07*		mg/Kg wet	5.00		61.5	40-140			
Surrogate: o-Terphenyl (OTP)	*3.63*		mg/Kg wet	5.00		72.6	40-140			
Surrogate: 2-Bromonaphthalene	*37.4*		µg/mL	50.0		74.8	40-140			
Surrogate: 2-Fluorobiphenyl	*43.2*		µg/mL	50.0		86.4	40-140			
LCS (B158642-BS1)				Prepared: 09/20/16 Analyzed: 09/21/16						
Acenaphthene	3.66	0.10	mg/Kg wet	5.00		73.3	40-140			
Acenaphthylene	3.52	0.10	mg/Kg wet	5.00		70.4	40-140			
Anthracene	3.63	0.10	mg/Kg wet	5.00		72.7	40-140			
Benzo(a)anthracene	3.49	0.10	mg/Kg wet	5.00		69.8	40-140			
Benzo(a)pyrene	3.46	0.10	mg/Kg wet	5.00		69.2	40-140			
Benzo(b)fluoranthene	3.52	0.10	mg/Kg wet	5.00		70.4	40-140			
Benzo(g,h,i)perylene	3.28	0.10	mg/Kg wet	5.00		65.7	40-140			
Benzo(k)fluoranthene	3.48	0.10	mg/Kg wet	5.00		69.7	40-140			
Chrysene	3.57	0.10	mg/Kg wet	5.00		71.4	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158642 - SW-846 3546										
LCS (B158642-BS1)				Prepared: 09/20/16 Analyzed: 09/21/16						
Dibenz(a,h)anthracene	3.42	0.10	mg/Kg wet	5.00		68.3	40-140			
Fluoranthene	3.57	0.10	mg/Kg wet	5.00		71.4	40-140			
Fluorene	3.66	0.10	mg/Kg wet	5.00		73.1	40-140			
Indeno(1,2,3-cd)pyrene	3.18	0.10	mg/Kg wet	5.00		63.6	40-140			
2-Methylnaphthalene	3.31	0.10	mg/Kg wet	5.00		66.1	40-140			
Naphthalene	3.15	0.10	mg/Kg wet	5.00		63.0	40-140			
Phenanthrene	3.55	0.10	mg/Kg wet	5.00		71.0	40-140			
Pyrene	3.58	0.10	mg/Kg wet	5.00		71.6	40-140			
n-Decane	2.32	0.10	mg/Kg wet	5.00		46.4	40-140			
n-Docosane	3.67	0.10	mg/Kg wet	5.00		73.5	40-140			
n-Dodecane	3.03	0.10	mg/Kg wet	5.00		60.7	40-140			
n-Eicosane	3.76	0.10	mg/Kg wet	5.00		75.2	40-140			
n-Hexacosane	3.45	0.10	mg/Kg wet	5.00		69.0	40-140			
n-Hexadecane	3.69	0.10	mg/Kg wet	5.00		73.7	40-140			
n-Hexatriacontane	3.27	0.10	mg/Kg wet	5.00		65.5	40-140			
n-Nonadecane	3.70	0.10	mg/Kg wet	5.00		74.1	40-140			
n-Nonane	1.51	0.10	mg/Kg wet	5.00		30.3	30-140			
n-Octacosane	3.41	0.10	mg/Kg wet	5.00		68.3	40-140			
n-Octadecane	3.73	0.10	mg/Kg wet	5.00		74.6	40-140			
n-Tetracosane	3.80	0.10	mg/Kg wet	5.00		76.1	40-140			
n-Tetradecane	3.42	0.10	mg/Kg wet	5.00		68.4	40-140			
n-Triacontane	3.36	0.10	mg/Kg wet	5.00		67.3	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*2.91*		mg/Kg wet	5.00		58.1	40-140			
Surrogate: o-Terphenyl (OTP)	*3.46*		mg/Kg wet	5.00		69.3	40-140			
Surrogate: 2-Bromonaphthalene	*41.0*		µg/mL	50.0		82.0	40-140			
Surrogate: 2-Fluorobiphenyl	*46.1*		µg/mL	50.0		92.2	40-140			
LCS Dup (B158642-BSD1)				Prepared: 09/20/16 Analyzed: 09/21/16						
Acenaphthene	3.52	0.10	mg/Kg wet	5.00		70.4	40-140	4.02	25	
Acenaphthylene	3.40	0.10	mg/Kg wet	5.00		68.0	40-140	3.36	25	
Anthracene	3.52	0.10	mg/Kg wet	5.00		70.3	40-140	3.27	25	
Benzo(a)anthracene	3.38	0.10	mg/Kg wet	5.00		67.5	40-140	3.22	25	
Benzo(a)pyrene	3.36	0.10	mg/Kg wet	5.00		67.1	40-140	2.98	25	
Benzo(b)fluoranthene	3.38	0.10	mg/Kg wet	5.00		67.5	40-140	4.19	25	
Benzo(g,h,i)perylene	3.22	0.10	mg/Kg wet	5.00		64.3	40-140	2.07	25	
Benzo(k)fluoranthene	3.40	0.10	mg/Kg wet	5.00		68.0	40-140	2.41	25	
Chrysene	3.48	0.10	mg/Kg wet	5.00		69.6	40-140	2.57	25	
Dibenz(a,h)anthracene	3.34	0.10	mg/Kg wet	5.00		66.7	40-140	2.34	25	
Fluoranthene	3.43	0.10	mg/Kg wet	5.00		68.6	40-140	4.01	25	
Fluorene	3.34	0.10	mg/Kg wet	5.00		66.7	40-140	9.16	25	
Indeno(1,2,3-cd)pyrene	3.06	0.10	mg/Kg wet	5.00		61.2	40-140	3.76	25	
2-Methylnaphthalene	3.24	0.10	mg/Kg wet	5.00		64.8	40-140	2.03	25	
Naphthalene	3.14	0.10	mg/Kg wet	5.00		62.9	40-140	0.232	25	
Phenanthrene	3.40	0.10	mg/Kg wet	5.00		68.0	40-140	4.18	25	
Pyrene	3.44	0.10	mg/Kg wet	5.00		68.8	40-140	4.03	25	
n-Decane	2.43	0.10	mg/Kg wet	5.00		48.5	40-140	4.57	25	
n-Docosane	3.63	0.10	mg/Kg wet	5.00		72.6	40-140	1.24	25	
n-Dodecane	3.07	0.10	mg/Kg wet	5.00		61.5	40-140	1.30	25	
n-Eicosane	3.74	0.10	mg/Kg wet	5.00		74.7	40-140	0.667	25	
n-Hexacosane	3.38	0.10	mg/Kg wet	5.00		67.6	40-140	2.09	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158642 - SW-846 3546										
LCS Dup (B158642-BSD1)				Prepared: 09/20/16 Analyzed: 09/21/16						
n-Hexadecane	3.67	0.10	mg/Kg wet	5.00		73.5	40-140	0.359	25	
n-Hexatriacontane	3.22	0.10	mg/Kg wet	5.00		64.4	40-140	1.56	25	
n-Nonadecane	3.68	0.10	mg/Kg wet	5.00		73.5	40-140	0.753	25	
n-Nonane	1.59	0.10	mg/Kg wet	5.00		31.9	30-140	5.16	25	
n-Octacosane	3.34	0.10	mg/Kg wet	5.00		66.7	40-140	2.32	25	
n-Octadecane	3.71	0.10	mg/Kg wet	5.00		74.2	40-140	0.559	25	
n-Tetracosane	3.75	0.10	mg/Kg wet	5.00		74.9	40-140	1.53	25	
n-Tetradecane	3.40	0.10	mg/Kg wet	5.00		68.1	40-140	0.554	25	
n-Triacontane	3.28	0.10	mg/Kg wet	5.00		65.6	40-140	2.55	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*2.87*		mg/Kg wet	5.00		57.4	40-140			
Surrogate: o-Terphenyl (OTP)	*3.22*		mg/Kg wet	5.00		64.4	40-140			
Surrogate: 2-Bromonaphthalene	*39.7*		µg/mL	50.0		79.5	40-140			
Surrogate: 2-Fluorobiphenyl	*46.0*		µg/mL	50.0		92.1	40-140			

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-15 (0-5)

Lab Sample ID: 16I0708-01

Date(s) Analyzed: 09/22/2016 09/22/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	11	
	2	0.00	-0.03	0.03	12	6.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-16 (0-5)

Lab Sample ID: 16I0708-03

Date(s) Analyzed: 09/21/2016 09/21/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.90	
	2	0.00	-0.03	0.03	0.87	3.6

con-test® ANALYTICAL LABORATORY

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-18 (0-5)

Lab Sample ID: 16I0708-08

Date(s) Analyzed: 09/22/2016 09/22/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	26	
	2	0.00	-0.03	0.03	29	9.4

con-test® ANALYTICAL LABORATORY

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-19 (0-5)

Lab Sample ID: 16I0708-11

Date(s) Analyzed: 09/22/2016 09/22/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	6.4	
	2	0.00	-0.03	0.03	6.7	4.9

con-test® ANALYTICAL LABORATORY

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-21 (0-5)

Lab Sample ID: 16I0708-16

Date(s) Analyzed: 09/22/2016 09/22/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	10	
	2	0.00	-0.03	0.03	11	4.7

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-21 (5-10)

Lab Sample ID: 16I0708-17

Date(s) Analyzed: 09/22/2016 09/22/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.63	
	2	0.00	-0.03	0.03	0.55	13.4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-14A (5-10)

Lab Sample ID: 16I0708-23

Date(s) Analyzed: 09/22/2016 09/22/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.14	
	2	0.00	-0.03	0.03	0.12	16.8

con-test® ANALYTICAL LABORATORY

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B158646-BS1

Date(s) Analyzed: 09/21/2016 09/21/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.19	
	2	0.00	-0.03	0.03	0.19	2
Aroclor-1260	1	0.00	-0.03	0.03	0.17	
	2	0.00	-0.03	0.03	0.16	8

con-test® ANALYTICAL LABORATORY

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B158646-BSD1

Date(s) Analyzed: 09/21/2016 09/21/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.19	
	2	0.00	-0.03	0.03	0.20	3
Aroclor-1260	1	0.00	-0.03	0.03	0.18	
	2	0.00	-0.03	0.03	0.17	8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B158646-MS1

Date(s) Analyzed: 09/22/2016 09/22/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.28	
	2	0.00	-0.03	0.03	0.34	19
Aroclor-1260	1	0.00	-0.03	0.03	2.5	
	2	0.00	-0.03	0.03	2.3	10

con-test® ANALYTICAL LABORATORY

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B158646-MSD1

Date(s) Analyzed: 09/22/2016 09/22/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.28	
	2	0.00	-0.03	0.03	0.34	19
Aroclor-1260	1	0.00	-0.03	0.03	2.7	
	2	0.00	-0.03	0.03	2.5	7

con-test® ANALYTICAL LABORATORY

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-06	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the high side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
MS-21	Matrix spike and/or spike duplicate recovery bias high due to contribution of other Aroclors present in the source sample.
O-32	A dilution was performed as part of the standard analytical procedure.
RL-05	Elevated reporting limit due to high concentration of target compounds. MA CAM reporting limit not met.
RL-07	Elevated reporting limit based on lowest point in calibration. MA CAM reporting limit not met.
RL-08	Elevated reporting limit due to sample matrix interference. MA CAM reporting limit not met.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.
S-15	Surrogate recovery outside of control limits due to suspected sample matrix interference. Chromatogram(s) is attached.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,ME,NH-P
C19-C36 Aliphatics	CT,NC,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,ME,NH-P
C11-C22 Aromatics	CT,NC,ME,NH-P
Acenaphthene	CT,NC,ME,NH-P
Acenaphthylene	CT,NC,ME,NH-P
Anthracene	CT,NC,ME,NH-P
Benzo(a)anthracene	CT,NC,ME,NH-P
Benzo(a)pyrene	CT,NC,ME,NH-P
Benzo(b)fluoranthene	CT,NC,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,ME,NH-P
Benzo(k)fluoranthene	CT,NC,ME,NH-P
Chrysene	CT,NC,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,ME,NH-P
Fluoranthene	CT,NC,ME,NH-P
Fluorene	CT,NC,ME
Indeno(1,2,3-cd)pyrene	CT,NC,ME,NH-P
2-Methylnaphthalene	CT,NC,ME
Naphthalene	CT,NC,ME,NH-P
Phenanthrene	CT,NC,ME,NH-P
Pyrene	CT,NC,ME,NH-P
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA
SW-846 8260C in Soil	
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME

con-test® ANALYTICAL LABORATORY

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Soil	
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NY
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	ME

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Soil	
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16I0708

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC

Telephone:

Address: 60 Brooks

Project #

Client PO#: 1785-6100

Attention: A. Foley, E. Turley

Project Location: Lowell

Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPH + PAHs	Asbestos	PCBs (Soxhlet)	Hold for PCBs	# of Containers	** Preservation	***Container Code
01	B-15 (0-5')	9/15	10:15		X	S	U			X				
02	B-15 (5-10')		10:30					X	X		X			
03	B-16 (0-5')		9:15							X				
04	B-16 (5-10)		9:30						X		X			
05	B-16 (10-15')		9:45					X			X			
06	B-17 (0-5')		11:30											
07	B-17 (5-15')		11:45					X	X		X			
08	B-18 (0-5)		10:45							X				
09	B-18 (5-10)		11:00								X			
10	B-18 (10-15)		11:15					X			X			

Comments: Please order Analysis ① EPH/PAH ② PCBs ③ Asbestos ④ Hold for PCBs

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

***Cont. Code:**
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL= sludge
O = other _____

Dissolved Metals
○ Field Filtered
○ Lab to Filter

Relinquished by: (signature)	Date/Time:
[signature] 9/16/16	15:00
Received by: (signature) [signature] 9/16/16	Date/Time: 1500
Relinquished by: (signature) [signature] 9/16/16	Date/Time: 1900
Received by: (signature) [signature] 9/16/16	Date/Time: 1900

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: 5-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

††TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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Email: info@contestlabs.com
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CHAIN OF CUSTODY RECORD

16I0708

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks
Attention:
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project #
Client PO# 1785-6100

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ○ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPH w PAHs	Asbestos	PCBs (soxlet)	Hold for PCBs									# of Containers / ** Preservation / ***Container Code
11	B-19 (0-5')	9/15/16	12:30		X				X	X										
12	B-19 (5-10)	↓	12:45		↓				X		X									
	~~B-19 (10-15) @ GEC~~		~~1:15~~																	
13	B-19 (15-17.5')	↓	1:30		↓			X												
14	B-20 (0-5')	9/16/16	APF ~~10:05~~	9:59						X										
15	B-20 (5-8)	↓	APF ~~10:40~~	10:05				X			X									
16	B-21 (0-5)		10:30					X	X	X										
17	B-21 (5-10)		10:40					X	X	X										
18	B-21 (10-13.5)	↓	10:56					X	X	X										

Comments:
(1) EPH (2) PCBs (3) ASBESTOS (4) HOLD
Please Analyze in order

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
A. Foley 9/16/16	1500
Received by: (signature) 9/16/16	Date/Time: 1500
Relinquished by: (signature) 9/16/16	Date/Time: 1900
Received by: (signature) 9/16/16	Date/Time: 1900

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16I0708

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley, E. Furlong, B. Butler

Telephone:
Project #
Client PO# 1785-6100

DATA DELIVERY (check all that apply)
○ FAX ✓ EMAIL ○ WEBSITE
Fax #
Email: a foley
Format: ○ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPH/PAHs	Asbestos	PCBs	Hold for PCBs	# of Containers	** Preservation	***Container Code
	B-22(0-5)@GEC	9/16/16			X	S	U							
	B-22(5-10)@GEC													
19	B-22(10-15)							X						
20	B-22(15-20)							X						
	B-23(0-5)@GEC													
21	B-23(5-9)							X						

Comments: (1) EPH (2) PCB (3) ASBESTOS (4) Hold

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Relinquished by: (signature)	9/16/16	Date/Time: 15:00
Received by: (signature)	9/16/16	Date/Time: 15:00
Relinquished by: (signature)	9/16/16	Date/Time: 19:00
Received by: (signature)	9/16/16	Date/Time: 1900

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5 day
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
✓ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16I0708

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks Dr
Attention: A. Foley, E. Furlong, B. Butler
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project #
Client PO# 1785-6100

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ○ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPH/PAHs	Asbestos	PCBs (soxhlet)	VOCs									# of Containers / ** Preservation / ***Container Code
22	B-14A (0-5)	9/16/16	8:55	X	X	SOIL		X	X	X										
23	B-14A (5-10)	↓	9:00	X	X			X	X	X										
24	B-14A (10-15)		9:05	X	X			X	X	X										
25	B-14A (15-16.5)		9:20	X	X			X	X	X										
26	B-14 (10-15)	9/15/16	9:30		X						X									
27	B-14A (10-15)	9/16/16	9:30		X						X									
28	B-26 (10-13)	↓			X						X									
29	B-27 (5-10)				X						X									
30	B-28 (10-15)				X						X									

ANALYSIS REQUESTED

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Relinquished by: (signature)	Date/Time:
9/16	15 1500
Received by: (signature) 9/16/16	Date/Time: 1500
Relinquished by: (signature) 9/16/16	Date/Time: 1900
Received by: (signature) 9/16/16	Date/Time: 1900

Turnaround ##
☐ 7-Day
☐ 10-Day
☑ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
◉ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY:** JM **DATE:** 9/16/16

1) **Was the chain(s) of custody relinquished and signed?** Yes ✓ No ____ No COC Incl.
2) **Does the chain agree with the samples?** Yes ✓ No ____
   If not, explain:
3) **Are all the samples in good condition?** Yes ✓ No ____
   If not, explain:
4) **How were the samples received:**
   On Ice ✓ Direct from Sampling ____ Ambient ____ In Cooler(s) ✓
   Were the samples received in Temperature Compliance of (2-6°C)? Yes ✓ No ____ N/A ____
   Temperature °C by Temp blank ____ Temperature °C by Temp gun 3.1
5) **Are there Dissolved samples for the lab to filter?** Yes ____ No ✓
   Who was notified ____ Date ____ Time ____
6) **Are there any RUSH or SHORT HOLDING TIME samples?** Yes ____ No ✓
   Who was notified ____ Date ____ Time ____
7) **Location where samples are stored:** Login
   Permission to subcontract samples? Yes No
   (Walk-in clients only) if not already approved
   Client Signature: ____
8) **Do all samples have the proper Acid pH:** Yes ____ No ____ N/A ✓
9) **Do all samples have the proper Base pH:** Yes ____ No ____ N/A ✓
10) **Was the PC notified of any discrepancies with the CoC vs the samples:** Yes ____ N/A ✓

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	26
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		SOC Kit	
40 mL Vial - type listed below	15	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

* Recieved extra B-21(0-5) sample
- no analyses checked for B-17 (0-5)
- no % solids jars for any of the VOC analyses.

40 mL vials:				Time and Date Frozen:
	# HCl	____	# Methanol 5	
	# Bisulfate	10	# DI Water ____	
	# Thiosulfate	____	Unpreserved ____	

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	N/A	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	N/A	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	N/A	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	F	no % yours.
19) Trip blanks provided if applicable.	N/A	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	N/A	
21) Samples do not require splitting or compositing.	T	

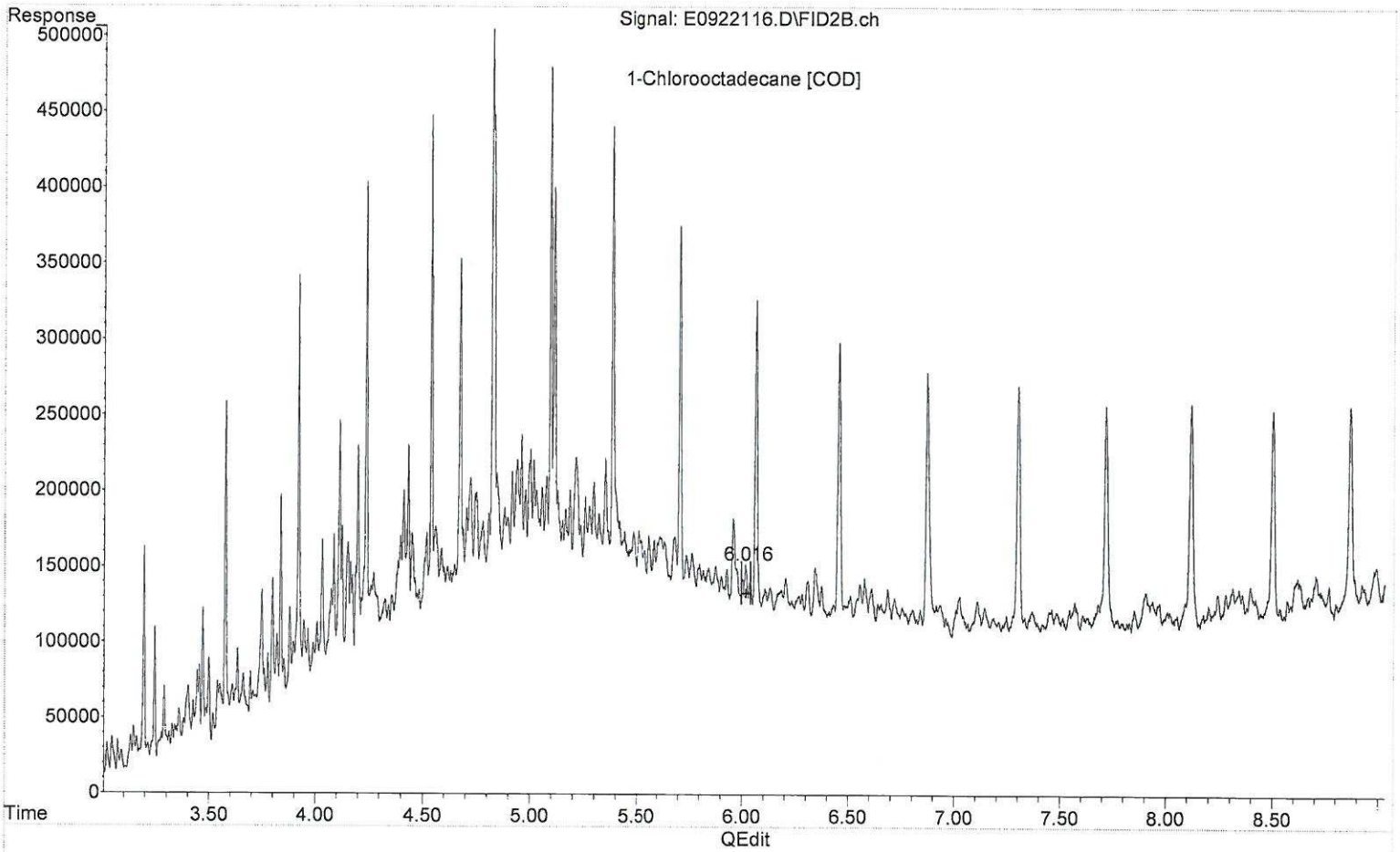
Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JM **Date/Time:** 9/16/16 1900

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\data\E092216\
Data File : E0922116.D
Signal(s) : Signal #1: FID1A.ch Signal #2: FID2B.ch
Acq On : 23 Sep 2016 3:15 am
Operator : SCS
Sample : 16I0708-23@5X Inst : GCFID5
Misc :
ALS Vial : 82 (Sig #1); 81 (Sig #2) Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Sep 23 09:41:57 2016
Quant Method : C:\msdchem\1\methods\EPH111815.M
Quant Title : EPH GCFID5
QLast Update : Mon Sep 19 16:42:25 2016
Response via : Initial Calibration
Integrator: ChemStation
Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



(34) Chlorooctadecane (COD) (S)

6.016min 1.849 ug/mL m

response 155451

(+) = Expected Retention Time

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16I0708
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16I0708-01 thru 16I0708-30

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Project Manager

Printed Name: Lisa A. Worthington Date: 09/23/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 20, 2016

Drew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-6100
Laboratory Work Order Number: 16J0503

Enclosed are results of analyses for samples received by the laboratory on October 12, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Drew Foley

REPORT DATE: 10/20/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6100

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16J0503

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-15 (5-10)	16J0503-01	Soil		SM 2540G	
				SW-846 8082A	
B-18 (5-10)	16J0503-02	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 8082A	
B-18 (10-15)	16J0503-03	Soil		SM 2540G	
				SW-846 8082A	
B-19 (5-10)	16J0503-04	Soil		MADEP-EPH-04-1.1	
				SM 2540G	
				SW-846 8082A	

con-test® ANALYTICAL LABORATORY

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

MADEP-EPH-04-1.1

Qualifications:

H-10

Analysis was requested after the recommended holding time had passed.

Analyte & Samples(s) Qualified:

16J0503-02[B-18 (5-10)], 16J0503-04[B-19 (5-10)]

SW-846 8082A

Qualifications:

O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

16J0503-02[B-18 (5-10)], 16J0503-03[B-18 (10-15)]

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C 11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16J0503
Date Received: 10/12/2016
Field Sample #: B-15 (5-10)
Sampled: 9/15/2016 10:30
Sample ID: 16J0503-01
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 20:48	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 20:48	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 20:48	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 20:48	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 20:48	KAL
Aroclor-1254 [2]	0.30	0.11	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 20:48	KAL
Aroclor-1260 [2]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 20:48	KAL
Aroclor-1262 [2]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 20:48	KAL
Aroclor-1268 [2]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 20:48	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	64.4	30-150		10/17/16 20:48
Decachlorobiphenyl [2]	69.5	30-150		10/17/16 20:48
Tetrachloro-m-xylene [1]	84.0	30-150		10/17/16 20:48
Tetrachloro-m-xylene [2]	86.1	30-150		10/17/16 20:48

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16J0503

Date Received: 10/12/2016

Field Sample #: B-15 (5-10)
Sampled: 9/15/2016 10:30

Sample ID: 16J0503-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	92.3		% Wt	1		SM 2540G	10/19/16	10/19/16 7:20	MRL

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16J0503
Date Received: 10/12/2016
Field Sample #: B-18 (5-10)
Sampled: 9/15/2016 11:00
Sample ID: 16J0503-02
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:06	KAL
Aroclor-1221 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:06	KAL
Aroclor-1232 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:06	KAL
Aroclor-1242 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:06	KAL
Aroclor-1248 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:06	KAL
Aroclor-1254 [2]	ND	0.12	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:06	KAL
Aroclor-1260 [2]	ND	0.12	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:06	KAL
Aroclor-1262 [2]	ND	0.12	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:06	KAL
Aroclor-1268 [2]	ND	0.12	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:06	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	65.2	30-150		10/17/16 21:06
Decachlorobiphenyl [2]	73.7	30-150		10/17/16 21:06
Tetrachloro-m-xylene [1]	87.8	30-150		10/17/16 21:06
Tetrachloro-m-xylene [2]	83.1	30-150		10/17/16 21:06

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16J0503
Date Received: 10/12/2016
Field Sample #: B-18 (5-10)
Sampled: 9/15/2016 11:00
Sample ID: 16J0503-02
Sample Matrix: Soil
Sample Flags: H-10

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	28	12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
C19-C36 Aliphatics	33	12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Unadjusted C11-C22 Aromatics	92	12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
C11-C22 Aromatics	90	12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Acenaphthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Acenaphthylene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Benzo(a)anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Benzo(a)pyrene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Benzo(b)fluoranthene	0.15	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Benzo(g,h,i)perylene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Benzo(k)fluoranthene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Chrysene	0.25	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Dibenz(a,h)anthracene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Fluoranthene	0.15	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Fluorene	0.13	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Indeno(1,2,3-cd)pyrene	ND	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
2-Methylnaphthalene	0.16	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Naphthalene	0.31	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Phenanthrene	0.49	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS
Pyrene	0.18	0.12	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/17/16 23:48	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	54.4	40-140		10/17/16 23:48
o-Terphenyl (OTP)	56.0	40-140		10/17/16 23:48
2-Bromonaphthalene	75.2	40-140		10/17/16 23:48
2-Fluorobiphenyl	87.6	40-140		10/17/16 23:48

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16J0503

Date Received: 10/12/2016

Field Sample #: B-18 (5-10)
Sampled: 9/15/2016 11:00

Sample ID: 16J0503-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.9		% Wt	1		SM 2540G	10/19/16	10/19/16 14:13	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16J0503
Date Received: 10/12/2016
Field Sample #: B-18 (10-15)
Sampled: 9/15/2016 11:15
Sample ID: 16J0503-03
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:23	KAL
Aroclor-1221 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:23	KAL
Aroclor-1232 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:23	KAL
Aroclor-1242 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:23	KAL
Aroclor-1248 [1]	ND	0.10	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:23	KAL
Aroclor-1254 [2]	ND	0.10	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:23	KAL
Aroclor-1260 [2]	ND	0.10	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:23	KAL
Aroclor-1262 [2]	ND	0.10	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:23	KAL
Aroclor-1268 [2]	ND	0.10	mg/Kg dry	5		SW-846 8082A	10/13/16	10/17/16 21:23	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	49.6	30-150		10/17/16 21:23
Decachlorobiphenyl [2]	54.6	30-150		10/17/16 21:23
Tetrachloro-m-xylene [1]	71.4	30-150		10/17/16 21:23
Tetrachloro-m-xylene [2]	68.6	30-150		10/17/16 21:23

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell | Sample Description: | Work Order: 16J0503

Date Received: 10/12/2016

Field Sample #: B-18 (10-15) | Sampled: 9/15/2016 11:15

Sample ID: 16J0503-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	95.1		% Wt	1		SM 2540G	10/19/16	10/19/16 7:20	MRL

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Project Location: Lowell
Sample Description:
Work Order: 16J0503
Date Received: 10/12/2016
Field Sample #: B-19 (5-10)
Sampled: 9/15/2016 12:45
Sample ID: 16J0503-04
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.42	mg/Kg dry	20		SW-846 8082A	10/13/16	10/18/16 15:34	PJG
Aroclor-1221 [1]	ND	0.42	mg/Kg dry	20		SW-846 8082A	10/13/16	10/18/16 15:34	PJG
Aroclor-1232 [1]	ND	0.42	mg/Kg dry	20		SW-846 8082A	10/13/16	10/18/16 15:34	PJG
Aroclor-1242 [1]	ND	0.42	mg/Kg dry	20		SW-846 8082A	10/13/16	10/18/16 15:34	PJG
Aroclor-1248 [1]	ND	0.42	mg/Kg dry	20		SW-846 8082A	10/13/16	10/18/16 15:34	PJG
Aroclor-1254 [1]	2.1	0.42	mg/Kg dry	20		SW-846 8082A	10/13/16	10/18/16 15:34	PJG
Aroclor-1260 [1]	ND	0.42	mg/Kg dry	20		SW-846 8082A	10/13/16	10/18/16 15:34	PJG
Aroclor-1262 [1]	ND	0.42	mg/Kg dry	20		SW-846 8082A	10/13/16	10/18/16 15:34	PJG
Aroclor-1268 [1]	ND	0.42	mg/Kg dry	20		SW-846 8082A	10/13/16	10/18/16 15:34	PJG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	78.7	30-150		10/18/16 15:34
Decachlorobiphenyl [2]	78.3	30-150		10/18/16 15:34
Tetrachloro-m-xylene [1]	82.7	30-150		10/18/16 15:34
Tetrachloro-m-xylene [2]	78.0	30-150		10/18/16 15:34

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Project Location: Lowell
Sample Description:
Work Order: 16J0503
Date Received: 10/12/2016
Field Sample #: B-19 (5-10)
Sampled: 9/15/2016 12:45
Sample ID: 16J0503-04
Sample Matrix: Soil
Sample Flags: H-10

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	20	11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
C19-C36 Aliphatics	70	11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Unadjusted C11-C22 Aromatics	300	11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
C11-C22 Aromatics	220	11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Acenaphthene	1.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Anthracene	2.5	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Benzo(a)anthracene	6.0	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Benzo(a)pyrene	5.1	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Benzo(b)fluoranthene	7.0	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Benzo(g,h,i)perylene	2.7	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Benzo(k)fluoranthene	2.6	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Chrysene	6.7	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Dibenz(a,h)anthracene	0.90	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Fluoranthene	14	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Fluorene	1.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Indeno(1,2,3-cd)pyrene	3.3	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
2-Methylnaphthalene	0.99	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Naphthalene	0.44	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Phenanthrene	11	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS
Pyrene	13	0.11	mg/Kg dry	1		MADEP-EPH-04-1.1	10/14/16	10/18/16 0:08	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	61.7	40-140		10/18/16 0:08
o-Terphenyl (OTP)	64.6	40-140		10/18/16 0:08
2-Bromonaphthalene	89.4	40-140		10/18/16 0:08
2-Fluorobiphenyl	102	40-140		10/18/16 0:08

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Project Location: Lowell
Sample Description:
Work Order: 16J0503

Date Received: 10/12/2016

Field Sample #: B-19 (5-10)
Sampled: 9/15/2016 12:45

Sample ID: 16J0503-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	94.3		% Wt	1		SM 2540G	10/19/16	10/19/16 14:13	MRL

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Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16J0503-02 [B-18 (5-10)]	B160684	20.0	2.00	10/14/16
16J0503-04 [B-19 (5-10)]	B160684	20.0	2.00	10/14/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16J0503-01 [B-15 (5-10)]	B158556	10/19/16
16J0503-03 [B-18 (10-15)]	B158556	10/19/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16J0503-02 [B-18 (5-10)]	B161078	10/19/16
16J0503-04 [B-19 (5-10)]	B161078	10/19/16

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16J0503-01 [B-15 (5-10)]	B160549	10.1	10.0	10/13/16
16J0503-02 [B-18 (5-10)]	B160549	10.0	10.0	10/13/16
16J0503-03 [B-18 (10-15)]	B160549	10.1	10.0	10/13/16
16J0503-04 [B-19 (5-10)]	B160549	10.1	10.0	10/13/16

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B160549 - SW-846 3540C										
Blank (B160549-BLK1)				Prepared: 10/13/16 Analyzed: 10/17/16						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.215*		mg/Kg wet	0.198		109	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.202*		mg/Kg wet	0.198		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.202*		mg/Kg wet	0.198		102	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.192*		mg/Kg wet	0.198		96.7	30-150			
LCS (B160549-BS1)				Prepared: 10/13/16 Analyzed: 10/17/16						
Aroclor-1016	0.21	0.020	mg/Kg wet	0.196		105	40-140			
Aroclor-1016 [2C]	0.19	0.020	mg/Kg wet	0.196		99.4	40-140			
Aroclor-1260	0.20	0.020	mg/Kg wet	0.196		104	40-140			
Aroclor-1260 [2C]	0.19	0.020	mg/Kg wet	0.196		94.6	40-140			
Surrogate: Decachlorobiphenyl	*0.219*		mg/Kg wet	0.196		112	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.206*		mg/Kg wet	0.196		105	30-150			
Surrogate: Tetrachloro-m-xylene	*0.206*		mg/Kg wet	0.196		105	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.196*		mg/Kg wet	0.196		99.8	30-150			
LCS Dup (B160549-BSD1)				Prepared: 10/13/16 Analyzed: 10/17/16						
Aroclor-1016	0.20	0.020	mg/Kg wet	0.200		102	40-140	0.460	30	
Aroclor-1016 [2C]	0.20	0.020	mg/Kg wet	0.200		97.6	40-140	0.188	30	
Aroclor-1260	0.20	0.020	mg/Kg wet	0.200		102	40-140	0.196	30	
Aroclor-1260 [2C]	0.19	0.020	mg/Kg wet	0.200		94.4	40-140	1.74	30	
Surrogate: Decachlorobiphenyl	*0.217*		mg/Kg wet	0.200		108	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.204*		mg/Kg wet	0.200		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.201*		mg/Kg wet	0.200		100	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.191*		mg/Kg wet	0.200		95.3	30-150			

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B160549 - SW-846 3540C										
Matrix Spike (B160549-MS1)		**Source: 16J0503-01**		Prepared: 10/13/16 Analyzed: 10/17/16						
Aroclor-1016	0.17	0.11	mg/Kg dry	0.215	ND	77.5	40-140			
Aroclor-1016 [2C]	0.17	0.11	mg/Kg dry	0.215	ND	80.7	40-140			
Aroclor-1260	0.20	0.11	mg/Kg dry	0.215	ND	94.8	40-140			
Aroclor-1260 [2C]	0.23	0.11	mg/Kg dry	0.215	ND	108	40-140			
Surrogate: Decachlorobiphenyl	*0.135*		mg/Kg dry	0.215		62.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.159*		mg/Kg dry	0.215		74.3	30-150			
Surrogate: Tetrachloro-m-xylene	*0.185*		mg/Kg dry	0.215		86.3	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.188*		mg/Kg dry	0.215		87.6	30-150			
Matrix Spike Dup (B160549-MSD1)		**Source: 16J0503-01**		Prepared: 10/13/16 Analyzed: 10/17/16						
Aroclor-1016	0.18	0.11	mg/Kg dry	0.212	ND	84.4	40-140	7.49	50	
Aroclor-1016 [2C]	0.17	0.11	mg/Kg dry	0.212	ND	82.2	40-140	0.924	50	
Aroclor-1260	0.25	0.11	mg/Kg dry	0.212	ND	119	40-140	21.2	50	
Aroclor-1260 [2C]	0.28	0.11	mg/Kg dry	0.212	ND	134	40-140	20.2	50	
Surrogate: Decachlorobiphenyl	*0.135*		mg/Kg dry	0.212		63.5	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.150*		mg/Kg dry	0.212		70.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.186*		mg/Kg dry	0.212		87.6	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.182*		mg/Kg dry	0.212		85.7	30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B160684 - SW-846 3546										
Blank (B160684-BLK1)				Prepared: 10/14/16 Analyzed: 10/17/16						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*3.57*		mg/Kg wet	5.00		71.3	40-140			
Surrogate: o-Terphenyl (OTP)	*3.67*		mg/Kg wet	5.00		73.4	40-140			
Surrogate: 2-Bromonaphthalene	*38.8*		µg/mL	50.0		77.5	40-140			
Surrogate: 2-Fluorobiphenyl	*43.0*		µg/mL	50.0		85.9	40-140			
LCS (B160684-BS1)				Prepared: 10/14/16 Analyzed: 10/17/16						
Acenaphthene	3.97	0.10	mg/Kg wet	5.00		79.4	40-140			
Acenaphthylene	3.76	0.10	mg/Kg wet	5.00		75.2	40-140			
Anthracene	3.96	0.10	mg/Kg wet	5.00		79.2	40-140			
Benzo(a)anthracene	3.80	0.10	mg/Kg wet	5.00		76.0	40-140			
Benzo(a)pyrene	3.77	0.10	mg/Kg wet	5.00		75.5	40-140			
Benzo(b)fluoranthene	3.83	0.10	mg/Kg wet	5.00		76.7	40-140			
Benzo(g,h,i)perylene	3.59	0.10	mg/Kg wet	5.00		71.9	40-140			
Benzo(k)fluoranthene	3.82	0.10	mg/Kg wet	5.00		76.4	40-140			
Chrysene	3.91	0.10	mg/Kg wet	5.00		78.2	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B160684 - SW-846 3546										
LCS (B160684-BS1)				Prepared: 10/14/16 Analyzed: 10/17/16						
Dibenz(a,h)anthracene	3.81	0.10	mg/Kg wet	5.00		76.2	40-140			
Fluoranthene	3.90	0.10	mg/Kg wet	5.00		78.0	40-140			
Fluorene	3.99	0.10	mg/Kg wet	5.00		79.7	40-140			
Indeno(1,2,3-cd)pyrene	3.41	0.10	mg/Kg wet	5.00		68.3	40-140			
2-Methylnaphthalene	3.48	0.10	mg/Kg wet	5.00		69.6	40-140			
Naphthalene	3.29	0.10	mg/Kg wet	5.00		65.7	40-140			
Phenanthrene	3.85	0.10	mg/Kg wet	5.00		77.0	40-140			
Pyrene	3.93	0.10	mg/Kg wet	5.00		78.5	40-140			
n-Decane	2.55	0.10	mg/Kg wet	5.00		51.0	40-140			
n-Docosane	4.02	0.10	mg/Kg wet	5.00		80.4	40-140			
n-Dodecane	3.31	0.10	mg/Kg wet	5.00		66.2	40-140			
n-Eicosane	4.13	0.10	mg/Kg wet	5.00		82.6	40-140			
n-Hexacosane	3.78	0.10	mg/Kg wet	5.00		75.6	40-140			
n-Hexadecane	4.13	0.10	mg/Kg wet	5.00		82.5	40-140			
n-Hexatriacontane	4.06	0.10	mg/Kg wet	5.00		81.1	40-140			
n-Nonadecane	4.06	0.10	mg/Kg wet	5.00		81.3	40-140			
n-Nonane	1.77	0.10	mg/Kg wet	5.00		35.3	30-140			
n-Octacosane	3.76	0.10	mg/Kg wet	5.00		75.2	40-140			
n-Octadecane	4.11	0.10	mg/Kg wet	5.00		82.1	40-140			
n-Tetracosane	4.16	0.10	mg/Kg wet	5.00		83.2	40-140			
n-Tetradecane	3.85	0.10	mg/Kg wet	5.00		76.9	40-140			
n-Triacontane	3.74	0.10	mg/Kg wet	5.00		74.8	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.76*		mg/Kg wet	5.00		75.3	40-140			
Surrogate: o-Terphenyl (OTP)	*3.62*		mg/Kg wet	5.00		72.5	40-140			
Surrogate: 2-Bromonaphthalene	*37.1*		µg/mL	50.0		74.2	40-140			
Surrogate: 2-Fluorobiphenyl	*43.3*		µg/mL	50.0		86.5	40-140			
LCS Dup (B160684-BSD1)				Prepared: 10/14/16 Analyzed: 10/17/16						
Acenaphthene	4.21	0.10	mg/Kg wet	5.00		84.2	40-140	5.82	25	
Acenaphthylene	4.01	0.10	mg/Kg wet	5.00		80.3	40-140	6.55	25	
Anthracene	3.94	0.10	mg/Kg wet	5.00		78.8	40-140	0.539	25	
Benzo(a)anthracene	3.72	0.10	mg/Kg wet	5.00		74.4	40-140	2.11	25	
Benzo(a)pyrene	3.69	0.10	mg/Kg wet	5.00		73.8	40-140	2.29	25	
Benzo(b)fluoranthene	3.76	0.10	mg/Kg wet	5.00		75.3	40-140	1.78	25	
Benzo(g,h,i)perylene	3.58	0.10	mg/Kg wet	5.00		71.6	40-140	0.346	25	
Benzo(k)fluoranthene	3.74	0.10	mg/Kg wet	5.00		74.9	40-140	2.09	25	
Chrysene	3.85	0.10	mg/Kg wet	5.00		76.9	40-140	1.64	25	
Dibenz(a,h)anthracene	3.66	0.10	mg/Kg wet	5.00		73.3	40-140	3.95	25	
Fluoranthene	3.87	0.10	mg/Kg wet	5.00		77.3	40-140	0.804	25	
Fluorene	4.08	0.10	mg/Kg wet	5.00		81.6	40-140	2.28	25	
Indeno(1,2,3-cd)pyrene	3.36	0.10	mg/Kg wet	5.00		67.2	40-140	1.58	25	
2-Methylnaphthalene	3.85	0.10	mg/Kg wet	5.00		77.0	40-140	10.1	25	
Naphthalene	3.70	0.10	mg/Kg wet	5.00		73.9	40-140	11.8	25	
Phenanthrene	3.85	0.10	mg/Kg wet	5.00		77.0	40-140	0.0805	25	
Pyrene	3.89	0.10	mg/Kg wet	5.00		77.9	40-140	0.811	25	
n-Decane	2.79	0.10	mg/Kg wet	5.00		55.8	40-140	9.10	25	
n-Docosane	3.88	0.10	mg/Kg wet	5.00		77.6	40-140	3.55	25	
n-Dodecane	3.58	0.10	mg/Kg wet	5.00		71.6	40-140	7.81	25	
n-Eicosane	4.01	0.10	mg/Kg wet	5.00		80.3	40-140	2.85	25	
n-Hexacosane	3.64	0.10	mg/Kg wet	5.00		72.8	40-140	3.77	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B160684 - SW-846 3546										
LCS Dup (B160684-BSD1)				Prepared: 10/14/16 Analyzed: 10/17/16						
n-Hexadecane	4.03	0.10	mg/Kg wet	5.00		80.7	40-140	2.28	25	
n-Hexatriacontane	3.83	0.10	mg/Kg wet	5.00		76.7	40-140	5.61	25	
n-Nonadecane	3.93	0.10	mg/Kg wet	5.00		78.7	40-140	3.24	25	
n-Nonane	1.93	0.10	mg/Kg wet	5.00		38.6	30-140	8.77	25	
n-Octacosane	3.61	0.10	mg/Kg wet	5.00		72.2	40-140	4.04	25	
n-Octadecane	3.99	0.10	mg/Kg wet	5.00		79.9	40-140	2.75	25	
n-Tetracosane	4.02	0.10	mg/Kg wet	5.00		80.3	40-140	3.51	25	
n-Tetradecane	3.90	0.10	mg/Kg wet	5.00		77.9	40-140	1.30	25	
n-Triacontane	3.59	0.10	mg/Kg wet	5.00		71.7	40-140	4.16	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.52*		mg/Kg wet	5.00		70.4	40-140			
Surrogate: o-Terphenyl (OTP)	*3.58*		mg/Kg wet	5.00		71.7	40-140			
Surrogate: 2-Bromonaphthalene	*39.6*		µg/mL	50.0		79.2	40-140			
Surrogate: 2-Fluorobiphenyl	*44.1*		µg/mL	50.0		88.3	40-140			

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B161078 - % Solids										
Duplicate (B161078-DUP1)		**Source: 16J0503-02**		Prepared & Analyzed: 10/19/16						
% Solids	87.5		% Wt		86.9			0.688	20	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-15 (5-10)

Lab Sample ID: 16J0503-01

Date(s) Analyzed: 10/17/2016 10/17/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	0.27	
	2	0.00	-0.03	0.03	0.30	12.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-19 (5-10)

Lab Sample ID: 16J0503-04 Date(s) Analyzed: 10/18/2016 10/18/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	2.1	
	2	0.00	-0.03	0.03	2.0	3.0

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B160549-BS1

Date(s) Analyzed: 10/17/2016 10/17/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.21	
	2	0.00	-0.03	0.03	0.19	8
Aroclor-1260	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.19	7

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B160549-BSD1 Date(s) Analyzed: 10/17/2016 10/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.20	2
Aroclor-1260	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.19	8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B160549-MS1 Date(s) Analyzed: 10/17/2016 10/17/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.17	
	2	0.00	-0.03	0.03	0.17	2
Aroclor-1260	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.23	13

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B160549-MSD1

Date(s) Analyzed: 10/17/2016 10/17/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.18	
	2	0.00	-0.03	0.03	0.17	5
Aroclor-1260	1	0.00	-0.03	0.03	0.25	
	2	0.00	-0.03	0.03	0.28	11

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-10	Analysis was requested after the recommended holding time had passed.
O-32	A dilution was performed as part of the standard analytical procedure.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,ME,NH-P
C19-C36 Aliphatics	CT,NC,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,ME,NH-P
C11-C22 Aromatics	CT,NC,ME,NH-P
Acenaphthene	CT,NC,ME,NH-P
Acenaphthylene	CT,NC,ME,NH-P
Anthracene	CT,NC,ME,NH-P
Benzo(a)anthracene	CT,NC,ME,NH-P
Benzo(a)pyrene	CT,NC,ME,NH-P
Benzo(b)fluoranthene	CT,NC,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,ME,NH-P
Benzo(k)fluoranthene	CT,NC,ME,NH-P
Chrysene	CT,NC,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,ME,NH-P
Fluoranthene	CT,NC,ME,NH-P
Fluorene	CT,NC,ME
Indeno(1,2,3-cd)pyrene	CT,NC,ME,NH-P
2-Methylnaphthalene	CT,NC,ME
Naphthalene	CT,NC,ME,NH-P
Phenanthrene	CT,NC,ME,NH-P
Pyrene	CT,NC,ME,NH-P
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

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www.contestlabs.com

CHAIN OF CUSTODY RECORD

16I0708

Rev. 04.05.12

16J0503

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEI

Address: 60 Brooks

Attention: A. Foley, E. Purdy

Project Location: Lowell

Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:

Project #

Client PO# 1785-6100

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

analyses activated on 10/12/16 - 5 day TAT

Activate PCB testing (8082 Soxhlet)
1. B-15 (5-10') - **16I0708-2**
2. B-18 (5-10') - **16I0708-09**
3. B-18 (10-15')) - **16I0708-10**
4. B-19 (5-10'- **16I0708-12**

EPH and PAH testing done for the following samples.
1. B-19 (5-10') - **16I0708-12**
2. B-18 (5-10') - **16I0708-09**

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPH + PAHs	Asbestos	PCBs (Soxhlet)	Hold for PCBs	# of Containers	** Preservation	***Container Code
01	B-15 (0-5')	9/15	10:15		X	S	U			X				
02	B-15 (5-10')		10:30					X	X		X			
03	B-16 (0-5')		9:15							X				
04	B-16 (5-10)		9:30						X		X			
05	B-16 (10-15')		9:45					X			X			
06	B-17 (0-5')		11:30											
07	B-17 (5-15')		11:45					X	X		X			
08	B-18 (0-5)		10:45							X				
09	B-18 (5-10)		11:00								X			
10	B-18 (10-15)		11:15					X			X			

Comments: please order Analysis ① EPH/PAH ② PCBs ③ Asbestos ④ Hold for PCBs

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

***Cont. Code:
A=amber glass
e
a can
bag
vation
hanol
c Acid
ric Acid
um bisulfate
ydroxide
iosulfate
er _____

Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Dissolved Metals
○ Field Filtered
○ Lab to Filter

Relinquished by: (signature)	Date/Time:
[signature] 9/16/16	15:00
Received by: (signature) [signature] 9/16/16	Date/Time: 1500
Relinquished by: (signature) [signature] 9/16/16	Date/Time: 1900
Received by: (signature) [signature] 9/16/16	Date/Time: 1900

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other _____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: 5-1
Connecticut:
Other:

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

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WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

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con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16I0708

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks
Attention:
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project #
Client PO# 1785-6100

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ○ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPH w PAHs	Asbestos	PCBs (soxlet)	Hold for PCBs									# of Containers / ** Preservation / ***Container Code
11	B-19 (0-5')	9/15/16	12:30		X				X	X										
12	B-19 (5-10)	↓	12:45		↓				X		X									
	~~B-19 (10-15) @ GEC~~		~~1:15~~																	
13	B-19 (15-17.5')	↓	1:30		↓			X												
14	B-20 (0-5')	9/16/16	~~10:05~~ APF	9:59						X										
15	B-20 (5-8)	↓	~~10:40~~ APF	10:05				X			X									
16	B-21 (0-5)		10:30					X	X	X										
17	B-21 (5-10)		10:40					X	X	X										
18	B-21 (10-13.5)	↓	10:56					X	X	X										

Comments:
(1) EPH (2) PCBs (3) ASBESTOS (4) HOLD
Please Analyze in order

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Relinquished by: (signature)	Date/Time:
A. Foley 9/16/16	1500
Received by: (signature) 9/16/16	Date/Time: 1500
Relinquished by: (signature) 9/16/16	Date/Time: 1900
Received by: (signature) 9/16/16	Date/Time: 1900

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

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39 Spruce Street
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CHAIN OF CUSTODY RECORD

16I0708

Rev 04.05.12

Company Name: GEC
Address: 60 Brooks
Attention: A. Foley
Project Location: Lowell
Sampled By: A. Foley, E. Furlong, B. Butler

Telephone:
Project #
Client PO# 1785-6100

DATA DELIVERY (check all that apply)
○ FAX ✓ EMAIL ○ WEBSITE
Fax #
Email: a foley
Format: ○ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPH/PAHs	Asbestos	PCBs	Hold for PCBs	# of Containers	** Preservation	***Container Code
	B-22(0-5)@GEC	9/16/16			X	S	U							
	B-22(5-10)@GEC													
19	B-22(10-15)							X						
20	B-22(15-20)							X						
	B-23(0-5)@GEC													
21	B-23(5-9)							X						

Comments: (1) EPH (2) PCB (3) Asbestos (4) Hold

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Relinquished by: (signature)	Date/Time:
[signature] 9/16/16	15:00
Received by: (signature) [signature] 9/16/16	Date/Time: 15:00
Relinquished by: (signature) [signature] 9/16/16	Date/Time: 19:00
Received by: (signature) [signature] 9/16/16	Date/Time: 1900

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5day
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-1
Connecticut:
Other:

Is your project MCP or RCP ?
✓ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

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16I0708

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks Dr
Attention: A. Foley, E. Furlong, B. Butler
Project Location: Lowell
Sampled By: A. Foley

Telephone:
Project #
Client PO# 1785-6100

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ○ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	EPH/PAHs	Asbestos	PCBs (soxhlet)	VOCs									# of Containers / ** Preservation / ***Container Code
22	B-14A (0-5)	9/16/16	8:55	X	X	SOIL		X	X	X										
23	B-14A (5-10)		9:00	X	X			X	X	X										
24	B-14A (10-15)		9:05	X	X			X	X	X										
25	B-14A (15-16.5)		9:20	X	X			X	X	X										
26	B-14 (10-15)	9/15/16	9:30		X						X									
27	B-14A (10-15)	9/16/16	9:30		X						X									
28	B-26 (10-13)				X						X									
29	B-27 (5-10)				X						X									
30	B-28 (10-15)				X						X									

ANALYSIS REQUESTED

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
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G=glass
P=plastic
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S=summa can
T=tedlar bag
O=Other

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N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Relinquished by: (signature)	Date/Time:
9/16	15:15:00
Received by: (signature) 9/16/16	Date/Time: 15:00
Relinquished by: (signature) 9/16/16	Date/Time: 1900
Received by: (signature) 9/16/16	Date/Time: 1900

Turnaround ‡
☐ 7-Day
☐ 10-Day
☑ Other
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

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Massachusetts: S-1
Connecticut:
Other:

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY:** JM **DATE:** 9/16/16

1) **Was the chain(s) of custody relinquished and signed?** **Yes** ✓ **No** ____ **No COC Incl.**
2) **Does the chain agree with the samples?** **Yes** ✓ **No** ____
   If not, explain:
3) **Are all the samples in good condition?** **Yes** ✓ **No** ____
   If not, explain:
4) **How were the samples received:**
   On Ice ✓ Direct from Sampling ____ Ambient ____ In Cooler(s) ✓
   Were the samples received in Temperature Compliance of (2-6°C)? **Yes** ✓ **No** ____ **N/A** ____
   Temperature °C by Temp blank ____ Temperature °C by Temp gun 3.1
5) **Are there Dissolved samples for the lab to filter?** **Yes** ____ **No** ✓
   Who was notified ____ Date ____ Time ____
6) **Are there any RUSH or SHORT HOLDING TIME samples?** **Yes** ____ **No** ✓
   Who was notified ____ Date ____ Time ____
7) **Location where samples are stored:** Login

   Permission to subcontract samples? Yes No
   (Walk-in clients only) if not already approved
   Client Signature: ____
8) **Do all samples have the proper Acid pH:** **Yes** ____ **No** ____ **N/A** ✓
9) **Do all samples have the proper Base pH:** **Yes** ____ **No** ____ **N/A** ✓
10) **Was the PC notified of any discrepancies with the CoC vs the samples:** **Yes** ____ **N/A** ✓

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	26
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		SOC Kit	
40 mL Vial - type listed below	15	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

* Recieved extra B-21(0-5) sample
- no analyses checked for B-17 (0-5)
- no % solids jars for any of the VOC analyses.

40 mL vials:				Time and Date Frozen:
	# HCl	____	# Methanol 5	
	# Bisulfate	10	# DI Water ____	
	# Thiosulfate	____	Unpreserved ____	

Doc# 277
Rev. 4 August 2013

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	N/A	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	N/A	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	N/A	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	F	no % yours.
19) Trip blanks provided if applicable.	N/A	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	N/A	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JM **Date/Time:** 9/16/16 1900

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16J0503
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16J0503-01 thru 16J0503-04

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☐ Yes	☑ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Project Manager

Printed Name: Lisa A. Worthington Date: 10/20/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 20, 2016

Mike Bradley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-6080
Laboratory Work Order Number: 16J0632

Enclosed are results of analyses for samples received by the laboratory on October 13, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Mike Bradley

REPORT DATE: 10/20/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6080

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16J0632

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-19 (10-15')	16J0632-01	Soil		MADEP-EPH-04-1.1 SM 2540G SW-846 8082A	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

MADEP-EPH-04-1.1

Qualifications:

H-03

Sample received after recommended holding time was exceeded.

Analyte & Samples(s) Qualified:

16J0632-01[B-19 (10-15')]

SW-846 8082A

Qualifications:

O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

16J0632-01[B-19 (10-15')]

V-06

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Aroclor-1016 [2C]
B160702-BS1, B160702-BSD1

Aroclor-1260 [2C]
B160702-BS1, B160702-BSD1

MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16J0632
Date Received: 10/13/2016
Field Sample #: B-19 (10-15')
Sampled: 9/15/2016 13:15
Sample ID: 16J0632-01
Sample Matrix: Soil
Sample Flags: O-32

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/14/16	10/20/16 4:50	KAL
Aroclor-1221 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/14/16	10/20/16 4:50	KAL
Aroclor-1232 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/14/16	10/20/16 4:50	KAL
Aroclor-1242 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/14/16	10/20/16 4:50	KAL
Aroclor-1248 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/14/16	10/20/16 4:50	KAL
Aroclor-1254 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/14/16	10/20/16 4:50	KAL
Aroclor-1260 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/14/16	10/20/16 4:50	KAL
Aroclor-1262 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/14/16	10/20/16 4:50	KAL
Aroclor-1268 [1]	ND	0.11	mg/Kg dry	5		SW-846 8082A	10/14/16	10/20/16 4:50	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	56.4	30-150		10/20/16 4:50
Decachlorobiphenyl [2]	71.9	30-150		10/20/16 4:50
Tetrachloro-m-xylene [1]	63.4	30-150		10/20/16 4:50
Tetrachloro-m-xylene [2]	74.3	30-150		10/20/16 4:50

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16J0632
Date Received: 10/13/2016
Field Sample #: B-19 (10-15')
Sampled: 9/15/2016 13:15
Sample ID: 16J0632-01
Sample Matrix: Soil
Sample Flags: H-03

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	110	53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
C19-C36 Aliphatics	370	53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Unadjusted C11-C22 Aromatics	570	53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
C11-C22 Aromatics	570	53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Acenaphthene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Acenaphthylene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Anthracene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Benzo(a)anthracene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Benzo(a)pyrene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Benzo(b)fluoranthene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Benzo(g,h,i)perylene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Benzo(k)fluoranthene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Chrysene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Dibenz(a,h)anthracene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Fluoranthene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Fluorene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Indeno(1,2,3-cd)pyrene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
2-Methylnaphthalene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Naphthalene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Phenanthrene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS
Pyrene	ND	0.53	mg/Kg dry	5		MADEP-EPH-04-1.1	10/16/16	10/17/16 19:46	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	56.9	40-140		10/17/16 19:46
o-Terphenyl (OTP)	64.1	40-140		10/17/16 19:46
2-Bromonaphthalene	78.9	40-140		10/17/16 19:46
2-Fluorobiphenyl	92.1	40-140		10/17/16 19:46

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Project Location: Lowell
Sample Description:
Work Order: 16J0632

Date Received: 10/13/2016

Field Sample #: B-19 (10-15')
Sampled: 9/15/2016 13:15

Sample ID: 16J0632-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	93.9		% Wt	1		SM 2540G	10/19/16	10/20/16 8:14	MRL

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Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16J0632-01 [B-19 (10-15')]	B160837	20.2	2.00	10/16/16

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16J0632-01 [B-19 (10-15')]	B161112	10/19/16

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16J0632-01 [B-19 (10-15')]	B160702	10.1	10.0	10/14/16

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B160702 - SW-846 3540C										
Blank (B160702-BLK1)				Prepared: 10/14/16 Analyzed: 10/20/16						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.180*		mg/Kg wet	0.200		89.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.238*		mg/Kg wet	0.200		119	30-150			
Surrogate: Tetrachloro-m-xylene	*0.166*		mg/Kg wet	0.200		83.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.214*		mg/Kg wet	0.200		107	30-150			
LCS (B160702-BS1)				Prepared: 10/14/16 Analyzed: 10/20/16						
Aroclor-1016	0.17	0.020	mg/Kg wet	0.196		88.1	40-140			
Aroclor-1016 [2C]	0.20	0.020	mg/Kg wet	0.196		103	40-140			V-06
Aroclor-1260	0.17	0.020	mg/Kg wet	0.196		87.8	40-140			
Aroclor-1260 [2C]	0.20	0.020	mg/Kg wet	0.196		104	40-140			V-06
Surrogate: Decachlorobiphenyl	*0.186*		mg/Kg wet	0.196		94.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.233*		mg/Kg wet	0.196		119	30-150			
Surrogate: Tetrachloro-m-xylene	*0.178*		mg/Kg wet	0.196		90.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.222*		mg/Kg wet	0.196		113	30-150			
LCS Dup (B160702-BSD1)				Prepared: 10/14/16 Analyzed: 10/20/16						
Aroclor-1016	0.18	0.019	mg/Kg wet	0.192		92.8	40-140	3.27	30	
Aroclor-1016 [2C]	0.21	0.019	mg/Kg wet	0.192		112	40-140	5.89	30	V-06
Aroclor-1260	0.18	0.019	mg/Kg wet	0.192		94.3	40-140	5.27	30	
Aroclor-1260 [2C]	0.22	0.019	mg/Kg wet	0.192		112	40-140	5.62	30	V-06
Surrogate: Decachlorobiphenyl	*0.195*		mg/Kg wet	0.192		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.250*		mg/Kg wet	0.192		130	30-150			
Surrogate: Tetrachloro-m-xylene	*0.179*		mg/Kg wet	0.192		93.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.228*		mg/Kg wet	0.192		118	30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B160837 - SW-846 3546										
Blank (B160837-BLK1)				Prepared: 10/16/16 Analyzed: 10/17/16						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*2.78*		mg/Kg wet	5.00		55.5	40-140			
Surrogate: o-Terphenyl (OTP)	*3.05*		mg/Kg wet	5.00		61.1	40-140			
Surrogate: 2-Bromonaphthalene	*38.7*		µg/mL	50.0		77.3	40-140			
Surrogate: 2-Fluorobiphenyl	*45.2*		µg/mL	50.0		90.4	40-140			
LCS (B160837-BS1)				Prepared: 10/16/16 Analyzed: 10/17/16						
Acenaphthene	3.49	0.10	mg/Kg wet	5.00		69.8	40-140			
Acenaphthylene	3.28	0.10	mg/Kg wet	5.00		65.6	40-140			
Anthracene	3.39	0.10	mg/Kg wet	5.00		67.8	40-140			
Benzo(a)anthracene	3.25	0.10	mg/Kg wet	5.00		65.1	40-140			
Benzo(a)pyrene	3.26	0.10	mg/Kg wet	5.00		65.1	40-140			
Benzo(b)fluoranthene	3.28	0.10	mg/Kg wet	5.00		65.7	40-140			
Benzo(g,h,i)perylene	3.08	0.10	mg/Kg wet	5.00		61.5	40-140			
Benzo(k)fluoranthene	3.29	0.10	mg/Kg wet	5.00		65.8	40-140			
Chrysene	3.37	0.10	mg/Kg wet	5.00		67.5	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B160837 - SW-846 3546										
LCS (B160837-BS1)				Prepared: 10/16/16 Analyzed: 10/17/16						
Dibenz(a,h)anthracene	3.32	0.10	mg/Kg wet	5.00		66.3	40-140			
Fluoranthene	3.32	0.10	mg/Kg wet	5.00		66.4	40-140			
Fluorene	3.46	0.10	mg/Kg wet	5.00		69.2	40-140			
Indeno(1,2,3-cd)pyrene	2.94	0.10	mg/Kg wet	5.00		58.8	40-140			
2-Methylnaphthalene	3.08	0.10	mg/Kg wet	5.00		61.6	40-140			
Naphthalene	2.93	0.10	mg/Kg wet	5.00		58.6	40-140			
Phenanthrene	3.30	0.10	mg/Kg wet	5.00		65.9	40-140			
Pyrene	3.34	0.10	mg/Kg wet	5.00		66.8	40-140			
n-Decane	2.59	0.10	mg/Kg wet	5.00		51.7	40-140			
n-Docosane	3.52	0.10	mg/Kg wet	5.00		70.4	40-140			
n-Dodecane	3.03	0.10	mg/Kg wet	5.00		60.5	40-140			
n-Eicosane	3.60	0.10	mg/Kg wet	5.00		71.9	40-140			
n-Hexacosane	3.35	0.10	mg/Kg wet	5.00		66.9	40-140			
n-Hexadecane	3.58	0.10	mg/Kg wet	5.00		71.6	40-140			
n-Hexatriacontane	3.60	0.10	mg/Kg wet	5.00		71.9	40-140			
n-Nonadecane	3.54	0.10	mg/Kg wet	5.00		70.7	40-140			
n-Nonane	2.03	0.10	mg/Kg wet	5.00		40.6	30-140			
n-Octacosane	3.34	0.10	mg/Kg wet	5.00		66.8	40-140			
n-Octadecane	3.57	0.10	mg/Kg wet	5.00		71.4	40-140			
n-Tetracosane	3.66	0.10	mg/Kg wet	5.00		73.3	40-140			
n-Tetradecane	3.37	0.10	mg/Kg wet	5.00		67.5	40-140			
n-Triacontane	3.33	0.10	mg/Kg wet	5.00		66.7	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.30*		mg/Kg wet	5.00		66.1	40-140			
Surrogate: o-Terphenyl (OTP)	*3.18*		mg/Kg wet	5.00		63.6	40-140			
Surrogate: 2-Bromonaphthalene	*35.1*		µg/mL	50.0		70.2	40-140			
Surrogate: 2-Fluorobiphenyl	*42.9*		µg/mL	50.0		85.9	40-140			
LCS Dup (B160837-BSD1)				Prepared: 10/16/16 Analyzed: 10/17/16						
Acenaphthene	4.05	0.10	mg/Kg wet	5.00		81.0	40-140	14.9	25	
Acenaphthylene	3.84	0.10	mg/Kg wet	5.00		76.9	40-140	15.8	25	
Anthracene	3.87	0.10	mg/Kg wet	5.00		77.5	40-140	13.4	25	
Benzo(a)anthracene	3.70	0.10	mg/Kg wet	5.00		74.0	40-140	12.8	25	
Benzo(a)pyrene	3.68	0.10	mg/Kg wet	5.00		73.7	40-140	12.4	25	
Benzo(b)fluoranthene	3.76	0.10	mg/Kg wet	5.00		75.1	40-140	13.4	25	
Benzo(g,h,i)perylene	3.51	0.10	mg/Kg wet	5.00		70.1	40-140	13.1	25	
Benzo(k)fluoranthene	3.72	0.10	mg/Kg wet	5.00		74.5	40-140	12.4	25	
Chrysene	3.80	0.10	mg/Kg wet	5.00		76.0	40-140	12.0	25	
Dibenz(a,h)anthracene	3.77	0.10	mg/Kg wet	5.00		75.4	40-140	12.8	25	
Fluoranthene	3.79	0.10	mg/Kg wet	5.00		75.8	40-140	13.3	25	
Fluorene	3.98	0.10	mg/Kg wet	5.00		79.5	40-140	13.9	25	
Indeno(1,2,3-cd)pyrene	3.36	0.10	mg/Kg wet	5.00		67.2	40-140	13.3	25	
2-Methylnaphthalene	3.68	0.10	mg/Kg wet	5.00		73.5	40-140	17.6	25	
Naphthalene	3.56	0.10	mg/Kg wet	5.00		71.2	40-140	19.5	25	
Phenanthrene	3.77	0.10	mg/Kg wet	5.00		75.3	40-140	13.4	25	
Pyrene	3.82	0.10	mg/Kg wet	5.00		76.4	40-140	13.4	25	
n-Decane	3.08	0.10	mg/Kg wet	5.00		61.6	40-140	17.3	25	
n-Docosane	3.96	0.10	mg/Kg wet	5.00		79.2	40-140	11.8	25	
n-Dodecane	3.57	0.10	mg/Kg wet	5.00		71.3	40-140	16.4	25	
n-Eicosane	4.03	0.10	mg/Kg wet	5.00		80.5	40-140	11.3	25	
n-Hexacosane	3.78	0.10	mg/Kg wet	5.00		75.7	40-140	12.3	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B160837 - SW-846 3546										
LCS Dup (B160837-BSD1)				Prepared: 10/16/16 Analyzed: 10/17/16						
n-Hexadecane	3.96	0.10	mg/Kg wet	5.00		79.3	40-140	10.2	25	
n-Hexatriacontane	4.01	0.10	mg/Kg wet	5.00		80.1	40-140	10.8	25	
n-Nonadecane	3.95	0.10	mg/Kg wet	5.00		79.0	40-140	11.1	25	
n-Nonane	2.40	0.10	mg/Kg wet	5.00		48.0	30-140	16.8	25	
n-Octacosane	3.77	0.10	mg/Kg wet	5.00		75.4	40-140	12.1	25	
n-Octadecane	3.98	0.10	mg/Kg wet	5.00		79.6	40-140	10.8	25	
n-Tetracosane	4.14	0.10	mg/Kg wet	5.00		82.8	40-140	12.2	25	
n-Tetradecane	3.82	0.10	mg/Kg wet	5.00		76.5	40-140	12.5	25	
n-Triacontane	3.75	0.10	mg/Kg wet	5.00		75.0	40-140	11.8	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.62*		mg/Kg wet	5.00		72.5	40-140			
Surrogate: o-Terphenyl (OTP)	*3.58*		mg/Kg wet	5.00		71.5	40-140			
Surrogate: 2-Bromonaphthalene	*39.5*		µg/mL	50.0		79.1	40-140			
Surrogate: 2-Fluorobiphenyl	*46.0*		µg/mL	50.0		92.0	40-140			

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B160702-BS1

Date(s) Analyzed: 10/20/2016 10/20/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.17	
	2	0.00	-0.03	0.03	0.20	15
Aroclor-1260	1	0.00	-0.03	0.03	0.17	
	2	0.00	-0.03	0.03	0.20	15

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B160702-BSD1 Date(s) Analyzed: 10/20/2016 10/20/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.18	
	2	0.00	-0.03	0.03	0.21	17
Aroclor-1260	1	0.00	-0.03	0.03	0.18	
	2	0.00	-0.03	0.03	0.22	20

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-03	Sample received after recommended holding time was exceeded.
O-32	A dilution was performed as part of the standard analytical procedure.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,ME,NH-P
C19-C36 Aliphatics	CT,NC,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,ME,NH-P
C11-C22 Aromatics	CT,NC,ME,NH-P
Acenaphthene	CT,NC,ME,NH-P
Acenaphthylene	CT,NC,ME,NH-P
Anthracene	CT,NC,ME,NH-P
Benzo(a)anthracene	CT,NC,ME,NH-P
Benzo(a)pyrene	CT,NC,ME,NH-P
Benzo(b)fluoranthene	CT,NC,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,ME,NH-P
Benzo(k)fluoranthene	CT,NC,ME,NH-P
Chrysene	CT,NC,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,ME,NH-P
Fluoranthene	CT,NC,ME,NH-P
Fluorene	CT,NC,ME
Indeno(1,2,3-cd)pyrene	CT,NC,ME,NH-P
2-Methylnaphthalene	CT,NC,ME
Naphthalene	CT,NC,ME,NH-P
Phenanthrene	CT,NC,ME,NH-P
Pyrene	CT,NC,ME,NH-P
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA

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The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16J0632

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks Drive
Telephone: 781-356-9140
Project # 1785-6080
Client PO#
Attention:
Project Location: Lowell
Sampled By: A Foley

DATA DELIVERY (check all that apply)
○ FAX ◉ EMAIL ○ WEBSITE
Fax #
Email:
Format: ◉ PDF ◉ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	8082 Soxlhet	EPH & Target PAHs											# of Containers	** Preservation	***Container Code
	B-15 (5-10') (16I0708-2)	9-15-2016	1030					✓														
	B-18 (5-10') (1610708-9)	9-15-2016	1100					✓	✓													
	B-18 (10-15') (16I0708-10)	9-15-2016	1115					✓														
	B-19 (5-10') (16I0708-12)	9-15-2016	1245					✓	✓													
1	B-19 (10-15') (For Pickup)	9-15-2016	1315					✓	✓													

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other_____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other_____

Comments:
1 JAR TO BE PICKED UP.

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:	
Received by: (signature)	Date/Time: 10/13/16	
Relinquished by: (signature)	Date/Time: 10/13/16	
Received by: (signature)	Date/Time: 10/13/16 1820	

Turnaround ††
☐ 7-Day
☐ 10-Day
◉ Other 3 DAY

RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S 1
Connecticut:
Other:

Is your project MCP or RCP ?
◉ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

†† TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY:** JM **DATE:** 10/13/16

1) **Was the chain(s) of custody relinquished and signed?** **Yes** ✓ **No** ____ **No COC Incl.**
2) **Does the chain agree with the samples?** **Yes** ✓ **No** ____
   If not, explain:
3) **Are all the samples in good condition?** **Yes** ✓ **No** ____
   If not, explain:
4) **How were the samples received:**

On Ice ✓ Direct from Sampling ____ Ambient ____ In Cooler(s) ✓

Were the samples received in Temperature Compliance of (2-6°C)? **Yes** ✓ **No** ____ **N/A** ____

Temperature °C by Temp blank ____ Temperature °C by Temp gun 3.5

5) **Are there Dissolved samples for the lab to filter?** **Yes** ____ **No** ✓
   Who was notified ____ Date ____ Time ____
6) **Are there any RUSH or SHORT HOLDING TIME samples?** **Yes** ____ **No** ✓
   Who was notified ____ Date ____ Time ____
7) **Location where samples are stored:** Login

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) **Do all samples have the proper Acid pH:** **Yes** ____ **No** ____ **N/A** ✓
9) **Do all samples have the proper Base pH:** **Yes** ____ **No** ____ **N/A** ✓
10) **Was the PC notified of any discrepancies with the CoC vs the samples:** **Yes** ____ **N/A** ✓

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	1
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		SOC Kit	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials:	# HCl ____	# Methanol ____	Time and Date Frozen:
	# Bisulfate ____	# DI Water ____	
	# Thiosulfate ____	Unpreserved ____	

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	N/A	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	N/A	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	N/A	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	N/A	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	N/A	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JM **Date/Time:** 10/13/16 1820

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16J0632
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16J0632-01

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A (X)	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Project Manager

Printed Name: Lisa A. Worthington Date: 10/20/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

September 22, 2016

Drew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell, MA
Client Job Number:
Project Number: 1785-6100
Laboratory Work Order Number: 16I0700

Enclosed are results of analyses for samples received by the laboratory on September 16, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Drew Foley

REPORT DATE: 9/22/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6100

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16I0700

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Comp1	16I0700-01	Soil		SM 2540G	
				SM21-22 2510B Modified	
				SW-846 1030	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
				SW-846 8100 Modified	
				SW-846 8151A	
				SW-846 8270D	
				SW-846 9014	
				SW-846 9030A	
				SW-846 9045C	
Comp 2	16I0700-02	Soil		SM 2540G	
				SM21-22 2510B Modified	
				SW-846 1030	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
				SW-846 8100 Modified	
				SW-846 8151A	
				SW-846 8270D	
				SW-846 9014	
				SW-846 9030A	
				SW-846 9045C	
Comp 3	16I0700-03	Soil		SM 2540G	
				SM21-22 2510B Modified	
				SW-846 1030	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
				SW-846 8100 Modified	
				SW-846 8151A	
				SW-846 8270D	
				SW-846 9014	
				SW-846 9030A	
				SW-846 9045C	

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Drew Foley

REPORT DATE: 9/22/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6100

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16I0700

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Comp 4	16I0700-04	Soil		SM 2540G	
				SM21-22 2510B Modified	
				SW-846 1030	
				SW-846 6010C-D	
				SW-846 7471B	
				SW-846 8081B	
				SW-846 8082A	
				SW-846 8100 Modified	
				SW-846 8151A	
				SW-846 8270D	
				SW-846 9014	
				SW-846 9030A	
				SW-846 9045C	

con-test® ANALYTICAL LABORATORY

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

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SW-846 8081B

Qualifications:

DL-03

Elevated reporting limit due to matrix.

Analyte & Samples(s) Qualified:

16I0700-01[Comp1], 16I0700-02[Comp 2], 16I0700-03[Comp 3], 16I0700-04[Comp 4]

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl
16I0700-01[Comp1], 16I0700-02[Comp 2], 16I0700-03[Comp 3], 16I0700-04[Comp 4]

Decachlorobiphenyl [2C]
16I0700-01[Comp1], 16I0700-02[Comp 2], 16I0700-03[Comp 3], 16I0700-04[Comp 4]

Tetrachloro-m-xylene
16I0700-01[Comp1], 16I0700-02[Comp 2], 16I0700-03[Comp 3], 16I0700-04[Comp 4]

Tetrachloro-m-xylene [2C]
16I0700-01[Comp1], 16I0700-02[Comp 2], 16I0700-03[Comp 3], 16I0700-04[Comp 4]

SW-846 8100 Modified

Qualifications:

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

o-Terphenyl
16I0700-01[Comp1], 16I0700-02[Comp 2], 16I0700-03[Comp 3], 16I0700-04[Comp 4]

SW-846 8151A

Qualifications:

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Dinoseb
16I0700-01[Comp1], 16I0700-02[Comp 2], 16I0700-03[Comp 3], 16I0700-04[Comp 4], B158589-BLK1, B158589-BS1, B158589-BSD1

Dinoseb [2C]
16I0700-01[Comp1], 16I0700-02[Comp 2], 16I0700-03[Comp 3], 16I0700-04[Comp 4], B158589-BLK1, B158589-BS1, B158589-BSD1

V-06

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.

Analyte & Samples(s) Qualified:

Dalapon
B158589-BS1, B158589-BSD1

Dalapon [2C]
B158589-BS1, B158589-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Dalapon
16I0700-01[Comp1], 16I0700-02[Comp 2], 16I0700-03[Comp 3], 16I0700-04[Comp 4]

Dalapon [2C]
16I0700-01[Comp1], 16I0700-02[Comp 2], 16I0700-03[Comp 3], 16I0700-04[Comp 4]

SW-846 8270D

Qualifications:

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

RL-08

Elevated reporting limit due to sample matrix interference. MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

16I0700-01[Comp1], 16I0700-02[Comp 2], 16I0700-03[Comp 3], 16I0700-04[Comp 4]

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

2,4-Dinitrophenol

16I0700-01[Comp1], 16I0700-02[Comp 2], 16I0700-03[Comp 3], 16I0700-04[Comp 4]

2,4-Dinitrotoluene

16I0700-01[Comp1], 16I0700-02[Comp 2], 16I0700-03[Comp 3], 16I0700-04[Comp 4]

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

SW-846 8100 Modified

TPH (C9-C36) is quantitated against a calibration made with a diesel standard.

SW-846 8270D

Laboratory control sample recoveries for required MCP Data Enhancement 8270 compounds were all within control limits specified by the method, 40-140% for base/neutrals and 30-130% for acids except for “difficult analytes” listed below and/or otherwise listed in this narrative. Difficult analytes limits are 15 and 140%: 2,4-dinitrophenol, 4-chloroaniline, 4-nitrophenol, and phenol.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp1
Sampled: 9/16/2016 14:00
Sample ID: 16I0700-01
Sample Matrix: Soil
Sample Flags: RL-08

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Acenaphthylene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Acetophenone	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Aniline	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Anthracene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Benzo(a)anthracene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Benzo(a)pyrene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Benzo(b)fluoranthene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Benzo(g,h,i)perylene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Benzo(k)fluoranthene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Bis(2-chloroethoxy)methane	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Bis(2-chloroethyl)ether	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Bis(2-chloroisopropyl)ether	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Bis(2-Ethylhexyl)phthalate	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
4-Bromophenylphenylether	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Butylbenzylphthalate	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
4-Chloroaniline	ND	33	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
2-Chloronaphthalene	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
2-Chlorophenol	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Chrysene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Dibenz(a,h)anthracene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Dibenzofuran	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Di-n-butylphthalate	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
1,2-Dichlorobenzene	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
1,3-Dichlorobenzene	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
1,4-Dichlorobenzene	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
3,3-Dichlorobenzidine	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
2,4-Dichlorophenol	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Diethylphthalate	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
2,4-Dimethylphenol	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Dimethylphthalate	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
2,4-Dinitrophenol	ND	33	mg/Kg dry	10	V-20	SW-846 8270D	9/19/16	9/20/16 9:57	BGL
2,4-Dinitrotoluene	ND	17	mg/Kg dry	10	V-20	SW-846 8270D	9/19/16	9/20/16 9:57	BGL
2,6-Dinitrotoluene	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Di-n-octylphthalate	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Fluoranthene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Fluorene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Hexachlorobenzene	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Hexachlorobutadiene	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Hexachloroethane	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Indeno(1,2,3-cd)pyrene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Isophorone	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
2-Methylnaphthalene	12	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp1
Sampled: 9/16/2016 14:00
Sample ID: 16I0700-01
Sample Matrix: Soil
Sample Flags: RL-08

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
3/4-Methylphenol	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Naphthalene	ND	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Nitrobenzene	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
2-Nitrophenol	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
4-Nitrophenol	ND	33	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Pentachlorophenol	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Phenanthrene	11	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Phenol	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
Pyrene	12	8.4	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
1,2,4-Trichlorobenzene	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
2,4,5-Trichlorophenol	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL
2,4,6-Trichlorophenol	ND	17	mg/Kg dry	10		SW-846 8270D	9/19/16	9/20/16 9:57	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	102	30-130		9/20/16 9:57
Phenol-d6	106	30-130		9/20/16 9:57
Nitrobenzene-d5	112	30-130		9/20/16 9:57
2-Fluorobiphenyl	106	30-130		9/20/16 9:57
2,4,6-Tribromophenol	96.6	30-130		9/20/16 9:57
p-Terphenyl-d14	125	30-130		9/20/16 9:57

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp1
Sampled: 9/16/2016 14:00
Sample ID: 16I0700-01
Sample Matrix: Soil
Sample Flags: DL-03

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
alpha-BHC [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
beta-BHC [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
delta-BHC [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
gamma-BHC (Lindane) [1]	ND	0.13	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
Chlordane [1]	ND	1.3	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
4,4'-DDD [1]	ND	0.25	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
4,4'-DDE [1]	ND	0.25	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
4,4'-DDT [1]	ND	0.25	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
Dieldrin [1]	ND	0.25	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
Endosulfan I [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
Endosulfan II [1]	ND	0.50	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
Endosulfan sulfate [1]	ND	0.50	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
Endrin [1]	ND	0.50	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
Endrin ketone [1]	ND	0.50	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
Heptachlor [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
Heptachlor epoxide [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
Hexachlorobenzene [1]	ND	0.38	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB
Methoxychlor [1]	ND	3.1	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 21:44	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/21/16 21:44
Decachlorobiphenyl [2]	*	30-150	S-01	9/21/16 21:44
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/21/16 21:44
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/21/16 21:44

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700

Date Received: 9/16/2016

Field Sample #: Comp1
Sampled: 9/16/2016 14:00

Sample ID: 16I0700-01

Sample Matrix: Soil

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	130	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 12:49	JMB
2,4-DB [1]	240	130	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 12:49	JMB
2,4,5-TP (Silvex) [1]	ND	13	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 12:49	JMB
2,4,5-T [1]	ND	13	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 12:49	JMB
Dalalpon [1]	ND	320	µg/kg dry	1	V-20	SW-846 8151A	9/19/16	9/20/16 12:49	JMB
Dicamba [1]	ND	13	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 12:49	JMB
Dichloroprop [1]	ND	130	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 12:49	JMB
Dinoseb [1]	ND	63	µg/kg dry	1	R-05	SW-846 8151A	9/19/16	9/20/16 12:49	JMB
MCPA [1]	ND	13000	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 12:49	JMB
MCPP [1]	ND	13000	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 12:49	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	84.9	30-150		9/20/16 12:49
2,4-Dichlorophenylacetic acid [2]	90.4	30-150		9/20/16 12:49

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp1
Sampled: 9/16/2016 14:00
Sample ID: 16I0700-01
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:32	KAL
Aroclor-1221 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:32	KAL
Aroclor-1232 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:32	KAL
Aroclor-1242 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:32	KAL
Aroclor-1248 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:32	KAL
Aroclor-1254 [2]	0.34	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:32	KAL
Aroclor-1260 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:32	KAL
Aroclor-1262 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:32	KAL
Aroclor-1268 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:32	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	76.6	30-150		9/20/16 23:32
Decachlorobiphenyl [2]	91.2	30-150		9/20/16 23:32
Tetrachloro-m-xylene [1]	69.7	30-150		9/20/16 23:32
Tetrachloro-m-xylene [2]	71.5	30-150		9/20/16 23:32

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp1
Sampled: 9/16/2016 14:00
Sample ID: 16I0700-01
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	2100	530	mg/Kg dry	50		SW-846 8100 Modified	9/19/16	9/20/16 12:18	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
o-Terphenyl	*	40-140	S-01	9/20/16 12:18

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Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp1
Sampled: 9/16/2016 14:00
Sample ID: 16I0700-01
Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	3.1	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:00	AME
Arsenic	5.4	3.1	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:00	AME
Barium	53	3.1	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:00	AME
Beryllium	ND	0.31	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:00	AME
Cadmium	0.53	0.31	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:00	AME
Chromium	12	0.63	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:00	AME
Lead	22	0.94	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:00	AME
Mercury	ND	0.033	mg/Kg dry	1		SW-846 7471B	9/19/16	9/19/16 15:20	SHN
Nickel	16	0.63	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:00	AME
Selenium	ND	6.3	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:00	AME
Silver	ND	0.63	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:00	AME
Thallium	ND	3.1	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:00	AME
Vanadium	44	1.3	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:00	AME
Zinc	24	1.3	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:00	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700

Date Received: 9/16/2016

Field Sample #: Comp1
Sampled: 9/16/2016 14:00

Sample ID: 16I0700-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ignitability	Present		present/absent	1		SW-846 1030	9/19/16	9/19/16 18:00	DJM
pH @20.8°C	8.6		pH Units	1		SW-846 9045C	9/17/16	9/17/16 9:00	IS
Reactive Cyanide	ND	3.9	mg/Kg	1		SW-846 9014	9/19/16	9/20/16 13:15	AG
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	9/19/16	9/20/16 13:05	AG
Specific conductance	16	2.0	µmhos/cm	1		SM21-22 2510B Modified	9/20/16	9/20/16 11:45	AG
% Solids	77.9		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 2
Sampled: 9/16/2016 14:05
Sample ID: 16I0700-02
Sample Matrix: Soil
Sample Flags: RL-08

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Acenaphthylene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Acetophenone	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Aniline	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Anthracene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Benzo(a)anthracene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Benzo(a)pyrene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Benzo(b)fluoranthene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Benzo(g,h,i)perylene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Benzo(k)fluoranthene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Bis(2-chloroethoxy)methane	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Bis(2-chloroethyl)ether	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Bis(2-chloroisopropyl)ether	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Bis(2-Ethylhexyl)phthalate	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
4-Bromophenylphenylether	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Butylbenzylphthalate	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
4-Chloroaniline	ND	16	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
2-Chloronaphthalene	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
2-Chlorophenol	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Chrysene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Dibenz(a,h)anthracene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Dibenzofuran	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Di-n-butylphthalate	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
1,2-Dichlorobenzene	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
1,3-Dichlorobenzene	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
1,4-Dichlorobenzene	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
3,3-Dichlorobenzidine	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
2,4-Dichlorophenol	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Diethylphthalate	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
2,4-Dimethylphenol	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Dimethylphthalate	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
2,4-Dinitrophenol	ND	16	mg/Kg dry	5	V-20	SW-846 8270D	9/19/16	9/20/16 10:20	BGL
2,4-Dinitrotoluene	ND	8.4	mg/Kg dry	5	V-20	SW-846 8270D	9/19/16	9/20/16 10:20	BGL
2,6-Dinitrotoluene	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Di-n-octylphthalate	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Fluoranthene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Fluorene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Hexachlorobenzene	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Hexachlorobutadiene	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Hexachloroethane	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Indeno(1,2,3-cd)pyrene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Isophorone	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
2-Methylnaphthalene	15	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 2
Sampled: 9/16/2016 14:05
Sample ID: 16I0700-02
Sample Matrix: Soil
Sample Flags: RL-08

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
3/4-Methylphenol	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Naphthalene	4.4	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Nitrobenzene	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
2-Nitrophenol	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
4-Nitrophenol	ND	16	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Pentachlorophenol	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Phenanthrene	11	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Phenol	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
Pyrene	12	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
1,2,4-Trichlorobenzene	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
2,4,5-Trichlorophenol	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL
2,4,6-Trichlorophenol	ND	8.4	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:20	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	71.8	30-130		9/20/16 10:20
Phenol-d6	76.4	30-130		9/20/16 10:20
Nitrobenzene-d5	77.9	30-130		9/20/16 10:20
2-Fluorobiphenyl	71.0	30-130		9/20/16 10:20
2,4,6-Tribromophenol	69.6	30-130		9/20/16 10:20
p-Terphenyl-d14	98.3	30-130		9/20/16 10:20

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700

Date Received: 9/16/2016

Field Sample #: Comp 2
Sampled: 9/16/2016 14:05

Sample ID: 16I0700-02

Sample Matrix: Soil

Sample Flags: DL-03

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
alpha-BHC [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
beta-BHC [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
delta-BHC [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
gamma-BHC (Lindane) [1]	ND	0.12	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
Chlordane [1]	ND	1.2	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
4,4'-DDD [1]	ND	0.25	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
4,4'-DDE [1]	ND	0.25	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
4,4'-DDT [1]	ND	0.25	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
Dieldrin [1]	ND	0.25	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
Endosulfan I [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
Endosulfan II [1]	ND	0.50	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
Endosulfan sulfate [1]	ND	0.50	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
Endrin [1]	ND	0.50	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
Endrin ketone [1]	ND	0.50	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
Heptachlor [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
Heptachlor epoxide [1]	ND	0.31	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
Hexachlorobenzene [1]	ND	0.37	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB
Methoxychlor [1]	ND	3.1	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:06	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/21/16 22:06
Decachlorobiphenyl [2]	*	30-150	S-01	9/21/16 22:06
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/21/16 22:06
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/21/16 22:06

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 2
Sampled: 9/16/2016 14:05
Sample ID: 16I0700-02
Sample Matrix: Soil

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	130	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 13:29	JMB
2,4-DB [2]	410	130	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 13:29	JMB
2,4,5-TP (Silvex) [1]	ND	13	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 13:29	JMB
2,4,5-T [1]	ND	13	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 13:29	JMB
Dalalpon [1]	ND	310	µg/kg dry	1	V-20	SW-846 8151A	9/19/16	9/20/16 13:29	JMB
Dicamba [1]	ND	13	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 13:29	JMB
Dichloroprop [1]	ND	130	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 13:29	JMB
Dinoseb [1]	ND	63	µg/kg dry	1	R-05	SW-846 8151A	9/19/16	9/20/16 13:29	JMB
MCPA [1]	ND	13000	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 13:29	JMB
MCPP [1]	ND	13000	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 13:29	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	84.6	30-150		9/20/16 13:29
2,4-Dichlorophenylacetic acid [2]	104	30-150		9/20/16 13:29

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 2
Sampled: 9/16/2016 14:05
Sample ID: 16I0700-02
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:49	KAL
Aroclor-1221 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:49	KAL
Aroclor-1232 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:49	KAL
Aroclor-1242 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:49	KAL
Aroclor-1248 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:49	KAL
Aroclor-1254 [2]	0.26	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:49	KAL
Aroclor-1260 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:49	KAL
Aroclor-1262 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:49	KAL
Aroclor-1268 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/20/16 23:49	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	69.6	30-150		9/20/16 23:49
Decachlorobiphenyl [2]	83.8	30-150		9/20/16 23:49
Tetrachloro-m-xylene [1]	64.6	30-150		9/20/16 23:49
Tetrachloro-m-xylene [2]	66.0	30-150		9/20/16 23:49

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 2
Sampled: 9/16/2016 14:05
Sample ID: 16I0700-02
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	3200	530	mg/Kg dry	50		SW-846 8100 Modified	9/19/16	9/20/16 12:36	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
o-Terphenyl	*	40-140	S-01	9/20/16 12:36

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Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700

Date Received: 9/16/2016

Field Sample #: Comp 2
Sampled: 9/16/2016 14:05

Sample ID: 16I0700-02

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	3.2	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:06	AME
Arsenic	6.8	3.2	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:06	AME
Barium	67	3.2	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:06	AME
Beryllium	0.33	0.32	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:06	AME
Cadmium	0.48	0.32	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:06	AME
Chromium	11	0.64	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:06	AME
Lead	19	0.95	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:06	AME
Mercury	ND	0.031	mg/Kg dry	1		SW-846 7471B	9/19/16	9/19/16 15:22	SHN
Nickel	13	0.64	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:06	AME
Selenium	ND	6.4	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:06	AME
Silver	ND	0.64	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:06	AME
Thallium	ND	3.2	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:06	AME
Vanadium	42	1.3	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:06	AME
Zinc	17	1.3	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:06	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700

Date Received: 9/16/2016

Field Sample #: Comp 2
Sampled: 9/16/2016 14:05

Sample ID: 16I0700-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ignitability	Present		present/absent	1		SW-846 1030	9/19/16	9/19/16 18:00	DJM
pH @20.9°C	9.0		pH Units	1		SW-846 9045C	9/17/16	9/17/16 9:00	IS
Reactive Cyanide	ND	4.0	mg/Kg	1		SW-846 9014	9/19/16	9/20/16 13:15	AG
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	9/19/16	9/20/16 13:05	AG
Specific conductance	27	2.0	µmhos/cm	1		SM21-22 2510B Modified	9/20/16	9/20/16 11:45	AG
% Solids	78.6		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 3
Sampled: 9/16/2016 14:10
Sample ID: 16I0700-03
Sample Matrix: Soil
Sample Flags: RL-08

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Acenaphthylene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Acetophenone	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Aniline	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Anthracene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Benzo(a)anthracene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Benzo(a)pyrene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Benzo(b)fluoranthene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Benzo(g,h,i)perylene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Benzo(k)fluoranthene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Bis(2-chloroethoxy)methane	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Bis(2-chloroethyl)ether	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Bis(2-chloroisopropyl)ether	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Bis(2-Ethylhexyl)phthalate	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
4-Bromophenylphenylether	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Butylbenzylphthalate	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
4-Chloroaniline	ND	16	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
2-Chloronaphthalene	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
2-Chlorophenol	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Chrysene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Dibenz(a,h)anthracene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Dibenzofuran	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Di-n-butylphthalate	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
1,2-Dichlorobenzene	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
1,3-Dichlorobenzene	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
1,4-Dichlorobenzene	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
3,3-Dichlorobenzidine	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
2,4-Dichlorophenol	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Diethylphthalate	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
2,4-Dimethylphenol	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Dimethylphthalate	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
2,4-Dinitrophenol	ND	16	mg/Kg dry	5	V-20	SW-846 8270D	9/19/16	9/20/16 10:43	BGL
2,4-Dinitrotoluene	ND	8.5	mg/Kg dry	5	V-20	SW-846 8270D	9/19/16	9/20/16 10:43	BGL
2,6-Dinitrotoluene	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Di-n-octylphthalate	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Fluoranthene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Fluorene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Hexachlorobenzene	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Hexachlorobutadiene	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Hexachloroethane	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Indeno(1,2,3-cd)pyrene	ND	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Isophorone	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
2-Methylnaphthalene	18	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 3
Sampled: 9/16/2016 14:10
Sample ID: 16I0700-03
Sample Matrix: Soil
Sample Flags: RL-08

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
3/4-Methylphenol	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Naphthalene	5.1	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Nitrobenzene	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
2-Nitrophenol	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
4-Nitrophenol	ND	16	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Pentachlorophenol	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Phenanthrene	13	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Phenol	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
Pyrene	13	4.2	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
1,2,4-Trichlorobenzene	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
2,4,5-Trichlorophenol	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL
2,4,6-Trichlorophenol	ND	8.5	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 10:43	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	70.3	30-130		9/20/16 10:43
Phenol-d6	74.0	30-130		9/20/16 10:43
Nitrobenzene-d5	79.9	30-130		9/20/16 10:43
2-Fluorobiphenyl	71.4	30-130		9/20/16 10:43
2,4,6-Tribromophenol	68.2	30-130		9/20/16 10:43
p-Terphenyl-d14	108	30-130		9/20/16 10:43

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 3
Sampled: 9/16/2016 14:10
Sample ID: 16I0700-03
Sample Matrix: Soil
Sample Flags: DL-03

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.32	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
alpha-BHC [1]	ND	0.32	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
beta-BHC [1]	ND	0.32	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
delta-BHC [1]	ND	0.32	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
gamma-BHC (Lindane) [1]	ND	0.13	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
Chlordane [1]	ND	1.3	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
4,4'-DDD [1]	ND	0.25	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
4,4'-DDE [1]	ND	0.25	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
4,4'-DDT [1]	ND	0.25	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
Dieldrin [1]	ND	0.25	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
Endosulfan I [1]	ND	0.32	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
Endosulfan II [1]	ND	0.51	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
Endosulfan sulfate [1]	ND	0.51	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
Endrin [1]	ND	0.51	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
Endrin ketone [1]	ND	0.51	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
Heptachlor [1]	ND	0.32	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
Heptachlor epoxide [1]	ND	0.32	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
Hexachlorobenzene [1]	ND	0.38	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB
Methoxychlor [1]	ND	3.2	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:28	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/21/16 22:28
Decachlorobiphenyl [2]	*	30-150	S-01	9/21/16 22:28
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/21/16 22:28
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/21/16 22:28

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 3
Sampled: 9/16/2016 14:10
Sample ID: 16I0700-03
Sample Matrix: Soil

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	120	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:09	JMB
2,4-DB [2]	520	120	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:09	JMB
2,4,5-TP (Silvex) [1]	ND	12	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:09	JMB
2,4,5-T [1]	ND	12	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:09	JMB
Dalalpon [1]	ND	310	µg/kg dry	1	V-20	SW-846 8151A	9/19/16	9/20/16 14:09	JMB
Dicamba [1]	ND	12	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:09	JMB
Dichloroprop [1]	ND	120	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:09	JMB
Dinoseb [1]	ND	62	µg/kg dry	1	R-05	SW-846 8151A	9/19/16	9/20/16 14:09	JMB
MCPA [1]	ND	12000	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:09	JMB
MCPP [1]	ND	12000	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:09	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	84.0	30-150		9/20/16 14:09
2,4-Dichlorophenylacetic acid [2]	88.3	30-150		9/20/16 14:09

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 3
Sampled: 9/16/2016 14:10
Sample ID: 16I0700-03
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:06	KAL
Aroclor-1221 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:06	KAL
Aroclor-1232 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:06	KAL
Aroclor-1242 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:06	KAL
Aroclor-1248 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:06	KAL
Aroclor-1254 [2]	1.3	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:06	KAL
Aroclor-1260 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:06	KAL
Aroclor-1262 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:06	KAL
Aroclor-1268 [1]	ND	0.13	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:06	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	60.3	30-150		9/21/16 0:06
Decachlorobiphenyl [2]	72.0	30-150		9/21/16 0:06
Tetrachloro-m-xylene [1]	56.0	30-150		9/21/16 0:06
Tetrachloro-m-xylene [2]	57.7	30-150		9/21/16 0:06

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 3
Sampled: 9/16/2016 14:10
Sample ID: 16I0700-03
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	3100	530	mg/Kg dry	50		SW-846 8100 Modified	9/19/16	9/20/16 12:54	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
o-Terphenyl	*	40-140	S-01	9/20/16 12:54

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700

Date Received: 9/16/2016

Field Sample #: Comp 3
Sampled: 9/16/2016 14:10

Sample ID: 16I0700-03

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	3.2	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:11	AME
Arsenic	5.3	3.2	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:11	AME
Barium	50	3.2	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:11	AME
Beryllium	ND	0.32	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:11	AME
Cadmium	0.51	0.32	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:11	AME
Chromium	13	0.63	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:11	AME
Lead	19	0.95	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:11	AME
Mercury	ND	0.032	mg/Kg dry	1		SW-846 7471B	9/19/16	9/19/16 15:23	SHN
Nickel	14	0.63	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:11	AME
Selenium	ND	6.3	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:11	AME
Silver	ND	0.63	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:11	AME
Thallium	ND	3.2	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:11	AME
Vanadium	43	1.3	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:11	AME
Zinc	34	1.3	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:11	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700

Date Received: 9/16/2016

Field Sample #: Comp 3
Sampled: 9/16/2016 14:10

Sample ID: 16I0700-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ignitability	Present		present/absent	1		SW-846 1030	9/19/16	9/19/16 18:00	DJM
pH @21.2°C	9.6		pH Units	1		SW-846 9045C	9/17/16	9/17/16 9:00	IS
Reactive Cyanide	ND	3.9	mg/Kg	1		SW-846 9014	9/19/16	9/20/16 13:15	AG
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	9/19/16	9/20/16 13:05	AG
Specific conductance	18	2.0	µmhos/cm	1		SM21-22 2510B Modified	9/20/16	9/20/16 11:45	AG
% Solids	79.1		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA | Sample Description: | Work Order: 16I0700

Date Received: 9/16/2016

Field Sample #: Comp 4 | Sampled: 9/16/2016 14:15

Sample ID: 16I0700-04

Sample Matrix: Soil

Sample Flags: RL-08

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acenaphthene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Acenaphthylene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Acetophenone	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Aniline	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Anthracene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Benzo(a)anthracene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Benzo(a)pyrene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Benzo(b)fluoranthene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Benzo(g,h,i)perylene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Benzo(k)fluoranthene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Bis(2-chloroethoxy)methane	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Bis(2-chloroethyl)ether	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Bis(2-chloroisopropyl)ether	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Bis(2-Ethylhexyl)phthalate	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
4-Bromophenylphenylether	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Butylbenzylphthalate	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
4-Chloroaniline	ND	16	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
2-Chloronaphthalene	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
2-Chlorophenol	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Chrysene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Dibenz(a,h)anthracene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Dibenzofuran	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Di-n-butylphthalate	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
1,2-Dichlorobenzene	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
1,3-Dichlorobenzene	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
1,4-Dichlorobenzene	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
3,3-Dichlorobenzidine	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
2,4-Dichlorophenol	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Diethylphthalate	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
2,4-Dimethylphenol	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Dimethylphthalate	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
2,4-Dinitrophenol	ND	16	mg/Kg dry	5	V-20	SW-846 8270D	9/19/16	9/20/16 11:06	BGL
2,4-Dinitrotoluene	ND	8.3	mg/Kg dry	5	V-20	SW-846 8270D	9/19/16	9/20/16 11:06	BGL
2,6-Dinitrotoluene	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Di-n-octylphthalate	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
1,2-Diphenylhydrazine (as Azobenzene)	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Fluoranthene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Fluorene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Hexachlorobenzene	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Hexachlorobutadiene	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Hexachloroethane	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Indeno(1,2,3-cd)pyrene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Isophorone	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
2-Methylnaphthalene	12	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 4
Sampled: 9/16/2016 14:15
Sample ID: 16I0700-04
Sample Matrix: Soil
Sample Flags: RL-08

Semivolatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2-Methylphenol	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
3/4-Methylphenol	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Naphthalene	ND	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Nitrobenzene	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
2-Nitrophenol	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
4-Nitrophenol	ND	16	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Pentachlorophenol	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Phenanthrene	10	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Phenol	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
Pyrene	13	4.1	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
1,2,4-Trichlorobenzene	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
2,4,5-Trichlorophenol	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL
2,4,6-Trichlorophenol	ND	8.3	mg/Kg dry	5		SW-846 8270D	9/19/16	9/20/16 11:06	BGL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2-Fluorophenol	54.2	30-130		9/20/16 11:06
Phenol-d6	59.1	30-130		9/20/16 11:06
Nitrobenzene-d5	61.9	30-130		9/20/16 11:06
2-Fluorobiphenyl	57.9	30-130		9/20/16 11:06
2,4,6-Tribromophenol	45.4	30-130		9/20/16 11:06
p-Terphenyl-d14	88.8	30-130		9/20/16 11:06

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Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 4
Sampled: 9/16/2016 14:15
Sample ID: 16I0700-04
Sample Matrix: Soil
Sample Flags: DL-03

Organochloride Pesticides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aldrin [1]	ND	0.30	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
alpha-BHC [1]	ND	0.30	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
beta-BHC [1]	ND	0.30	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
delta-BHC [1]	ND	0.30	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
gamma-BHC (Lindane) [1]	ND	0.12	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
Chlordane [1]	ND	1.2	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
4,4'-DDD [1]	ND	0.24	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
4,4'-DDE [1]	ND	0.24	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
4,4'-DDT [1]	ND	0.24	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
Dieldrin [1]	ND	0.24	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
Endosulfan I [1]	ND	0.30	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
Endosulfan II [1]	ND	0.49	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
Endosulfan sulfate [1]	ND	0.49	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
Endrin [1]	ND	0.49	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
Endrin ketone [1]	ND	0.49	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
Heptachlor [1]	ND	0.30	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
Heptachlor epoxide [1]	ND	0.30	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
Hexachlorobenzene [1]	ND	0.36	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB
Methoxychlor [1]	ND	3.0	mg/Kg dry	50		SW-846 8081B	9/19/16	9/21/16 22:50	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	9/21/16 22:50
Decachlorobiphenyl [2]	*	30-150	S-01	9/21/16 22:50
Tetrachloro-m-xylene [1]	*	30-150	S-01	9/21/16 22:50
Tetrachloro-m-xylene [2]	*	30-150	S-01	9/21/16 22:50

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Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 4
Sampled: 9/16/2016 14:15
Sample ID: 16I0700-04
Sample Matrix: Soil

Herbicides by GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
2,4-D [1]	ND	120	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:49	JMB
2,4-DB [2]	150	120	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:49	JMB
2,4,5-TP (Silvex) [1]	ND	12	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:49	JMB
2,4,5-T [1]	ND	12	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:49	JMB
Dalalpon [1]	ND	300	µg/kg dry	1	V-20	SW-846 8151A	9/19/16	9/20/16 14:49	JMB
Dicamba [1]	ND	12	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:49	JMB
Dichloroprop [1]	ND	120	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:49	JMB
Dinoseb [1]	ND	59	µg/kg dry	1	R-05	SW-846 8151A	9/19/16	9/20/16 14:49	JMB
MCPA [1]	ND	12000	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:49	JMB
MCPP [1]	ND	12000	µg/kg dry	1		SW-846 8151A	9/19/16	9/20/16 14:49	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,4-Dichlorophenylacetic acid [1]	90.3	30-150		9/20/16 14:49
2,4-Dichlorophenylacetic acid [2]	92.8	30-150		9/20/16 14:49

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Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 4
Sampled: 9/16/2016 14:15
Sample ID: 16I0700-04
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:24	KAL
Aroclor-1221 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:24	KAL
Aroclor-1232 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:24	KAL
Aroclor-1242 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:24	KAL
Aroclor-1248 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:24	KAL
Aroclor-1254 [2]	0.17	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:24	KAL
Aroclor-1260 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:24	KAL
Aroclor-1262 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:24	KAL
Aroclor-1268 [1]	ND	0.12	mg/Kg dry	5		SW-846 8082A	9/19/16	9/21/16 0:24	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	65.3	30-150		9/21/16 0:24
Decachlorobiphenyl [2]	76.9	30-150		9/21/16 0:24
Tetrachloro-m-xylene [1]	61.5	30-150		9/21/16 0:24
Tetrachloro-m-xylene [2]	64.0	30-150		9/21/16 0:24

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Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700
Date Received: 9/16/2016
Field Sample #: Comp 4
Sampled: 9/16/2016 14:15
Sample ID: 16I0700-04
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
TPH (C9-C36)	2100	510	mg/Kg dry	50		SW-846 8100 Modified	9/19/16	9/20/16 13:12	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
o-Terphenyl	*	40-140	S-01	9/20/16 13:12

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Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700

Date Received: 9/16/2016

Field Sample #: Comp 4
Sampled: 9/16/2016 14:15

Sample ID: 16I0700-04

Sample Matrix: Soil

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	3.0	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:16	AME
Arsenic	6.8	3.0	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:16	AME
Barium	110	3.0	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:16	AME
Beryllium	0.31	0.30	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:16	AME
Cadmium	0.52	0.30	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:16	AME
Chromium	12	0.59	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:16	AME
Lead	14	0.89	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:16	AME
Mercury	ND	0.029	mg/Kg dry	1		SW-846 7471B	9/19/16	9/19/16 15:24	SHN
Nickel	13	0.59	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:16	AME
Selenium	ND	5.9	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:16	AME
Silver	ND	0.59	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:16	AME
Thallium	ND	3.0	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:16	AME
Vanadium	44	1.2	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:16	AME
Zinc	14	1.2	mg/Kg dry	1		SW-846 6010C-D	9/19/16	9/19/16 22:16	AME

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I0700

Date Received: 9/16/2016

Field Sample #: Comp 4
Sampled: 9/16/2016 14:15

Sample ID: 16I0700-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ignitability	Present		present/absent	1		SW-846 1030	9/19/16	9/19/16 18:00	DJM
pH @21.2°C	9.0		pH Units	1		SW-846 9045C	9/17/16	9/17/16 9:00	IS
Reactive Cyanide	ND	4.0	mg/Kg	1		SW-846 9014	9/19/16	9/20/16 13:15	AG
Reactive Sulfide	ND	20	mg/Kg	1		SW-846 9030A	9/19/16	9/20/16 13:05	AG
Specific conductance	20	2.0	µmhos/cm	1		SM21-22 2510B Modified	9/20/16	9/20/16 11:45	AG
% Solids	82.4		% Wt	1		SM 2540G	9/19/16	9/20/16 7:30	MRL

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16I0700-01 [Comp1]	B158556	09/19/16
16I0700-02 [Comp 2]	B158556	09/19/16
16I0700-03 [Comp 3]	B158556	09/19/16
16I0700-04 [Comp 4]	B158556	09/19/16

SM21-22 2510B Modified

Lab Number [Field ID]	Batch	Initial [g]	Date
16I0700-01 [Comp1]	B158670	1.00	09/20/16
16I0700-02 [Comp 2]	B158670	1.00	09/20/16
16I0700-03 [Comp 3]	B158670	1.00	09/20/16
16I0700-04 [Comp 4]	B158670	1.00	09/20/16

SW-846 1030

Lab Number [Field ID]	Batch	Initial [g]	Date
16I0700-01 [Comp1]	B158626	50.0	09/19/16
16I0700-02 [Comp 2]	B158626	50.0	09/19/16
16I0700-03 [Comp 3]	B158626	50.0	09/19/16
16I0700-04 [Comp 4]	B158626	50.0	09/19/16

Prep Method: SW-846 3051-SW-846 6010C-D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16I0700-01 [Comp1]	B158546	1.02	50.0	09/19/16
16I0700-02 [Comp 2]	B158546	1.00	50.0	09/19/16
16I0700-03 [Comp 3]	B158546	1.00	50.0	09/19/16
16I0700-04 [Comp 4]	B158546	1.03	50.0	09/19/16

Prep Method: SW-846 7471-SW-846 7471B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16I0700-01 [Comp1]	B158547	0.587	50.0	09/19/16
16I0700-02 [Comp 2]	B158547	0.614	50.0	09/19/16
16I0700-03 [Comp 3]	B158547	0.586	50.0	09/19/16
16I0700-04 [Comp 4]	B158547	0.620	50.0	09/19/16

Prep Method: SW-846 3546-SW-846 8081B

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16I0700-01 [Comp1]	B158572	10.2	10.0	09/19/16
16I0700-02 [Comp 2]	B158572	10.2	10.0	09/19/16
16I0700-03 [Comp 3]	B158572	10.0	10.0	09/19/16
16I0700-04 [Comp 4]	B158572	10.0	10.0	09/19/16

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16I0700-01 [Comp1]	B158594	10.0	10.0	09/19/16
16I0700-02 [Comp 2]	B158594	10.2	10.0	09/19/16
16I0700-03 [Comp 3]	B158594	10.0	10.0	09/19/16
16I0700-04 [Comp 4]	B158594	10.0	10.0	09/19/16

Prep Method: SW-846 3546-SW-846 8100 Modified

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16I0700-01 [Comp1]	B158620	30.0	1.00	09/19/16
16I0700-02 [Comp 2]	B158620	30.0	1.00	09/19/16
16I0700-03 [Comp 3]	B158620	30.0	1.00	09/19/16
16I0700-04 [Comp 4]	B158620	30.0	1.00	09/19/16

Prep Method: SW-846 8151-SW-846 8151A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16I0700-01 [Comp1]	B158589	5.07	5.00	09/19/16
16I0700-02 [Comp 2]	B158589	5.05	5.00	09/19/16
16I0700-03 [Comp 3]	B158589	5.13	5.00	09/19/16
16I0700-04 [Comp 4]	B158589	5.12	5.00	09/19/16

Prep Method: SW-846 3546-SW-846 8270D

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16I0700-01 [Comp1]	B158576	15.5	2.00	09/19/16
16I0700-02 [Comp 2]	B158576	15.4	2.00	09/19/16
16I0700-03 [Comp 3]	B158576	15.2	2.00	09/19/16
16I0700-04 [Comp 4]	B158576	15.0	2.00	09/19/16

SW-846 9014

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16I0700-01 [Comp1]	B158590	25.5	250	09/19/16
16I0700-02 [Comp 2]	B158590	25.2	250	09/19/16
16I0700-03 [Comp 3]	B158590	25.3	250	09/19/16
16I0700-04 [Comp 4]	B158590	25.3	250	09/19/16

SW-846 9030A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16I0700-01 [Comp1]	B158591	25.5	250	09/19/16
16I0700-02 [Comp 2]	B158591	25.2	250	09/19/16
16I0700-03 [Comp 3]	B158591	25.3	250	09/19/16
16I0700-04 [Comp 4]	B158591	25.3	250	09/19/16

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

SW-846 9045C

Lab Number [Field ID]	Batch	Initial [g]	Date
16I0700-01 [Comp1]	B158533	20.0	09/17/16
16I0700-02 [Comp 2]	B158533	20.0	09/17/16
16I0700-03 [Comp 3]	B158533	20.0	09/17/16
16I0700-04 [Comp 4]	B158533	20.0	09/17/16

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158576 - SW-846 3546										
Blank (B158576-BLK1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Acenaphthene	ND	0.17	mg/Kg wet							
Acenaphthylene	ND	0.17	mg/Kg wet							
Acetophenone	ND	0.34	mg/Kg wet							
Aniline	ND	0.34	mg/Kg wet							
Anthracene	ND	0.17	mg/Kg wet							
Benzo(a)anthracene	ND	0.17	mg/Kg wet							
Benzo(a)pyrene	ND	0.17	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.17	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.17	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.17	mg/Kg wet							
Bis(2-chloroethoxy)methane	ND	0.34	mg/Kg wet							
Bis(2-chloroethyl)ether	ND	0.34	mg/Kg wet							
Bis(2-chloroisopropyl)ether	ND	0.34	mg/Kg wet							
Bis(2-Ethylhexyl)phthalate	ND	0.34	mg/Kg wet							
4-Bromophenylphenylether	ND	0.34	mg/Kg wet							
Butylbenzylphthalate	ND	0.34	mg/Kg wet							
4-Chloroaniline	ND	0.66	mg/Kg wet							
2-Chloronaphthalene	ND	0.34	mg/Kg wet							
2-Chlorophenol	ND	0.34	mg/Kg wet							
Chrysene	ND	0.17	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.17	mg/Kg wet							
Dibenzofuran	ND	0.34	mg/Kg wet							
Di-n-butylphthalate	ND	0.34	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.34	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.34	mg/Kg wet							
3,3-Dichlorobenzidine	ND	0.17	mg/Kg wet							
2,4-Dichlorophenol	ND	0.34	mg/Kg wet							
Diethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dimethylphenol	ND	0.34	mg/Kg wet							
Dimethylphthalate	ND	0.34	mg/Kg wet							
2,4-Dinitrophenol	ND	0.66	mg/Kg wet							
2,4-Dinitrotoluene	ND	0.34	mg/Kg wet							
2,6-Dinitrotoluene	ND	0.34	mg/Kg wet							
Di-n-octylphthalate	ND	0.34	mg/Kg wet							
1,2-Diphenylhydrazine (as Azobenzene)	ND	0.34	mg/Kg wet							
Fluoranthene	ND	0.17	mg/Kg wet							
Fluorene	ND	0.17	mg/Kg wet							
Hexachlorobenzene	ND	0.34	mg/Kg wet							
Hexachlorobutadiene	ND	0.34	mg/Kg wet							
Hexachloroethane	ND	0.34	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.17	mg/Kg wet							
Isophorone	ND	0.34	mg/Kg wet							
2-Methylnaphthalene	ND	0.17	mg/Kg wet							
2-Methylphenol	ND	0.34	mg/Kg wet							
3/4-Methylphenol	ND	0.34	mg/Kg wet							
Naphthalene	ND	0.17	mg/Kg wet							
Nitrobenzene	ND	0.34	mg/Kg wet							
2-Nitrophenol	ND	0.34	mg/Kg wet							
4-Nitrophenol	ND	0.66	mg/Kg wet							
Pentachlorophenol	ND	0.34	mg/Kg wet							
Phenanthrene	ND	0.17	mg/Kg wet							

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158576 - SW-846 3546										
Blank (B158576-BLK1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Phenol	ND	0.34	mg/Kg wet							
Pyrene	ND	0.17	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.34	mg/Kg wet							
2,4,5-Trichlorophenol	ND	0.34	mg/Kg wet							
2,4,6-Trichlorophenol	ND	0.34	mg/Kg wet							
Surrogate: 2-Fluorophenol	*5.59*		mg/Kg wet	6.67		83.8	30-130			
Surrogate: Phenol-d6	*5.75*		mg/Kg wet	6.67		86.3	30-130			
Surrogate: Nitrobenzene-d5	*2.78*		mg/Kg wet	3.33		83.3	30-130			
Surrogate: 2-Fluorobiphenyl	*2.83*		mg/Kg wet	3.33		84.8	30-130			
Surrogate: 2,4,6-Tribromophenol	*5.61*		mg/Kg wet	6.67		84.1	30-130			
Surrogate: p-Terphenyl-d14	*3.94*		mg/Kg wet	3.33		118	30-130			
LCS (B158576-BS1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Acenaphthene	1.58	0.17	mg/Kg wet	1.67		94.5	40-140			
Acenaphthylene	1.50	0.17	mg/Kg wet	1.67		90.0	40-140			
Acetophenone	1.42	0.34	mg/Kg wet	1.67		84.9	40-140			
Aniline	1.19	0.34	mg/Kg wet	1.67		71.6	40-140			
Anthracene	1.61	0.17	mg/Kg wet	1.67		96.5	40-140			
Benzo(a)anthracene	1.61	0.17	mg/Kg wet	1.67		96.7	40-140			
Benzo(a)pyrene	1.68	0.17	mg/Kg wet	1.67		101	40-140			
Benzo(b)fluoranthene	1.59	0.17	mg/Kg wet	1.67		95.4	40-140			
Benzo(g,h,i)perylene	1.65	0.17	mg/Kg wet	1.67		99.2	40-140			
Benzo(k)fluoranthene	1.56	0.17	mg/Kg wet	1.67		93.5	40-140			
Bis(2-chloroethoxy)methane	1.60	0.34	mg/Kg wet	1.67		96.2	40-140			
Bis(2-chloroethyl)ether	1.50	0.34	mg/Kg wet	1.67		90.0	40-140			
Bis(2-chloroisopropyl)ether	1.38	0.34	mg/Kg wet	1.67		83.1	40-140			
Bis(2-Ethylhexyl)phthalate	1.82	0.34	mg/Kg wet	1.67		109	40-140			
4-Bromophenylphenylether	1.69	0.34	mg/Kg wet	1.67		102	40-140			
Butylbenzylphthalate	1.78	0.34	mg/Kg wet	1.67		107	40-140			
4-Chloroaniline	1.17	0.66	mg/Kg wet	1.67		70.0	15-140			†
2-Chloronaphthalene	1.44	0.34	mg/Kg wet	1.67		86.3	40-140			
2-Chlorophenol	1.46	0.34	mg/Kg wet	1.67		87.9	30-130			
Chrysene	1.50	0.17	mg/Kg wet	1.67		90.3	40-140			
Dibenz(a,h)anthracene	1.69	0.17	mg/Kg wet	1.67		101	40-140			
Dibenzofuran	1.59	0.34	mg/Kg wet	1.67		95.7	40-140			
Di-n-butylphthalate	1.59	0.34	mg/Kg wet	1.67		95.1	40-140			
1,2-Dichlorobenzene	1.34	0.34	mg/Kg wet	1.67		80.4	40-140			
1,3-Dichlorobenzene	1.28	0.34	mg/Kg wet	1.67		76.7	40-140			
1,4-Dichlorobenzene	1.32	0.34	mg/Kg wet	1.67		79.4	40-140			
3,3-Dichlorobenzidine	1.29	0.17	mg/Kg wet	1.67		77.4	40-140			
2,4-Dichlorophenol	1.50	0.34	mg/Kg wet	1.67		90.1	30-130			
Diethylphthalate	1.61	0.34	mg/Kg wet	1.67		96.4	40-140			
2,4-Dimethylphenol	1.51	0.34	mg/Kg wet	1.67		90.7	30-130			
Dimethylphthalate	1.62	0.34	mg/Kg wet	1.67		96.9	40-140			
2,4-Dinitrophenol	0.759	0.66	mg/Kg wet	1.67		45.5	15-140			†
2,4-Dinitrotoluene	1.58	0.34	mg/Kg wet	1.67		95.0	40-140			
2,6-Dinitrotoluene	1.59	0.34	mg/Kg wet	1.67		95.5	40-140			
Di-n-octylphthalate	1.70	0.34	mg/Kg wet	1.67		102	40-140			
1,2-Diphenylhydrazine (as Azobenzene)	1.66	0.34	mg/Kg wet	1.67		99.3	40-140			
Fluoranthene	1.48	0.17	mg/Kg wet	1.67		88.5	40-140			
Fluorene	1.53	0.17	mg/Kg wet	1.67		91.5	40-140			
Hexachlorobenzene	1.60	0.34	mg/Kg wet	1.67		95.8	40-140			

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158576 - SW-846 3546										
LCS (B158576-BS1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Hexachlorobutadiene	1.44	0.34	mg/Kg wet	1.67		86.3	40-140			
Hexachloroethane	1.34	0.34	mg/Kg wet	1.67		80.3	40-140			
Indeno(1,2,3-cd)pyrene	1.68	0.17	mg/Kg wet	1.67		101	40-140			
Isophorone	1.57	0.34	mg/Kg wet	1.67		94.4	40-140			
2-Methylnaphthalene	1.58	0.17	mg/Kg wet	1.67		94.5	40-140			
2-Methylphenol	1.39	0.34	mg/Kg wet	1.67		83.2	30-130			
3/4-Methylphenol	1.53	0.34	mg/Kg wet	1.67		91.5	30-130			
Naphthalene	1.43	0.17	mg/Kg wet	1.67		86.0	40-140			
Nitrobenzene	1.45	0.34	mg/Kg wet	1.67		87.2	40-140			
2-Nitrophenol	1.47	0.34	mg/Kg wet	1.67		88.0	30-130			
4-Nitrophenol	1.40	0.66	mg/Kg wet	1.67		84.0	15-140			†
Pentachlorophenol	1.14	0.34	mg/Kg wet	1.67		68.3	30-130			
Phenanthrene	1.57	0.17	mg/Kg wet	1.67		94.3	40-140			
Phenol	1.56	0.34	mg/Kg wet	1.67		93.7	15-140			†
Pyrene	1.63	0.17	mg/Kg wet	1.67		97.9	40-140			
1,2,4-Trichlorobenzene	1.44	0.34	mg/Kg wet	1.67		86.2	40-140			
2,4,5-Trichlorophenol	1.55	0.34	mg/Kg wet	1.67		93.1	30-130			
2,4,6-Trichlorophenol	1.59	0.34	mg/Kg wet	1.67		95.6	30-130			
Surrogate: 2-Fluorophenol	*6.25*		mg/Kg wet	6.67		93.8	30-130			
Surrogate: Phenol-d6	*6.50*		mg/Kg wet	6.67		97.4	30-130			
Surrogate: Nitrobenzene-d5	*3.10*		mg/Kg wet	3.33		93.1	30-130			
Surrogate: 2-Fluorobiphenyl	*3.14*		mg/Kg wet	3.33		94.3	30-130			
Surrogate: 2,4,6-Tribromophenol	*6.53*		mg/Kg wet	6.67		97.9	30-130			
Surrogate: p-Terphenyl-d14	*3.95*		mg/Kg wet	3.33		118	30-130			
LCS Dup (B158576-BSD1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Acenaphthene	1.69	0.17	mg/Kg wet	1.67		102	40-140	7.14	30	
Acenaphthylene	1.65	0.17	mg/Kg wet	1.67		99.1	40-140	9.64	30	
Acetophenone	1.45	0.34	mg/Kg wet	1.67		87.1	40-140	2.53	30	
Aniline	1.28	0.34	mg/Kg wet	1.67		76.9	40-140	7.11	30	
Anthracene	1.71	0.17	mg/Kg wet	1.67		103	40-140	6.15	30	
Benzo(a)anthracene	1.67	0.17	mg/Kg wet	1.67		100	40-140	3.52	30	
Benzo(a)pyrene	1.78	0.17	mg/Kg wet	1.67		107	40-140	5.59	30	
Benzo(b)fluoranthene	1.69	0.17	mg/Kg wet	1.67		101	40-140	6.02	30	
Benzo(g,h,i)perylene	1.75	0.17	mg/Kg wet	1.67		105	40-140	5.70	30	
Benzo(k)fluoranthene	1.64	0.17	mg/Kg wet	1.67		98.7	40-140	5.35	30	
Bis(2-chloroethoxy)methane	1.66	0.34	mg/Kg wet	1.67		99.5	40-140	3.35	30	
Bis(2-chloroethyl)ether	1.56	0.34	mg/Kg wet	1.67		93.8	40-140	4.16	30	
Bis(2-chloroisopropyl)ether	1.43	0.34	mg/Kg wet	1.67		85.8	40-140	3.27	30	
Bis(2-Ethylhexyl)phthalate	1.90	0.34	mg/Kg wet	1.67		114	40-140	4.36	30	
4-Bromophenylphenylether	1.72	0.34	mg/Kg wet	1.67		103	40-140	1.39	30	
Butylbenzylphthalate	1.81	0.34	mg/Kg wet	1.67		108	40-140	1.75	30	
4-Chloroaniline	1.27	0.66	mg/Kg wet	1.67		76.2	15-140	8.53	30	†
2-Chloronaphthalene	1.57	0.34	mg/Kg wet	1.67		94.2	40-140	8.66	30	
2-Chlorophenol	1.52	0.34	mg/Kg wet	1.67		91.3	30-130	3.86	30	
Chrysene	1.56	0.17	mg/Kg wet	1.67		93.7	40-140	3.68	30	
Dibenz(a,h)anthracene	1.73	0.17	mg/Kg wet	1.67		104	40-140	2.77	30	
Dibenzofuran	1.74	0.34	mg/Kg wet	1.67		104	40-140	8.49	30	
Di-n-butylphthalate	1.68	0.34	mg/Kg wet	1.67		101	40-140	5.52	30	
1,2-Dichlorobenzene	1.39	0.34	mg/Kg wet	1.67		83.6	40-140	3.85	30	
1,3-Dichlorobenzene	1.34	0.34	mg/Kg wet	1.67		80.1	40-140	4.41	30	
1,4-Dichlorobenzene	1.32	0.34	mg/Kg wet	1.67		79.4	40-140	0.0252	30	

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QUALITY CONTROL

Semivolatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158576 - SW-846 3546										
LCS Dup (B158576-BSD1)				Prepared: 09/19/16 Analyzed: 09/20/16						
3,3-Dichlorobenzidine	1.37	0.17	mg/Kg wet	1.67		82.3	40-140	6.06	30	
2,4-Dichlorophenol	1.58	0.34	mg/Kg wet	1.67		95.0	30-130	5.29	30	
Diethylphthalate	1.73	0.34	mg/Kg wet	1.67		104	40-140	7.18	30	
2,4-Dimethylphenol	1.59	0.34	mg/Kg wet	1.67		95.7	30-130	5.37	30	
Dimethylphthalate	1.76	0.34	mg/Kg wet	1.67		106	40-140	8.65	30	
2,4-Dinitrophenol	0.650	0.66	mg/Kg wet	1.67		39.0	15-140	15.4	30	†
2,4-Dinitrotoluene	1.72	0.34	mg/Kg wet	1.67		103	40-140	8.39	30	
2,6-Dinitrotoluene	1.78	0.34	mg/Kg wet	1.67		107	40-140	11.0	30	
Di-n-octylphthalate	1.68	0.34	mg/Kg wet	1.67		101	40-140	1.20	30	
1,2-Diphenylhydrazine (as Azobenzene)	1.72	0.34	mg/Kg wet	1.67		103	40-140	3.87	30	
Fluoranthene	1.57	0.17	mg/Kg wet	1.67		94.2	40-140	6.28	30	
Fluorene	1.65	0.17	mg/Kg wet	1.67		99.2	40-140	8.03	30	
Hexachlorobenzene	1.70	0.34	mg/Kg wet	1.67		102	40-140	6.45	30	
Hexachlorobutadiene	1.51	0.34	mg/Kg wet	1.67		90.7	40-140	4.93	30	
Hexachloroethane	1.39	0.34	mg/Kg wet	1.67		83.1	40-140	3.40	30	
Indeno(1,2,3-cd)pyrene	1.81	0.17	mg/Kg wet	1.67		108	40-140	7.01	30	
Isophorone	1.65	0.34	mg/Kg wet	1.67		99.1	40-140	4.84	30	
2-Methylnaphthalene	1.68	0.17	mg/Kg wet	1.67		101	40-140	6.65	30	
2-Methylphenol	1.44	0.34	mg/Kg wet	1.67		86.2	30-130	3.54	30	
3/4-Methylphenol	1.56	0.34	mg/Kg wet	1.67		93.4	30-130	2.08	30	
Naphthalene	1.52	0.17	mg/Kg wet	1.67		91.3	40-140	5.96	30	
Nitrobenzene	1.56	0.34	mg/Kg wet	1.67		93.8	40-140	7.29	30	
2-Nitrophenol	1.55	0.34	mg/Kg wet	1.67		92.8	30-130	5.35	30	
4-Nitrophenol	1.61	0.66	mg/Kg wet	1.67		96.6	15-140	13.9	30	†
Pentachlorophenol	1.19	0.34	mg/Kg wet	1.67		71.4	30-130	4.44	30	
Phenanthrene	1.69	0.17	mg/Kg wet	1.67		102	40-140	7.41	30	
Phenol	1.61	0.34	mg/Kg wet	1.67		96.3	15-140	2.71	30	†
Pyrene	1.66	0.17	mg/Kg wet	1.67		99.4	40-140	1.58	30	
1,2,4-Trichlorobenzene	1.55	0.34	mg/Kg wet	1.67		93.3	40-140	7.82	30	
2,4,5-Trichlorophenol	1.67	0.34	mg/Kg wet	1.67		100	30-130	7.31	30	
2,4,6-Trichlorophenol	1.71	0.34	mg/Kg wet	1.67		103	30-130	7.12	30	
Surrogate: 2-Fluorophenol	*6.41*		mg/Kg wet	6.67		96.2	30-130			
Surrogate: Phenol-d6	*6.61*		mg/Kg wet	6.67		99.2	30-130			
Surrogate: Nitrobenzene-d5	*3.28*		mg/Kg wet	3.33		98.5	30-130			
Surrogate: 2-Fluorobiphenyl	*3.37*		mg/Kg wet	3.33		101	30-130			
Surrogate: 2,4,6-Tribromophenol	*6.91*		mg/Kg wet	6.67		104	30-130			
Surrogate: p-Terphenyl-d14	*3.89*		mg/Kg wet	3.33		117	30-130			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158572 - SW-846 3546										
Blank (B158572-BLK1)				Prepared: 09/19/16 Analyzed: 09/21/16						
Aldrin	ND	0.0050	mg/Kg wet							
Aldrin [2C]	ND	0.0050	mg/Kg wet							
alpha-BHC	ND	0.0050	mg/Kg wet							
alpha-BHC [2C]	ND	0.0050	mg/Kg wet							
beta-BHC	ND	0.0050	mg/Kg wet							
beta-BHC [2C]	ND	0.0050	mg/Kg wet							
delta-BHC	ND	0.0050	mg/Kg wet							
delta-BHC [2C]	ND	0.0050	mg/Kg wet							
gamma-BHC (Lindane)	ND	0.0020	mg/Kg wet							
gamma-BHC (Lindane) [2C]	ND	0.0020	mg/Kg wet							
Chlordane	ND	0.020	mg/Kg wet							
Chlordane [2C]	ND	0.020	mg/Kg wet							
4,4'-DDD	ND	0.0040	mg/Kg wet							
4,4'-DDD [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDE	ND	0.0040	mg/Kg wet							
4,4'-DDE [2C]	ND	0.0040	mg/Kg wet							
4,4'-DDT	ND	0.0040	mg/Kg wet							
4,4'-DDT [2C]	ND	0.0040	mg/Kg wet							
Dieldrin	ND	0.0040	mg/Kg wet							
Dieldrin [2C]	ND	0.0040	mg/Kg wet							
Endosulfan I	ND	0.0050	mg/Kg wet							
Endosulfan I [2C]	ND	0.0050	mg/Kg wet							
Endosulfan II	ND	0.0080	mg/Kg wet							
Endosulfan II [2C]	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate	ND	0.0080	mg/Kg wet							
Endosulfan Sulfate [2C]	ND	0.0080	mg/Kg wet							
Endrin	ND	0.0080	mg/Kg wet							
Endrin [2C]	ND	0.0080	mg/Kg wet							
Endrin Aldehyde	ND	0.0080	mg/Kg wet							
Endrin Aldehyde [2C]	ND	0.0080	mg/Kg wet							
Endrin Ketone	ND	0.0080	mg/Kg wet							
Endrin Ketone [2C]	ND	0.0080	mg/Kg wet							
Heptachlor	ND	0.0050	mg/Kg wet							
Heptachlor [2C]	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide	ND	0.0050	mg/Kg wet							
Heptachlor Epoxide [2C]	ND	0.0050	mg/Kg wet							
Hexachlorobenzene	ND	0.0060	mg/Kg wet							
Hexachlorobenzene [2C]	ND	0.0060	mg/Kg wet							
Methoxychlor	ND	0.050	mg/Kg wet							
Methoxychlor [2C]	ND	0.050	mg/Kg wet							
Toxaphene	ND	0.10	mg/Kg wet							
Toxaphene [2C]	ND	0.10	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.188*		mg/Kg wet	0.200		94.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.205*		mg/Kg wet	0.200		102	30-150			
Surrogate: Tetrachloro-m-xylene	*0.181*		mg/Kg wet	0.200		90.4	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.182*		mg/Kg wet	0.200		90.9	30-150			

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158572 - SW-846 3546										
LCS (B158572-BS1)				Prepared: 09/19/16 Analyzed: 09/21/16						
Aldrin	0.094	0.0050	mg/Kg wet	0.100		94.1	40-140			
Aldrin [2C]	0.10	0.0050	mg/Kg wet	0.100		99.5	40-140			
alpha-BHC	0.091	0.0050	mg/Kg wet	0.100		90.8	40-140			
alpha-BHC [2C]	0.095	0.0050	mg/Kg wet	0.100		94.7	40-140			
beta-BHC	0.086	0.0050	mg/Kg wet	0.100		86.4	40-140			
beta-BHC [2C]	0.089	0.0050	mg/Kg wet	0.100		89.3	40-140			
delta-BHC	0.089	0.0050	mg/Kg wet	0.100		88.7	40-140			
delta-BHC [2C]	0.092	0.0050	mg/Kg wet	0.100		91.8	40-140			
gamma-BHC (Lindane)	0.093	0.0020	mg/Kg wet	0.100		93.2	40-140			
gamma-BHC (Lindane) [2C]	0.098	0.0020	mg/Kg wet	0.100		98.3	40-140			
4,4'-DDD	0.092	0.0040	mg/Kg wet	0.100		91.8	40-140			
4,4'-DDD [2C]	0.10	0.0040	mg/Kg wet	0.100		103	40-140			
4,4'-DDE	0.094	0.0040	mg/Kg wet	0.100		93.8	40-140			
4,4'-DDE [2C]	0.11	0.0040	mg/Kg wet	0.100		106	40-140			
4,4'-DDT	0.084	0.0040	mg/Kg wet	0.100		83.9	40-140			
4,4'-DDT [2C]	0.096	0.0040	mg/Kg wet	0.100		95.5	40-140			
Dieldrin	0.089	0.0040	mg/Kg wet	0.100		89.1	40-140			
Dieldrin [2C]	0.10	0.0040	mg/Kg wet	0.100		101	40-140			
Endosulfan I	0.085	0.0050	mg/Kg wet	0.100		84.8	40-140			
Endosulfan I [2C]	0.095	0.0050	mg/Kg wet	0.100		94.6	40-140			
Endosulfan II	0.085	0.0080	mg/Kg wet	0.100		85.0	40-140			
Endosulfan II [2C]	0.096	0.0080	mg/Kg wet	0.100		95.7	40-140			
Endosulfan Sulfate	0.084	0.0080	mg/Kg wet	0.100		83.9	40-140			
Endosulfan Sulfate [2C]	0.097	0.0080	mg/Kg wet	0.100		97.4	40-140			
Endrin	0.087	0.0080	mg/Kg wet	0.100		87.3	40-140			
Endrin [2C]	0.098	0.0080	mg/Kg wet	0.100		97.9	40-140			
Endrin Ketone	0.088	0.0080	mg/Kg wet	0.100		87.9	40-140			
Endrin Ketone [2C]	0.10	0.0080	mg/Kg wet	0.100		102	40-140			
Heptachlor	0.089	0.0050	mg/Kg wet	0.100		88.9	40-140			
Heptachlor [2C]	0.095	0.0050	mg/Kg wet	0.100		95.4	40-140			
Heptachlor Epoxide	0.090	0.0050	mg/Kg wet	0.100		90.5	40-140			
Heptachlor Epoxide [2C]	0.093	0.0050	mg/Kg wet	0.100		93.4	40-140			
Hexachlorobenzene	0.085	0.0060	mg/Kg wet	0.100		85.1	40-140			
Hexachlorobenzene [2C]	0.088	0.0060	mg/Kg wet	0.100		88.4	40-140			
Methoxychlor	0.081	0.050	mg/Kg wet	0.100		81.4	40-140			
Methoxychlor [2C]	0.095	0.050	mg/Kg wet	0.100		94.9	40-140			
Surrogate: Decachlorobiphenyl	*0.202*		mg/Kg wet	0.200		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.221*		mg/Kg wet	0.200		111	30-150			
Surrogate: Tetrachloro-m-xylene	*0.193*		mg/Kg wet	0.200		96.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.193*		mg/Kg wet	0.200		96.3	30-150			
LCS Dup (B158572-BSD1)				Prepared: 09/19/16 Analyzed: 09/21/16						
Aldrin	0.10	0.0050	mg/Kg wet	0.100		101	40-140	7.41	30	
Aldrin [2C]	0.11	0.0050	mg/Kg wet	0.100		108	40-140	8.34	30	
alpha-BHC	0.097	0.0050	mg/Kg wet	0.100		96.7	40-140	6.23	30	
alpha-BHC [2C]	0.10	0.0050	mg/Kg wet	0.100		102	40-140	7.86	30	
beta-BHC	0.093	0.0050	mg/Kg wet	0.100		93.2	40-140	7.51	30	
beta-BHC [2C]	0.098	0.0050	mg/Kg wet	0.100		97.6	40-140	8.85	30	
delta-BHC	0.096	0.0050	mg/Kg wet	0.100		95.5	40-140	7.40	30	
delta-BHC [2C]	0.10	0.0050	mg/Kg wet	0.100		100	40-140	8.86	30	
gamma-BHC (Lindane)	0.10	0.0020	mg/Kg wet	0.100		99.9	40-140	6.91	30	
gamma-BHC (Lindane) [2C]	0.11	0.0020	mg/Kg wet	0.100		107	40-140	8.02	30	

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QUALITY CONTROL

Organochloride Pesticides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158572 - SW-846 3546										
LCS Dup (B158572-BSD1)				Prepared: 09/19/16 Analyzed: 09/21/16						
4,4'-DDD	0.099	0.0040	mg/Kg wet	0.100		99.2	40-140	7.76	30	
4,4'-DDD [2C]	0.11	0.0040	mg/Kg wet	0.100		112	40-140	8.04	30	
4,4'-DDE	0.10	0.0040	mg/Kg wet	0.100		101	40-140	7.04	30	
4,4'-DDE [2C]	0.11	0.0040	mg/Kg wet	0.100		114	40-140	6.93	30	
4,4'-DDT	0.092	0.0040	mg/Kg wet	0.100		92.1	40-140	9.32	30	
4,4'-DDT [2C]	0.11	0.0040	mg/Kg wet	0.100		105	40-140	9.58	30	
Dieldrin	0.097	0.0040	mg/Kg wet	0.100		97.3	40-140	8.76	30	
Dieldrin [2C]	0.11	0.0040	mg/Kg wet	0.100		110	40-140	8.67	30	
Endosulfan I	0.091	0.0050	mg/Kg wet	0.100		91.4	40-140	7.51	30	
Endosulfan I [2C]	0.10	0.0050	mg/Kg wet	0.100		103	40-140	8.35	30	
Endosulfan II	0.093	0.0080	mg/Kg wet	0.100		92.7	40-140	8.65	30	
Endosulfan II [2C]	0.10	0.0080	mg/Kg wet	0.100		104	40-140	8.37	30	
Endosulfan Sulfate	0.092	0.0080	mg/Kg wet	0.100		91.7	40-140	8.95	30	
Endosulfan Sulfate [2C]	0.11	0.0080	mg/Kg wet	0.100		106	40-140	8.25	30	
Endrin	0.095	0.0080	mg/Kg wet	0.100		94.7	40-140	8.07	30	
Endrin [2C]	0.11	0.0080	mg/Kg wet	0.100		107	40-140	8.59	30	
Endrin Ketone	0.096	0.0080	mg/Kg wet	0.100		95.9	40-140	8.76	30	
Endrin Ketone [2C]	0.11	0.0080	mg/Kg wet	0.100		111	40-140	8.15	30	
Heptachlor	0.096	0.0050	mg/Kg wet	0.100		95.8	40-140	7.50	30	
Heptachlor [2C]	0.10	0.0050	mg/Kg wet	0.100		102	40-140	6.31	30	
Heptachlor Epoxide	0.098	0.0050	mg/Kg wet	0.100		97.7	40-140	7.69	30	
Heptachlor Epoxide [2C]	0.10	0.0050	mg/Kg wet	0.100		102	40-140	8.57	30	
Hexachlorobenzene	0.091	0.0060	mg/Kg wet	0.100		91.5	40-140	7.26	30	
Hexachlorobenzene [2C]	0.096	0.0060	mg/Kg wet	0.100		95.9	40-140	8.17	30	
Methoxychlor	0.090	0.050	mg/Kg wet	0.100		89.8	40-140	9.90	30	
Methoxychlor [2C]	0.10	0.050	mg/Kg wet	0.100		104	40-140	9.60	30	
Surrogate: Decachlorobiphenyl	*0.213*		mg/Kg wet	0.200		107	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.236*		mg/Kg wet	0.200		118	30-150			
Surrogate: Tetrachloro-m-xylene	*0.192*		mg/Kg wet	0.200		96.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.203*		mg/Kg wet	0.200		102	30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158589 - SW-846 8151										
Blank (B158589-BLK1)				Prepared: 09/19/16 Analyzed: 09/20/16						
2,4-D	ND	24	µg/kg wet							
2,4-D [2C]	ND	24	µg/kg wet							
2,4-DB	ND	24	µg/kg wet							
2,4-DB [2C]	ND	24	µg/kg wet							
2,4,5-TP (Silvex)	ND	2.4	µg/kg wet							
2,4,5-TP (Silvex) [2C]	ND	2.4	µg/kg wet							
2,4,5-T	ND	2.4	µg/kg wet							
2,4,5-T [2C]	ND	2.4	µg/kg wet							
Dalapon	ND	59	µg/kg wet							
Dalapon [2C]	ND	59	µg/kg wet							
Dicamba	ND	2.4	µg/kg wet							
Dicamba [2C]	ND	2.4	µg/kg wet							
Dichloroprop	ND	24	µg/kg wet							
Dichloroprop [2C]	ND	24	µg/kg wet							
Dinoseb	ND	12	µg/kg wet							R-05
Dinoseb [2C]	ND	12	µg/kg wet							R-05
MCPA	ND	2400	µg/kg wet							
MCPA [2C]	ND	2400	µg/kg wet							
MCPP	ND	2400	µg/kg wet							
MCPP [2C]	ND	2400	µg/kg wet							
Surrogate: 2,4-Dichlorophenylacetic acid	*104*		µg/kg wet	94.8		110	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*91.5*		µg/kg wet	94.8		96.5	30-150			
LCS (B158589-BS1)				Prepared: 09/19/16 Analyzed: 09/20/16						
2,4-D	118	25	µg/kg wet	125		94.5	40-140			
2,4-D [2C]	113	25	µg/kg wet	125		90.6	40-140			
2,4-DB	124	25	µg/kg wet	125		99.4	40-140			
2,4-DB [2C]	115	25	µg/kg wet	125		92.1	40-140			
2,4,5-TP (Silvex)	11.0	2.5	µg/kg wet	12.5		88.1	40-140			
2,4,5-TP (Silvex) [2C]	11.3	2.5	µg/kg wet	12.5		90.4	40-140			
2,4,5-T	10.9	2.5	µg/kg wet	12.5		87.3	40-140			
2,4,5-T [2C]	10.9	2.5	µg/kg wet	12.5		87.9	40-140			
Dalapon	211	62	µg/kg wet	311		67.8	40-140			V-06
Dalapon [2C]	202	62	µg/kg wet	311		64.8	40-140			V-06
Dicamba	13.4	2.5	µg/kg wet	12.5		107	40-140			
Dicamba [2C]	11.8	2.5	µg/kg wet	12.5		94.9	40-140			
Dichloroprop	130	25	µg/kg wet	125		104	40-140			
Dichloroprop [2C]	124	25	µg/kg wet	125		99.4	40-140			
Dinoseb	3.04	12	µg/kg wet	62.3		4.89	0-42.4			R-05
Dinoseb [2C]	3.24	12	µg/kg wet	62.3		5.20	0-41.1			R-05
MCPA	12100	2500	µg/kg wet	12500		97.6	40-140			
MCPA [2C]	12000	2500	µg/kg wet	12500		96.2	40-140			
MCPP	14800	2500	µg/kg wet	12500		119	40-140			
MCPP [2C]	12100	2500	µg/kg wet	12500		97.4	40-140			
Surrogate: 2,4-Dichlorophenylacetic acid	*115*		µg/kg wet	99.6		115	30-150			
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*96.2*		µg/kg wet	99.6		96.6	30-150			

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QUALITY CONTROL

Herbicides by GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD		RPD Limit	Notes
Batch B158589 - SW-846 8151											
LCS Dup (B158589-BSD1)				Prepared: 09/19/16 Analyzed: 09/20/16							
2,4-D	113	25	µg/kg wet	125		90.3	40-140	4.38		30	
2,4-D [2C]	103	25	µg/kg wet	125		82.8	40-140	8.91		30	
2,4-DB	119	25	µg/kg wet	125		95.8	40-140	3.64		30	
2,4-DB [2C]	108	25	µg/kg wet	125		86.7	40-140	6.01		30	
2,4,5-TP (Silvex)	10.3	2.5	µg/kg wet	12.5		82.4	40-140	6.54		30	
2,4,5-TP (Silvex) [2C]	10.6	2.5	µg/kg wet	12.5		84.7	40-140	6.31		30	
2,4,5-T	10.2	2.5	µg/kg wet	12.5		82.2	40-140	5.99		30	
2,4,5-T [2C]	10.1	2.5	µg/kg wet	12.5		81.3	40-140	7.75		30	
Dalapon	188	62	µg/kg wet	312		60.3	40-140	11.6		30	V-06
Dalapon [2C]	173	62	µg/kg wet	312		55.5	40-140	15.3		30	V-06
Dicamba	12.8	2.5	µg/kg wet	12.5		103	40-140	3.99		30	
Dicamba [2C]	11.7	2.5	µg/kg wet	12.5		93.8	40-140	1.01		30	
Dichloroprop	120	25	µg/kg wet	125		96.1	40-140	8.12		30	
Dichloroprop [2C]	113	25	µg/kg wet	125		90.6	40-140	9.20		30	
Dinoseb	7.36	12	µg/kg wet	62.3		11.8	0-42.4	**82.9**	*	30	R-05
Dinoseb [2C]	8.07	12	µg/kg wet	62.3		13.0	0-41.1	**85.4**	*	30	R-05
MCPA	11600	2500	µg/kg wet	12500		92.8	40-140	4.89		30	
MCPA [2C]	11300	2500	µg/kg wet	12500		90.7	40-140	5.82		30	
MCPP	14100	2500	µg/kg wet	12500		113	40-140	4.79		30	
MCPP [2C]	11600	2500	µg/kg wet	12500		92.7	40-140	4.83		30	
Surrogate: 2,4-Dichlorophenylacetic acid	*104*		µg/kg wet	99.7		104	30-150				
Surrogate: 2,4-Dichlorophenylacetic acid [2C]	*92.5*		µg/kg wet	99.7		92.8	30-150				

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158594 - SW-846 3540C										
Blank (B158594-BLK1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.199*		mg/Kg wet	0.200		99.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.193*		mg/Kg wet	0.200		96.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.202*		mg/Kg wet	0.200		101	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.196*		mg/Kg wet	0.200		98.1	30-150			
LCS (B158594-BS1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Aroclor-1016	0.20	0.020	mg/Kg wet	0.200		102	40-140			
Aroclor-1016 [2C]	0.20	0.020	mg/Kg wet	0.200		99.3	40-140			
Aroclor-1260	0.19	0.020	mg/Kg wet	0.200		95.4	40-140			
Aroclor-1260 [2C]	0.19	0.020	mg/Kg wet	0.200		94.3	40-140			
Surrogate: Decachlorobiphenyl	*0.202*		mg/Kg wet	0.200		101	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.194*		mg/Kg wet	0.200		96.8	30-150			
Surrogate: Tetrachloro-m-xylene	*0.205*		mg/Kg wet	0.200		102	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.198*		mg/Kg wet	0.200		99.1	30-150			
LCS Dup (B158594-BSD1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Aroclor-1016	0.21	0.020	mg/Kg wet	0.200		106	40-140	3.80	30	
Aroclor-1016 [2C]	0.20	0.020	mg/Kg wet	0.200		102	40-140	2.82	30	
Aroclor-1260	0.20	0.020	mg/Kg wet	0.200		99.5	40-140	4.13	30	
Aroclor-1260 [2C]	0.19	0.020	mg/Kg wet	0.200		96.7	40-140	2.52	30	
Surrogate: Decachlorobiphenyl	*0.204*		mg/Kg wet	0.200		102	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.195*		mg/Kg wet	0.200		97.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.212*		mg/Kg wet	0.200		106	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.206*		mg/Kg wet	0.200		103	30-150			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158620 - SW-846 3546										
Blank (B158620-BLK1)				Prepared: 09/19/16 Analyzed: 09/20/16						
TPH (C9-C36)	ND	8.3	mg/Kg wet							
Surrogate: o-Terphenyl	*1.95*		mg/Kg wet	3.33		58.4	40-140			
LCS (B158620-BS1)				Prepared: 09/19/16 Analyzed: 09/20/16						
TPH (C9-C36)	26.4	8.3	mg/Kg wet	33.3		79.1	40-140			
Surrogate: o-Terphenyl	*2.29*		mg/Kg wet	3.33		68.6	40-140			
LCS Dup (B158620-BSD1)				Prepared: 09/19/16 Analyzed: 09/20/16						
TPH (C9-C36)	20.6	8.3	mg/Kg wet	33.3		61.7	40-140	24.8	30	
Surrogate: o-Terphenyl	*1.95*		mg/Kg wet	3.33		58.5	40-140			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158546 - SW-846 3051										
Blank (B158546-BLK1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Antimony	ND	2.5	mg/Kg wet							
Arsenic	ND	2.5	mg/Kg wet							
Barium	ND	2.5	mg/Kg wet							
Beryllium	ND	0.25	mg/Kg wet							
Cadmium	ND	0.25	mg/Kg wet							
Chromium	ND	0.50	mg/Kg wet							
Lead	ND	0.75	mg/Kg wet							
Nickel	ND	0.50	mg/Kg wet							
Selenium	ND	5.0	mg/Kg wet							
Silver	ND	0.50	mg/Kg wet							
Thallium	ND	2.5	mg/Kg wet							
Vanadium	ND	1.0	mg/Kg wet							
Zinc	ND	1.0	mg/Kg wet							
LCS (B158546-BS1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Antimony	135	5.0	mg/Kg wet	88.2		153	0-210.3			
Arsenic	50.4	5.0	mg/Kg wet	57.0		88.4	77.8-122.1			
Barium	97.3	5.0	mg/Kg wet	110		88.4	82-117.4			
Beryllium	67.2	0.50	mg/Kg wet	67.5		99.5	82.3-117.7			
Cadmium	69.5	0.50	mg/Kg wet	77.8		89.4	81.9-118.2			
Chromium	61.0	1.0	mg/Kg wet	65.0		93.8	78.7-120.6			
Lead	75.3	1.5	mg/Kg wet	85.6		88.0	82.4-117.8			
Nickel	55.3	1.0	mg/Kg wet	61.3		90.2	82.2-117.8			
Selenium	62.3	10	mg/Kg wet	78.9		79.0	77.1-122.3			
Silver	51.1	1.0	mg/Kg wet	54.2		94.3	74.3-125.4			
Thallium	164	5.0	mg/Kg wet	178		92.1	78.2-121.6			
Vanadium	51.6	2.0	mg/Kg wet	56.3		91.7	64.8-135.2			
Zinc	180	2.0	mg/Kg wet	198		90.9	79.7-120.8			
LCS Dup (B158546-BSD1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Antimony	142	5.0	mg/Kg wet	88.2		161	0-210.3	4.60	30	
Arsenic	52.8	5.0	mg/Kg wet	57.0		92.6	77.8-122.1	4.67	30	
Barium	101	5.0	mg/Kg wet	110		92.2	82-117.4	4.21	30	
Beryllium	70.2	0.50	mg/Kg wet	67.5		104	82.3-117.7	4.48	30	
Cadmium	71.9	0.50	mg/Kg wet	77.8		92.5	81.9-118.2	3.43	30	
Chromium	62.9	1.0	mg/Kg wet	65.0		96.7	78.7-120.6	3.06	30	
Lead	80.1	1.5	mg/Kg wet	85.6		93.6	82.4-117.8	6.26	30	
Nickel	56.7	1.0	mg/Kg wet	61.3		92.6	82.2-117.8	2.60	30	
Selenium	67.9	10	mg/Kg wet	78.9		86.1	77.1-122.3	8.62	30	
Silver	52.7	1.0	mg/Kg wet	54.2		97.2	74.3-125.4	3.08	30	
Thallium	167	5.0	mg/Kg wet	178		93.8	78.2-121.6	1.74	30	
Vanadium	53.0	2.0	mg/Kg wet	56.3		94.2	64.8-135.2	2.71	30	
Zinc	186	2.0	mg/Kg wet	198		93.9	79.7-120.8	3.22	30	

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158546 - SW-846 3051										
MRL Check (B158546-MRL1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Lead	0.631	0.75	mg/Kg wet	0.752		83.9	80-120			
Batch B158547 - SW-846 7471										
Blank (B158547-BLK1)				Prepared & Analyzed: 09/19/16						
Mercury	ND	0.025	mg/Kg wet							
LCS (B158547-BS1)				Prepared & Analyzed: 09/19/16						
Mercury	11.0	1.9	mg/Kg wet	12.3		89.7	73.7-126.3			
LCS Dup (B158547-BSD1)				Prepared & Analyzed: 09/19/16						
Mercury	11.8	2.0	mg/Kg wet	12.3		95.7	73.7-126.3	6.53	30	

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B158533 - SW-846 9045C										
LCS (B158533-BS1)				Prepared & Analyzed: 09/17/16						
pH	6.03		pH Units	6.00		100	98.4-110			
LCS (B158533-BS2)				Prepared & Analyzed: 09/17/16						
pH	5.98		pH Units	6.00		99.7	98.4-110			
LCS (B158533-BS3)				Prepared & Analyzed: 09/17/16						
pH	6.00		pH Units	6.00		100	98.4-110			
Duplicate (B158533-DUP1)		**Source: 16I0700-01**		Prepared & Analyzed: 09/17/16						
pH	8.6		pH Units		8.6			0.580	5	
Batch B158590 - SW-846 9014										
Blank (B158590-BLK1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Reactive Cyanide	ND	0.40	mg/Kg							
LCS (B158590-BS1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Reactive Cyanide	9.5	0.40	mg/Kg	10.0		95.4	90.5-110			
Batch B158591 - SW-846 9030A										
Blank (B158591-BLK1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Reactive Sulfide	ND	2.0	mg/Kg							
LCS (B158591-BS1)				Prepared: 09/19/16 Analyzed: 09/20/16						
Reactive Sulfide	11	2.0	mg/Kg	14.7		76.3	61.4-128			
Batch B158670 - SM21-22 2510B Modified										
Blank (B158670-BLK1)				Prepared & Analyzed: 09/20/16						
Specific conductance	ND	2.0	µmhos/cm							
LCS (B158670-BS1)				Prepared & Analyzed: 09/20/16						
Specific conductance	240		µmhos/cm	234		103	90.6-110			
Duplicate (B158670-DUP2)		**Source: 16I0700-01**		Prepared & Analyzed: 09/20/16						
Specific conductance	16	2.0	µmhos/cm		16			4.35	14.4	

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BREAKDOWN REPORT

Lab Sample ID: **S012088-PEM1** **Analyzed:** **09/21/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	6.16
Endrin [1]	3.29

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	5.73
Endrin [2]	3.08

BREAKDOWN REPORT

Lab Sample ID: **S012088-PEM2** **Analyzed:** **09/21/2016**

Column Number: **1**

Analyte	% Breakdown
4,4'-DDT [1]	7.64
Endrin [1]	3.30

Column Number: **2**

Analyte	% Breakdown
4,4'-DDT [2]	7.45
Endrin [2]	3.17

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

Comp1

Lab Sample ID: 16I0700-01

Date(s) Analyzed: 09/20/2016 09/20/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4-DB	1	16.93	0.00	0.00	240	
	2	16.85	0.00	0.00	230	3.4
Aroclor-1254	1	0.00	-0.03	0.03	0.33	
	2	0.00	-0.03	0.03	0.34	4.5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

Comp 2

Lab Sample ID: 16I0700-02

Date(s) Analyzed: 09/20/2016 09/20/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4-DB	1	16.93	0.00	0.00	370	
	2	16.85	0.00	0.00	410	9.5
Aroclor-1254	1	0.00	-0.03	0.03	0.24	
	2	0.00	-0.03	0.03	0.26	6.4

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

Comp 3

Lab Sample ID: 16I0700-03

Date(s) Analyzed: 09/20/2016 09/20/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4-DB	1	16.93	0.00	0.00	440	
	2	16.85	0.00	0.00	520	16.7
Aroclor-1254	1	0.00	-0.03	0.03	1.3	
	2	0.00	-0.03	0.03	1.3	3.9

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

Comp 4

Lab Sample ID: 16I0700-04

Date(s) Analyzed: 09/20/2016 09/20/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4-DB	1	16.93	0.00	0.00	130	
	2	16.85	0.00	0.00	150	12.8
Aroclor-1254	1	0.00	-0.03	0.03	0.16	
	2	0.00	-0.03	0.03	0.17	6.1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B158572-BS1 Date(s) Analyzed: 09/21/2016 09/21/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	7.69	0.00	0.00	0.092	
	2	7.76	0.00	0.00	0.10	9
4,4'-DDE	1	7.23	0.00	0.00	0.094	
	2	7.31	0.00	0.00	0.11	16
4,4'-DDT	1	7.91	0.00	0.00	0.084	
	2	8.01	0.00	0.00	0.096	14
Aldrin	1	6.54	0.00	0.00	0.094	
	2	6.52	0.00	0.00	0.10	6
alpha-BHC	1	5.77	0.00	0.00	0.091	
	2	5.74	0.00	0.00	0.095	5
beta-BHC	1	6.04	0.00	0.00	0.086	
	2	6.03	0.00	0.00	0.089	3
delta-BHC	1	6.17	0.00	0.00	0.089	
	2	6.24	0.00	0.00	0.092	4
Dieldrin	1	7.47	0.00	0.00	0.089	
	2	7.44	0.00	0.00	0.10	12
Endosulfan I	1	7.29	0.00	0.00	0.085	
	2	7.23	0.00	0.00	0.095	11
Endosulfan II	1	7.83	0.00	0.00	0.085	
	2	7.85	0.00	0.00	0.096	12
Endosulfan Sulfate	1	8.43	0.00	0.00	0.084	
	2	8.29	0.00	0.00	0.097	15
Endrin	1	7.66	0.00	0.00	0.087	
	2	7.68	0.00	0.00	0.098	12
Endrin Ketone	1	8.61	0.00	0.00	0.088	
	2	8.63	0.00	0.00	0.10	13
gamma-BHC (Lindane)	1	5.99	0.00	0.00	0.093	
	2	5.98	0.00	0.00	0.098	5
Heptachlor	1	6.32	0.00	0.00	0.089	
	2	6.29	0.00	0.00	0.095	7
Heptachlor Epoxide	1	6.99	0.00	0.00	0.090	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS

Lab Sample ID: B158572-BS1

Date(s) Analyzed: 09/21/2016 09/21/2016

Instrument ID (1): ECD6

Instrument ID (2): ECD6

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.94	0.00	0.00	0.093	3
Hexachlorobenzene	1	5.65	0.00	0.00	0.085	
	2	5.65	0.00	0.00	0.088	3
Methoxychlor	1	8.25	0.00	0.00	0.081	
	2	8.48	0.00	0.00	0.095	15

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B158572-BSD1 Date(s) Analyzed: 09/21/2016 09/21/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
4,4'-DDD	1	7.69	0.00	0.00	0.099	
	2	7.76	0.00	0.00	0.11	10
4,4'-DDE	1	7.23	0.00	0.00	0.10	
	2	7.31	0.00	0.00	0.11	9
4,4'-DDT	1	7.91	0.00	0.00	0.092	
	2	8.01	0.00	0.00	0.11	18
Aldrin	1	6.54	0.00	0.00	0.10	
	2	6.52	0.00	0.00	0.11	9
alpha-BHC	1	5.77	0.00	0.00	0.097	
	2	5.74	0.00	0.00	0.10	3
beta-BHC	1	6.04	0.00	0.00	0.093	
	2	6.03	0.00	0.00	0.098	5
delta-BHC	1	6.17	0.00	0.00	0.096	
	2	6.24	0.00	0.00	0.10	5
Dieldrin	1	7.47	0.00	0.00	0.097	
	2	7.44	0.00	0.00	0.11	12
Endosulfan I	1	7.29	0.00	0.00	0.091	
	2	7.23	0.00	0.00	0.10	9
Endosulfan II	1	7.83	0.00	0.00	0.093	
	2	7.85	0.00	0.00	0.10	8
Endosulfan Sulfate	1	8.43	0.00	0.00	0.092	
	2	8.29	0.00	0.00	0.11	18
Endrin	1	7.66	0.00	0.00	0.095	
	2	7.68	0.00	0.00	0.11	15
Endrin Ketone	1	8.61	0.00	0.00	0.096	
	2	8.63	0.00	0.00	0.11	14
gamma-BHC (Lindane)	1	5.99	0.00	0.00	0.10	
	2	5.98	0.00	0.00	0.11	10
Heptachlor	1	6.32	0.00	0.00	0.096	
	2	6.29	0.00	0.00	0.10	4
Heptachlor Epoxide	1	6.99	0.00	0.00	0.098	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8081B

LCS Dup

Lab Sample ID: B158572-BSD1 Date(s) Analyzed: 09/21/2016 09/21/2016

Instrument ID (1): ECD6 Instrument ID (2): ECD6

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
	2	6.94	0.00	0.00	0.10	2
Hexachlorobenzene	1	5.65	0.00	0.00	0.091	
	2	5.65	0.00	0.00	0.096	5
Methoxychlor	1	8.25	0.00	0.00	0.090	
	2	8.48	0.00	0.00	0.10	11

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS

Lab Sample ID: B158589-BS1

Date(s) Analyzed: 09/20/2016 09/20/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	16.02	0.00	0.00	10.9	
	2	15.90	0.00	0.00	10.9	0
2,4,5-TP (Silvex)	1	15.40	0.00	0.00	11.0	
	2	15.05	0.00	0.00	11.3	3
2,4-D	1	13.55	0.00	0.00	118	
	2	13.32	0.00	0.00	113	4
2,4-DB	1	16.93	0.00	0.00	124	
	2	16.84	0.00	0.00	115	8
Dalapon	1	4.54	0.00	0.00	211	
	2	4.11	0.00	0.00	202	4
Dicamba	1	11.44	0.00	0.00	13.4	
	2	11.11	0.00	0.00	11.8	13
Dichloroprop	1	13.05	0.00	0.00	130	
	2	12.64	0.00	0.00	124	5
Dinoseb	1	17.61	0.00	0.00	3.04	
	2	17.09	0.00	0.00	3.24	6
MCPA	1	12.26	0.00	0.00	12100	
	2	11.95	0.00	0.00	12000	1
MCPP	1	11.93	0.00	0.00	14800	
	2	11.46	0.00	0.00	12100	20

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8151A

LCS Dup

Lab Sample ID: B158589-BSD1 Date(s) Analyzed: 09/20/2016 09/20/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
2,4,5-T	1	16.03	0.00	0.00	10.2	
	2	15.90	0.00	0.00	10.1	1
2,4,5-TP (Silvex)	1	15.40	0.00	0.00	10.3	
	2	15.05	0.00	0.00	10.6	3
2,4-D	1	13.56	0.00	0.00	113	
	2	13.32	0.00	0.00	103	9
2,4-DB	1	16.93	0.00	0.00	119	
	2	16.84	0.00	0.00	108	10
Dalapon	1	4.54	0.00	0.00	188	
	2	4.11	0.00	0.00	173	8
Dicamba	1	11.44	0.00	0.00	12.8	
	2	11.12	0.00	0.00	11.7	9
Dichloroprop	1	13.05	0.00	0.00	120	
	2	12.64	0.00	0.00	113	6
Dinoseb	1	17.61	0.00	0.00	7.36	
	2	17.09	0.00	0.00	8.07	9
MCPA	1	12.26	0.00	0.00	11600	
	2	11.95	0.00	0.00	11300	3
MCPP	1	11.93	0.00	0.00	14100	
	2	11.46	0.00	0.00	11600	20

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B158594-BS1

Date(s) Analyzed: 09/20/2016 09/20/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.20	2
Aroclor-1260	1	0.00	-0.03	0.03	0.19	
	2	0.00	-0.03	0.03	0.19	1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B158594-BSD1 Date(s) Analyzed: 09/20/2016 09/20/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.21	
	2	0.00	-0.03	0.03	0.20	6
Aroclor-1260	1	0.00	-0.03	0.03	0.20	
	2	0.00	-0.03	0.03	0.19	5

con-test® ANALYTICAL LABORATORY

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
DL-03	Elevated reporting limit due to matrix.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
RL-08	Elevated reporting limit due to sample matrix interference. MA CAM reporting limit not met.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 1030 in Soil	
Ignitability	NY,NH,CT,NC,ME,VA
SW-846 6010C-D in Soil	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,AIHA,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
SW-846 7471B in Soil	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8081B in Soil	
Aldrin	CT,NC,NH,NY,ME,VA
Aldrin [2C]	CT,NC,NH,NY,ME,VA
alpha-BHC	CT,NC,NH,NY,ME,VA
alpha-BHC [2C]	CT,NC,NH,NY,ME,VA
beta-BHC	CT,NC,NH,NY,ME,VA
beta-BHC [2C]	CT,NC,NH,NY,ME,VA
delta-BHC	CT,NC,NH,NY,ME,VA
delta-BHC [2C]	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane)	CT,NC,NH,NY,ME,VA
gamma-BHC (Lindane) [2C]	CT,NC,NH,NY,ME,VA
Chlordane	CT,NC,NH,NY,ME,VA
Chlordane [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDD	CT,NC,NH,NY,ME,VA
4,4'-DDD [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDE	CT,NC,NH,NY,ME,VA
4,4'-DDE [2C]	CT,NC,NH,NY,ME,VA
4,4'-DDT	CT,NC,NH,NY,ME,VA
4,4'-DDT [2C]	CT,NC,NH,NY,ME,VA
Dieldrin	CT,NC,NH,NY,ME,VA
Dieldrin [2C]	CT,NC,NH,NY,ME,VA
Endosulfan I	CT,NC,NH,NY,ME,VA
Endosulfan I [2C]	CT,NC,NH,NY,ME,VA
Endosulfan II	CT,NC,NH,NY,ME,VA
Endosulfan II [2C]	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate	CT,NC,NH,NY,ME,VA
Endosulfan Sulfate [2C]	CT,NC,NH,NY,ME,VA
Endrin	CT,NC,NH,NY,ME,VA
Endrin [2C]	CT,NC,NH,NY,ME,VA

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8081B in Soil	
Endrin Ketone	NC
Endrin Ketone [2C]	NC
Heptachlor	CT,NC,NH,NY,ME,VA
Heptachlor [2C]	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide	CT,NC,NH,NY,ME,VA
Heptachlor Epoxide [2C]	CT,NC,NH,NY,ME,VA
Hexachlorobenzene	NC
Hexachlorobenzene [2C]	NC
Methoxychlor	CT,NC,NH,NY,ME,VA
Methoxychlor [2C]	CT,NC,NH,NY,ME,VA
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA
SW-846 8151A in Soil	
2,4-D	NY,ME,NC,NH,VA,CT
2,4-D [2C]	NY,ME,NC,NH,VA,CT
2,4-DB	NY,ME,NC,NH,VA,CT
2,4-DB [2C]	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex)	NY,ME,NC,NH,VA,CT
2,4,5-TP (Silvex) [2C]	NY,ME,NC,NH,VA,CT
2,4,5-T	NY,ME,NC,NH,VA,CT
2,4,5-T [2C]	NY,ME,NC,NH,VA,CT
Dalapon	NY,ME,NC,NH,VA,CT
Dalapon [2C]	NY,ME,NC,NH,VA,CT
Dicamba	NY,ME,NC,NH,VA,CT
Dicamba [2C]	NY,ME,NC,NH,VA,CT
Dichloroprop	NY,ME,NC,NH,VA,CT
Dichloroprop [2C]	NY,ME,NC,NH,VA,CT
Dinoseb	NY,ME,NC,NH,VA,CT
Dinoseb [2C]	NY,ME,NC,NH,VA,CT

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8151A in Soil	
MCPA	NY,ME,NC,NH,VA,CT
MCPA [2C]	NY,ME,NC,NH,VA,CT
MCPP	NY,ME,NC,NH,VA,CT
MCPP [2C]	NY,ME,NC,NH,VA,CT
SW-846 8270D in Soil	
Acenaphthene	CT,NY,NH
Acenaphthylene	CT,NY,NH
Acetophenone	NY,NH
Aniline	NY,NH
Anthracene	CT,NY,NH
Benzo(a)anthracene	CT,NY,NH
Benzo(a)pyrene	CT,NY,NH
Benzo(b)fluoranthene	CT,NY,NH
Benzo(g,h,i)perylene	CT,NY,NH
Benzo(k)fluoranthene	CT,NY,NH
Bis(2-chloroethoxy)methane	CT,NY,NH
Bis(2-chloroethyl)ether	CT,NY,NH
Bis(2-chloroisopropyl)ether	CT,NY,NH
Bis(2-Ethylhexyl)phthalate	CT,NY,NH
4-Bromophenylphenylether	CT,NY,NH
Butylbenzylphthalate	CT,NY,NH
4-Chloroaniline	CT,NY,NH
2-Chloronaphthalene	CT,NY,NH
2-Chlorophenol	CT,NY,NH
Chrysene	CT,NY,NH
Dibenz(a,h)anthracene	CT,NY,NH
Dibenzofuran	CT,NY,NH
Di-n-butylphthalate	CT,NY,NH
1,2-Dichlorobenzene	NY,NH
1,3-Dichlorobenzene	NY,NH
1,4-Dichlorobenzene	NY,NH
3,3-Dichlorobenzidine	CT,NY,NH
2,4-Dichlorophenol	CT,NY,NH
Diethylphthalate	CT,NY,NH
2,4-Dimethylphenol	CT,NY,NH
Dimethylphthalate	CT,NY,NH
2,4-Dinitrophenol	CT,NY,NH
2,4-Dinitrotoluene	CT,NY,NH
2,6-Dinitrotoluene	CT,NY,NH
Di-n-octylphthalate	CT,NY,NH
1,2-Diphenylhydrazine (as Azobenzene)	NY,NH
Fluoranthene	CT,NY,NH
Fluorene	NY,NH
Hexachlorobenzene	CT,NY,NH
Hexachlorobutadiene	CT,NY,NH
Hexachloroethane	CT,NY,NH

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8270D in Soil	
Indeno(1,2,3-cd)pyrene	CT,NY,NH
Isophorone	CT,NY,NH
2-Methylnaphthalene	CT,NY,NH
2-Methylphenol	CT,NY,NH
3/4-Methylphenol	CT,NY,NH
Naphthalene	CT,NY,NH
Nitrobenzene	CT,NY,NH
2-Nitrophenol	CT,NY,NH
4-Nitrophenol	CT,NY,NH
Pentachlorophenol	CT,NY,NH
Phenanthrene	CT,NY,NH
Phenol	CT,NY,NH
Pyrene	CT,NY,NH
1,2,4-Trichlorobenzene	CT,NY,NH
2,4,5-Trichlorophenol	CT,NY,NH
2,4,6-Trichlorophenol	CT,NY,NH

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16I0700

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks Drive
Attention: A. Foley / E Furlong / B Butler
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone: 781 356 9140
Project #
Client PO# 1785-6100

DATA DELIVERY (check all that apply)
○ FAX ☒ EMAIL ☒ WEBSITE
Fax #
Email: afoley@geldmanenwatercu
Format: ☒ PDF ☒ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	Ignitability/Flammability	Corrosivity/Conductivity	TPH	EPH	SVOCs	MA 14 metals/TCLP 20X	Reactive Sulfide/Cyanide	PCBs (Soxhlet)	Pest/Herbs		
01	Comp 1 9/16/16	9/16/16	200			S		X	X	X		X	X	X	X	X		
02	Comp 2		205					X	X	X		X	X	X	X	X		
03	Comp 3		210					X	X	X		X	X	X	X	X		
04	Comp 4		215					X	X	X		X	X	X	X	X		
	~~Comp 5~~																	
	~~Comp 6~~																	
	~~Comp 7~~																	
	~~Comp 8~~																	

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments: Disposal Criteria

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature) [signature] 9/16/16	Date/Time: 15:00	
Received by: (signature) [signature] 9/16/16	Date/Time: 15:00	
Relinquished by: (signature) [signature] 9/16/16	Date/Time: 1900	
Received by: (signature) [signature] 9/16/16	Date/Time: 1900	

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other
RUSH †
☐ †24-Hr ☒ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-T
Connecticut:
Other:

Is your project MCP or RCP ?
☒ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

Table of Contents

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY:** JM **DATE:** 9/16/16

1) Was the chain(s) of custody relinquished and signed? **Yes** ✓ **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** ✓ **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** ✓ **No** ____

If not, explain:

4) How were the samples received:

On Ice ✓ Direct from Sampling ____ Ambient ____ In Cooler(s) ✓

Were the samples received in Temperature Compliance of (2-6°C)? **Yes** ✓ **No** ____ **N/A** ____

Temperature °C by Temp blank ____ Temperature °C by Temp gun 3.2

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** ✓

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ✓ **No** ____

Who was notified Bre Date 9/16/16 Time 1900

7) Location where samples are stored: Login

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** ✓

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** ✓

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** ✓

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	12
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		SOC Kit	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials:	# HCl ____	# Methanol ____	Time and Date Frozen:
Doc# 277	# Bisulfate ____	# DI Water ____	
Rev. 4 August 2013	# Thiosulfate ____	Unpreserved ____	

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	N/A	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	N/A	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	~~T~~ JM N/A	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	N/A	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	N/A	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JM **Date/Time:** 9/16/16 1900

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16I0700
Project Location: Lowell, MA	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16I0700-01 thru 16I0700-04

Matrices: Soil

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B (X)	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B (X)	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C (X)	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A (X)	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Project Manager

Printed Name: Lisa A. Worthington Date: 09/22/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 5, 2016

Drew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell, MA
Client Job Number:
Project Number: 1785-6100
Laboratory Work Order Number: 16I1233

Enclosed are results of analyses for samples received by the laboratory on September 28, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Drew Foley

REPORT DATE: 10/5/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6100

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16I1233

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Comp1	16I1233-01	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
Comp 2	16I1233-02	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
Comp 3	16I1233-03	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754
Comp 4	16I1233-04	Soil		EPA/600/R-93/116	M-MA1042/CT PH-0209/NY11632/AIHA 102754

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I1233
Date Received: 9/28/2016
Field Sample #: Comp1
Sampled: 9/16/2016 14:00
Sample ID: 16I1233-01
Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Fiberglass	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Cellulose	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Hair	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Synthetic	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Organic Material	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Gypsum	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I1233
Date Received: 9/28/2016
Field Sample #: Comp 2
Sampled: 9/16/2016 14:05
Sample ID: 16I1233-02
Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Fiberglass	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Cellulose	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Hair	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Synthetic	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Organic Material	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Gypsum	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I1233

Date Received: 9/28/2016

Field Sample #: Comp 3
Sampled: 9/16/2016 14:10

Sample ID: 16I1233-03

Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Fiberglass	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Cellulose	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Hair	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Synthetic	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Organic Material	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Gypsum	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell, MA
Sample Description:
Work Order: 16I1233
Date Received: 9/28/2016
Field Sample #: Comp 4
Sampled: 9/16/2016 14:15
Sample ID: 16I1233-04
Sample Matrix: Soil

Inorganic Analyses - Asbestos

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Asbestos - Chrysotile	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Amosite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Crocidolite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Actinolite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Tremolite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Asbestos - Anthophyllite	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Fiberglass	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Mineral Wool	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Cellulose	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Hair	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Synthetic	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Other Non-asbestos	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Non-Fibrous Minerals	100		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Binder/Filler	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Organic Material	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO
Gypsum	ND		%	1		EPA/600/R-93/116		10/5/16 0:00	PRO

con-test® ANALYTICAL LABORATORY

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level

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

No results have been blank subtracted unless specified in the case narrative section.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications

No certified Analyses included in this Report

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16I0700

Rev 04.05.12

16I1233

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks Drive
Attention: A. Foley / E Furlong / B Butler
Project Location: Lowell
Sampled By: A. Foley

Telephone: 781 356 9140
Project #
Client PO# 1785-6100

DATA DELIVERY (check all that apply)
○ FAX ☒ EMAIL ☒ WEBSITE
Fax #
Email: afoley@geldmanenvirator.com
Format: ☒ PDF ☒ EXCEL ○ GIS ○ OTHER ○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	Ignitability/Flammability	Corrosivity/Conductivity	TPH	EPH	SVOCs	MA 14 metals/TCLP 20X	Reactive Sulfide/Cyanide	PCBs (Soxhlet)	Pest/Herbs		
01	Comp 1 9/16/16	9/16/16	200			S		X	X	X		X	X	X	X	X		
02	Comp 2		205					X	X	X		X	X	X	X	X		
03	Comp 3		210					X	X	X		X	X	X	X	X		
04	Comp 4		215					X	X	X		X	X	X	X	X		
	~~Comp 5~~																	
	~~Comp 6~~																	
	~~Comp 7~~																	
	~~Comp 8~~																	

9-28-16
Run Asbestos on all samples
5 day TAT

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments: Disposal Criteria

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 9/16/16	15:00
Received by: (signature) [signature] 9/16/16	15:00
Relinquished by: (signature) [signature] 9/16/16	1900
Received by: (signature) [signature] 9/16/16	1900

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other
RUSH †
☐ †24-Hr ☒ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: S-T
Connecticut:
Other:

Is your project MCP or RCP ?
☒ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID #

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY:** JM **DATE:** 9/16/16

1) Was the chain(s) of custody relinquished and signed? **Yes** ✓ **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** ✓ **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** ✓ **No** ____

If not, explain:

4) How were the samples received:

On Ice ✓ Direct from Sampling ____ Ambient ____ In Cooler(s) ✓

Were the samples received in Temperature Compliance of (2-6°C)? **Yes** ✓ **No** ____ **N/A** ____

Temperature °C by Temp blank ____ Temperature °C by Temp gun 3.2

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** ✓

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ✓ **No** ____

Who was notified Bre Date 9/16/16 Time 1900

7) Location where samples are stored: Login

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** ✓

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** ✓

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** ✓

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	12
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		SOC Kit	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials: # HCl ____ # Methanol ____

Bisulfate ____ # DI Water ____

Thiosulfate ____ Unpreserved ____

Time and Date Frozen:

Page 2 of 2

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	N/A	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	N/A	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	~~T~~ JM N/A	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	N/A	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	N/A	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JM **Date/Time:** 9/16/16 1900

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 5, 2016

Andrew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-6100
Laboratory Work Order Number: 16I1257

Enclosed are results of analyses for samples received by the laboratory on September 28, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Andrew Foley

REPORT DATE: 10/5/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6100

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16I1257

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
Containment H20	16I1257-01	Ground Water		SW-846 6020A-B	
				SW-846 7470A	
				SW-846 8082A	
				SW-846 8260C	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8260C

Qualifications:

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Methylene Chloride
B159569-BSD1

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Tetrahydrofuran
16I1257-01[Containment H20], B159569-BLK1, B159569-BS1, B159569-BSD1

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Naphthalene
16I1257-01[Containment H20], B159569-BLK1, B159569-BS1, B159569-BSD1

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
16I1257-01[Containment H20], B159569-BLK1, B159569-BS1, B159569-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Acetone
B159569-BS1, B159569-BSD1

Bromomethane
B159569-BS1, B159569-BSD1

Carbon Disulfide
B159569-BS1, B159569-BSD1

Chloroethane
B159569-BS1, B159569-BSD1

Methylene Chloride
B159569-BS1, B159569-BSD1

Trichlorofluoromethane (Freon 11)
B159569-BS1, B159569-BSD1

Z-01

Elevated reporting limit due to sample matrix. MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

16I1257-01[Containment H20]

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

SW-846 6010C/D SW-846 6020A/B

For NC, Metals methods SW-846 6010D and SW-846 6020B are followed, and for all other states methods SW-846 6010C and SW-846 6020A are followed.

SW-846 8260C

Laboratory control sample recoveries for required MCP Data Enhancement 8260 compounds were all within limits specified by the method except for "difficult analytes" where recovery control limits of 40-160% are used and/or unless otherwise listed in this narrative. Difficult analytes: MIBK, MEK, acetone, 1,4-dioxane, chloromethane, dichlorodifluoromethane, 2-hexanone, and bromomethane.

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I1257
Date Received: 9/28/2016
Field Sample #: Containment H20
Sampled: 9/27/2016 08:00
Sample ID: 16I1257-01
Sample Matrix: Ground Water
Sample Flags: Z-01

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	80	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
tert-Amyl Methyl Ether (TAME)	ND	2.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Benzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Bromobenzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Bromochloromethane	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Bromodichloromethane	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Bromoform	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Bromomethane	ND	8.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
2-Butanone (MEK)	ND	40	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
n-Butylbenzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
sec-Butylbenzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
tert-Butylbenzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	2.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Carbon Disulfide	ND	20	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Carbon Tetrachloride	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Chlorobenzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Chlorodibromomethane	ND	2.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Chloroethane	ND	8.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Chloroform	ND	8.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Chloromethane	ND	20	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
2-Chlorotoluene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
4-Chlorotoluene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	8.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,2-Dibromoethane (EDB)	ND	2.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Dibromomethane	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,2-Dichlorobenzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,3-Dichlorobenzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,4-Dichlorobenzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Dichlorodifluoromethane (Freon 12)	ND	8.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,1-Dichloroethane	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,2-Dichloroethane	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,1-Dichloroethylene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
cis-1,2-Dichloroethylene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
trans-1,2-Dichloroethylene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,2-Dichloropropane	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,3-Dichloropropane	ND	2.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
2,2-Dichloropropane	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,1-Dichloropropene	ND	2.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
cis-1,3-Dichloropropene	ND	1.6	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
trans-1,3-Dichloropropene	ND	1.6	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Diethyl Ether	ND	8.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Diisopropyl Ether (DIPE)	ND	2.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,4-Dioxane	ND	200	µg/L	4	V-16	SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Ethylbenzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I1257
Date Received: 9/28/2016
Field Sample #: Containment H20
Sampled: 9/27/2016 08:00
Sample ID: 16I1257-01
Sample Matrix: Ground Water
Sample Flags: Z-01

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
2-Hexanone (MBK)	ND	40	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Isopropylbenzene (Cumene)	ND	20	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
p-Isopropyltoluene (p-Cymene)	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Methyl tert-Butyl Ether (MTBE)	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Methylene Chloride	ND	20	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
4-Methyl-2-pentanone (MIBK)	ND	40	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Naphthalene	ND	8.0	µg/L	4	V-05	SW-846 8260C	9/30/16	9/30/16 15:36	MFF
n-Propylbenzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Styrene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,1,1,2-Tetrachloroethane	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Tetrachloroethylene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Tetrahydrofuran	ND	8.0	µg/L	4	R-05	SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Toluene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,2,3-Trichlorobenzene	ND	8.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,2,4-Trichlorobenzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,1,1-Trichloroethane	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,1,2-Trichloroethane	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Trichloroethylene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Trichlorofluoromethane (Freon 11)	ND	8.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,2,3-Trichloropropane	ND	8.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,2,4-Trimethylbenzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
1,3,5-Trimethylbenzene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
Vinyl Chloride	ND	8.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
m+p Xylene	ND	8.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF
o-Xylene	ND	4.0	µg/L	4		SW-846 8260C	9/30/16	9/30/16 15:36	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	119	70-130		9/30/16 15:36
Toluene-d8	91.8	70-130		9/30/16 15:36
4-Bromofluorobenzene	79.3	70-130		9/30/16 15:36

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I1257
Date Received: 9/28/2016
Field Sample #: Containment H20
Sampled: 9/27/2016 08:00
Sample ID: 16I1257-01
Sample Matrix: Ground Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/30/16	10/4/16 14:43	JMB
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/30/16	10/4/16 14:43	JMB
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/30/16	10/4/16 14:43	JMB
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/30/16	10/4/16 14:43	JMB
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/30/16	10/4/16 14:43	JMB
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/30/16	10/4/16 14:43	JMB
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/30/16	10/4/16 14:43	JMB
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/30/16	10/4/16 14:43	JMB
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/30/16	10/4/16 14:43	JMB

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	40.9	30-150		10/4/16 14:43
Decachlorobiphenyl [2]	53.2	30-150		10/4/16 14:43
Tetrachloro-m-xylene [1]	46.6	30-150		10/4/16 14:43
Tetrachloro-m-xylene [2]	51.3	30-150		10/4/16 14:43

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I1257

Date Received: 9/28/2016

Field Sample #: Containment H20
Sampled: 9/27/2016 08:00

Sample ID: 16I1257-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Antimony	ND	1.0	µg/L	1		SW-846 6020A-B	9/29/16	9/30/16 6:48	MJH
Arsenic	0.86	0.40	µg/L	1		SW-846 6020A-B	9/29/16	9/30/16 6:48	MJH
Barium	17	10	µg/L	1		SW-846 6020A-B	9/29/16	9/30/16 6:48	MJH
Beryllium	ND	0.40	µg/L	1		SW-846 6020A-B	9/29/16	9/30/16 6:48	MJH
Cadmium	ND	0.50	µg/L	1		SW-846 6020A-B	9/29/16	9/30/16 6:48	MJH
Chromium	1.2	1.0	µg/L	1		SW-846 6020A-B	9/29/16	9/30/16 6:48	MJH
Lead	1.8	1.0	µg/L	1		SW-846 6020A-B	9/29/16	9/30/16 6:48	MJH
Mercury	ND	0.00010	mg/L	1		SW-846 7470A	9/29/16	9/30/16 10:07	SHN
Nickel	ND	5.0	µg/L	1		SW-846 6020A-B	9/29/16	9/30/16 6:48	MJH
Selenium	ND	5.0	µg/L	1		SW-846 6020A-B	9/29/16	9/30/16 6:48	MJH
Silver	ND	0.50	µg/L	1		SW-846 6020A-B	9/29/16	9/30/16 6:48	MJH
Thallium	ND	0.20	µg/L	1		SW-846 6020A-B	9/29/16	9/30/16 6:48	MJH
Vanadium	ND	5.0	µg/L	1		SW-846 6020A-B	9/29/16	9/30/16 6:48	MJH
Zinc	ND	10	µg/L	1		SW-846 6020A-B	9/29/16	9/30/16 6:48	MJH

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

Prep Method: SW-846 3005A-SW-846 6020A-B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16I1257-01 [Containment H20]	B159446	50.0	50.0	09/29/16

Prep Method: SW-846 7470A Prep-SW-846 7470A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16I1257-01 [Containment H20]	B159441	6.00	6.00	09/29/16

Prep Method: SW-846 3510C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16I1257-01 [Containment H20]	B159603	1000	10.0	09/30/16

Prep Method: SW-846 5030B-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16I1257-01 [Containment H20]	B159569	1.25	5.00	09/30/16

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B159569 - SW-846 5030B										
Blank (B159569-BLK1)				Prepared & Analyzed: 09/30/16						
Acetone	ND	20	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	1.0	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	10	µg/L							
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	1.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	5.0	µg/L							
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	0.50	µg/L							
cis-1,3-Dichloropropene	ND	0.40	µg/L							
trans-1,3-Dichloropropene	ND	0.40	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							V-16
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	1.0	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	5.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							V-05

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B159569 - SW-846 5030B											
Blank (B159569-BLK1)				Prepared & Analyzed: 09/30/16							
n-Propylbenzene	ND	1.0	µg/L								
Styrene	ND	1.0	µg/L								
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L								
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L								
Tetrachloroethylene	ND	1.0	µg/L								
Tetrahydrofuran	ND	2.0	µg/L							R-05	
Toluene	ND	1.0	µg/L								
1,2,3-Trichlorobenzene	ND	2.0	µg/L								
1,2,4-Trichlorobenzene	ND	1.0	µg/L								
1,1,1-Trichloroethane	ND	1.0	µg/L								
1,1,2-Trichloroethane	ND	1.0	µg/L								
Trichloroethylene	ND	1.0	µg/L								
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L								
1,2,3-Trichloropropane	ND	2.0	µg/L								
1,2,4-Trimethylbenzene	ND	1.0	µg/L								
1,3,5-Trimethylbenzene	ND	1.0	µg/L								
Vinyl Chloride	ND	2.0	µg/L								
m+p Xylene	ND	2.0	µg/L								
o-Xylene	ND	1.0	µg/L								
Surrogate: 1,2-Dichloroethane-d4	*29.6*		µg/L	25.0		118	70-130				
Surrogate: Toluene-d8	*23.5*		µg/L	25.0		93.9	70-130				
Surrogate: 4-Bromofluorobenzene	*20.3*		µg/L	25.0		81.1	70-130				
LCS (B159569-BS1)				Prepared & Analyzed: 09/30/16							
Acetone	134	20	µg/L	100		134	40-160			L-14, V-20	†
tert-Amyl Methyl Ether (TAME)	8.98	0.50	µg/L	10.0		89.8	70-130				
Benzene	10.6	1.0	µg/L	10.0		106	70-130				
Bromobenzene	10.4	1.0	µg/L	10.0		104	70-130				
Bromochloromethane	11.6	1.0	µg/L	10.0		116	70-130				
Bromodichloromethane	11.3	1.0	µg/L	10.0		113	70-130				
Bromoform	9.71	1.0	µg/L	10.0		97.1	70-130				
Bromomethane	7.86	2.0	µg/L	10.0		78.6	40-160			V-20	†
2-Butanone (MEK)	108	10	µg/L	100		108	40-160				†
n-Butylbenzene	9.52	1.0	µg/L	10.0		95.2	70-130				
sec-Butylbenzene	9.59	1.0	µg/L	10.0		95.9	70-130				
tert-Butylbenzene	9.05	1.0	µg/L	10.0		90.5	70-130				
tert-Butyl Ethyl Ether (TBEE)	9.89	0.50	µg/L	10.0		98.9	70-130				
Carbon Disulfide	12.5	5.0	µg/L	10.0		125	70-130			V-20	
Carbon Tetrachloride	11.0	1.0	µg/L	10.0		110	70-130				
Chlorobenzene	10.3	1.0	µg/L	10.0		103	70-130				
Chlorodibromomethane	11.2	0.50	µg/L	10.0		112	70-130				
Chloroethane	11.6	2.0	µg/L	10.0		116	70-130			V-20	
Chloroform	10.8	2.0	µg/L	10.0		108	70-130				
Chloromethane	7.33	5.0	µg/L	10.0		73.3	40-160				†
2-Chlorotoluene	10.0	1.0	µg/L	10.0		100	70-130				
4-Chlorotoluene	10.2	1.0	µg/L	10.0		102	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	8.76	2.0	µg/L	10.0		87.6	70-130				
1,2-Dibromoethane (EDB)	10.9	0.50	µg/L	10.0		109	70-130				
Dibromomethane	11.2	1.0	µg/L	10.0		112	70-130				
1,2-Dichlorobenzene	9.61	1.0	µg/L	10.0		96.1	70-130				
1,3-Dichlorobenzene	10.6	1.0	µg/L	10.0		106	70-130				
1,4-Dichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130				

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B159569 - SW-846 5030B											
LCS (B159569-BS1)				Prepared & Analyzed: 09/30/16							
Dichlorodifluoromethane (Freon 12)	7.59	2.0	µg/L	10.0		75.9	40-160				†
1,1-Dichloroethane	12.9	1.0	µg/L	10.0		129	70-130				
1,2-Dichloroethane	11.7	1.0	µg/L	10.0		117	70-130				
1,1-Dichloroethylene	12.3	1.0	µg/L	10.0		123	70-130				
cis-1,2-Dichloroethylene	10.8	1.0	µg/L	10.0		108	70-130				
trans-1,2-Dichloroethylene	10.8	1.0	µg/L	10.0		108	70-130				
1,2-Dichloropropane	11.4	1.0	µg/L	10.0		114	70-130				
1,3-Dichloropropane	10.7	0.50	µg/L	10.0		107	70-130				
2,2-Dichloropropane	11.1	1.0	µg/L	10.0		111	70-130				
1,1-Dichloropropene	10.0	0.50	µg/L	10.0		100	70-130				
cis-1,3-Dichloropropene	9.30	0.40	µg/L	10.0		93.0	70-130				
trans-1,3-Dichloropropene	10.8	0.40	µg/L	10.0		108	70-130				
Diethyl Ether	12.1	2.0	µg/L	10.0		121	70-130				
Diisopropyl Ether (DIPE)	10.2	0.50	µg/L	10.0		102	70-130				
1,4-Dioxane	97.5	50	µg/L	100		97.5	40-160			V-16	†
Ethylbenzene	9.24	1.0	µg/L	10.0		92.4	70-130				
Hexachlorobutadiene	10.1	1.0	µg/L	10.0		101	70-130				
2-Hexanone (MBK)	106	10	µg/L	100		106	40-160				†
Isopropylbenzene (Cumene)	11.1	5.0	µg/L	10.0		111	70-130				
p-Isopropyltoluene (p-Cymene)	9.29	1.0	µg/L	10.0		92.9	70-130				
Methyl tert-Butyl Ether (MTBE)	9.63	1.0	µg/L	10.0		96.3	70-130				
Methylene Chloride	11.8	5.0	µg/L	10.0		118	70-130			V-20	
4-Methyl-2-pentanone (MIBK)	105	10	µg/L	100		105	40-160				†
Naphthalene	7.72	2.0	µg/L	10.0		77.2	70-130			V-05	
n-Propylbenzene	9.69	1.0	µg/L	10.0		96.9	70-130				
Styrene	9.04	1.0	µg/L	10.0		90.4	70-130				
1,1,1,2-Tetrachloroethane	10.1	1.0	µg/L	10.0		101	70-130				
1,1,2,2-Tetrachloroethane	12.8	0.50	µg/L	10.0		128	70-130				
Tetrachloroethylene	10.3	1.0	µg/L	10.0		103	70-130				
Tetrahydrofuran	12.1	2.0	µg/L	10.0		121	70-130			R-05	
Toluene	10.9	1.0	µg/L	10.0		109	70-130				
1,2,3-Trichlorobenzene	9.14	2.0	µg/L	10.0		91.4	70-130				
1,2,4-Trichlorobenzene	9.02	1.0	µg/L	10.0		90.2	70-130				
1,1,1-Trichloroethane	10.5	1.0	µg/L	10.0		105	70-130				
1,1,2-Trichloroethane	11.4	1.0	µg/L	10.0		114	70-130				
Trichloroethylene	10.5	1.0	µg/L	10.0		105	70-130				
Trichlorofluoromethane (Freon 11)	12.0	2.0	µg/L	10.0		120	70-130			V-20	
1,2,3-Trichloropropane	10.3	2.0	µg/L	10.0		103	70-130				
1,2,4-Trimethylbenzene	9.55	1.0	µg/L	10.0		95.5	70-130				
1,3,5-Trimethylbenzene	8.92	1.0	µg/L	10.0		89.2	70-130				
Vinyl Chloride	8.28	2.0	µg/L	10.0		82.8	70-130				
m+p Xylene	19.6	2.0	µg/L	20.0		97.9	70-130				
o-Xylene	9.53	1.0	µg/L	10.0		95.3	70-130				
Surrogate: 1,2-Dichloroethane-d4	*27.8*		µg/L	25.0		111	70-130				
Surrogate: Toluene-d8	*27.1*		µg/L	25.0		109	70-130				
Surrogate: 4-Bromofluorobenzene	*23.0*		µg/L	25.0		92.1	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B159569 - SW-846 5030B												
LCS Dup (B159569-BSD1)				Prepared & Analyzed: 09/30/16								
Acetone	129	20	µg/L	100		129		40-160	4.42	20	V-20	†
tert-Amyl Methyl Ether (TAME)	8.86	0.50	µg/L	10.0		88.6		70-130	1.35	20		
Benzene	10.7	1.0	µg/L	10.0		107		70-130	0.564	20		
Bromobenzene	10.4	1.0	µg/L	10.0		104		70-130	0.192	20		
Bromochloromethane	12.7	1.0	µg/L	10.0		127		70-130	8.87	20		
Bromodichloromethane	11.8	1.0	µg/L	10.0		118		70-130	4.34	20		
Bromoform	10.8	1.0	µg/L	10.0		108		70-130	10.5	20		
Bromomethane	8.94	2.0	µg/L	10.0		89.4		40-160	12.9	20	V-20	†
2-Butanone (MEK)	100	10	µg/L	100		100		40-160	7.60	20		†
n-Butylbenzene	10.1	1.0	µg/L	10.0		101		70-130	6.11	20		
sec-Butylbenzene	10.7	1.0	µg/L	10.0		107		70-130	11.2	20		
tert-Butylbenzene	9.87	1.0	µg/L	10.0		98.7		70-130	8.67	20		
tert-Butyl Ethyl Ether (TBEE)	10.1	0.50	µg/L	10.0		101		70-130	1.70	20		
Carbon Disulfide	12.4	5.0	µg/L	10.0		124		70-130	0.562	20	V-20	
Carbon Tetrachloride	11.6	1.0	µg/L	10.0		116		70-130	5.84	20		
Chlorobenzene	11.1	1.0	µg/L	10.0		111		70-130	7.11	20		
Chlorodibromomethane	11.6	0.50	µg/L	10.0		116		70-130	3.08	20		
Chloroethane	12.0	2.0	µg/L	10.0		120		70-130	3.57	20	V-20	
Chloroform	11.2	2.0	µg/L	10.0		112		70-130	3.47	20		
Chloromethane	7.57	5.0	µg/L	10.0		75.7		40-160	3.22	20		†
2-Chlorotoluene	10.5	1.0	µg/L	10.0		105		70-130	4.57	20		
4-Chlorotoluene	10.9	1.0	µg/L	10.0		109		70-130	6.73	20		
1,2-Dibromo-3-chloropropane (DBCP)	9.58	2.0	µg/L	10.0		95.8		70-130	8.94	20		
1,2-Dibromoethane (EDB)	11.2	0.50	µg/L	10.0		112		70-130	2.44	20		
Dibromomethane	12.0	1.0	µg/L	10.0		120		70-130	6.80	20		
1,2-Dichlorobenzene	10.8	1.0	µg/L	10.0		108		70-130	12.1	20		
1,3-Dichlorobenzene	11.0	1.0	µg/L	10.0		110		70-130	3.61	20		
1,4-Dichlorobenzene	11.1	1.0	µg/L	10.0		111		70-130	7.69	20		
Dichlorodifluoromethane (Freon 12)	7.60	2.0	µg/L	10.0		76.0		40-160	0.132	20		†
1,1-Dichloroethane	12.3	1.0	µg/L	10.0		123		70-130	4.67	20		
1,2-Dichloroethane	11.8	1.0	µg/L	10.0		118		70-130	0.936	20		
1,1-Dichloroethylene	12.1	1.0	µg/L	10.0		121		70-130	1.63	20		
cis-1,2-Dichloroethylene	11.1	1.0	µg/L	10.0		111		70-130	3.29	20		
trans-1,2-Dichloroethylene	12.9	1.0	µg/L	10.0		129		70-130	17.9	20		
1,2-Dichloropropane	11.2	1.0	µg/L	10.0		112		70-130	2.13	20		
1,3-Dichloropropane	10.9	0.50	µg/L	10.0		109		70-130	2.13	20		
2,2-Dichloropropane	10.9	1.0	µg/L	10.0		109		70-130	2.46	20		
1,1-Dichloropropene	10.8	0.50	µg/L	10.0		108		70-130	7.02	20		
cis-1,3-Dichloropropene	9.67	0.40	µg/L	10.0		96.7		70-130	3.90	20		
trans-1,3-Dichloropropene	10.6	0.40	µg/L	10.0		106		70-130	1.86	20		
Diethyl Ether	11.4	2.0	µg/L	10.0		114		70-130	6.20	20		
Diisopropyl Ether (DIPE)	9.94	0.50	µg/L	10.0		99.4		70-130	2.48	20		
1,4-Dioxane	88.3	50	µg/L	100		88.3		40-160	9.90	20	V-16	†
Ethylbenzene	10.1	1.0	µg/L	10.0		101		70-130	9.09	20		
Hexachlorobutadiene	9.95	1.0	µg/L	10.0		99.5		70-130	1.60	20		
2-Hexanone (MBK)	103	10	µg/L	100		103		40-160	3.51	20		†
Isopropylbenzene (Cumene)	11.8	5.0	µg/L	10.0		118		70-130	6.36	20		
p-Isopropyltoluene (p-Cymene)	9.57	1.0	µg/L	10.0		95.7		70-130	2.97	20		
Methyl tert-Butyl Ether (MTBE)	11.5	1.0	µg/L	10.0		115		70-130	17.6	20		
Methylene Chloride	14.0	5.0	µg/L	10.0		**140**	*	70-130	16.7	20	L-07, V-20	
4-Methyl-2-pentanone (MIBK)	102	10	µg/L	100		102		40-160	2.55	20		†
Naphthalene	8.65	2.0	µg/L	10.0		86.5		70-130	11.4	20	V-05	

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD		RPD Limit	Notes
Batch B159569 - SW-846 5030B											
LCS Dup (B159569-BSD1)				Prepared & Analyzed: 09/30/16							
n-Propylbenzene	10.2	1.0	µg/L	10.0		102	70-130	5.32		20	
Styrene	9.48	1.0	µg/L	10.0		94.8	70-130	4.75		20	
1,1,1,2-Tetrachloroethane	11.0	1.0	µg/L	10.0		110	70-130	8.16		20	
1,1,2,2-Tetrachloroethane	12.5	0.50	µg/L	10.0		125	70-130	1.90		20	
Tetrachloroethylene	11.0	1.0	µg/L	10.0		110	70-130	6.59		20	
Tetrahydrofuran	9.81	2.0	µg/L	10.0		98.1	70-130	**20.7**	*	20	R-05
Toluene	11.5	1.0	µg/L	10.0		115	70-130	5.00		20	
1,2,3-Trichlorobenzene	9.83	2.0	µg/L	10.0		98.3	70-130	7.27		20	
1,2,4-Trichlorobenzene	9.35	1.0	µg/L	10.0		93.5	70-130	3.59		20	
1,1,1-Trichloroethane	10.9	1.0	µg/L	10.0		109	70-130	3.84		20	
1,1,2-Trichloroethane	11.8	1.0	µg/L	10.0		118	70-130	4.06		20	
Trichloroethylene	11.0	1.0	µg/L	10.0		110	70-130	4.72		20	
Trichlorofluoromethane (Freon 11)	12.1	2.0	µg/L	10.0		121	70-130	0.749		20	V-20
1,2,3-Trichloropropane	10.5	2.0	µg/L	10.0		105	70-130	2.02		20	
1,2,4-Trimethylbenzene	9.91	1.0	µg/L	10.0		99.1	70-130	3.70		20	
1,3,5-Trimethylbenzene	9.41	1.0	µg/L	10.0		94.1	70-130	5.35		20	
Vinyl Chloride	8.60	2.0	µg/L	10.0		86.0	70-130	3.79		20	
m+p Xylene	21.0	2.0	µg/L	20.0		105	70-130	6.81		20	
o-Xylene	9.86	1.0	µg/L	10.0		98.6	70-130	3.40		20	
Surrogate: 1,2-Dichloroethane-d4	*27.4*		µg/L	25.0		110	70-130				
Surrogate: Toluene-d8	*27.0*		µg/L	25.0		108	70-130				
Surrogate: 4-Bromofluorobenzene	*23.1*		µg/L	25.0		92.6	70-130				

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QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B159603 - SW-846 3510C										
Blank (B159603-BLK1)				Prepared: 09/30/16 Analyzed: 10/04/16						
Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	*1.88*		µg/L	2.00		94.2	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.24*		µg/L	2.00		112	30-150			
Surrogate: Tetrachloro-m-xylene	*1.63*		µg/L	2.00		81.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.86*		µg/L	2.00		93.0	30-150			
LCS (B159603-BS1)				Prepared: 09/30/16 Analyzed: 10/04/16						
Aroclor-1016	0.44	0.20	µg/L	0.500		87.8	40-140			
Aroclor-1016 [2C]	0.49	0.20	µg/L	0.500		97.8	40-140			
Aroclor-1260	0.42	0.20	µg/L	0.500		84.9	40-140			
Aroclor-1260 [2C]	0.45	0.20	µg/L	0.500		89.9	40-140			
Surrogate: Decachlorobiphenyl	*1.90*		µg/L	2.00		95.0	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.29*		µg/L	2.00		114	30-150			
Surrogate: Tetrachloro-m-xylene	*1.71*		µg/L	2.00		85.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.94*		µg/L	2.00		97.2	30-150			
LCS Dup (B159603-BSD1)				Prepared: 09/30/16 Analyzed: 10/04/16						
Aroclor-1016	0.46	0.20	µg/L	0.500		92.2	40-140	4.85	20	
Aroclor-1016 [2C]	0.46	0.20	µg/L	0.500		92.8	40-140	5.30	20	
Aroclor-1260	0.41	0.20	µg/L	0.500		81.6	40-140	3.97	20	
Aroclor-1260 [2C]	0.44	0.20	µg/L	0.500		87.6	40-140	2.63	20	
Surrogate: Decachlorobiphenyl	*1.71*		µg/L	2.00		85.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*2.05*		µg/L	2.00		103	30-150			
Surrogate: Tetrachloro-m-xylene	*1.68*		µg/L	2.00		84.0	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.89*		µg/L	2.00		94.3	30-150			

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QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B159441 - SW-846 7470A Prep										
Blank (B159441-BLK1)				Prepared: 09/29/16 Analyzed: 09/30/16						
Mercury	ND	0.00010	mg/L							
LCS (B159441-BS1)				Prepared: 09/29/16 Analyzed: 09/30/16						
Mercury	0.00205	0.00010	mg/L	0.00200		103	80-120			
LCS Dup (B159441-BSD1)				Prepared: 09/29/16 Analyzed: 09/30/16						
Mercury	0.00204	0.00010	mg/L	0.00200		102	80-120	0.612	20	
Batch B159446 - SW-846 3005A										
Blank (B159446-BLK1)				Prepared: 09/29/16 Analyzed: 09/30/16						
Antimony	ND	1.0	µg/L							
Arsenic	ND	0.40	µg/L							
Barium	ND	10	µg/L							
Beryllium	ND	0.40	µg/L							
Cadmium	ND	0.50	µg/L							
Chromium	ND	1.0	µg/L							
Lead	ND	1.0	µg/L							
Nickel	ND	5.0	µg/L							
Selenium	ND	5.0	µg/L							
Silver	ND	0.50	µg/L							
Thallium	ND	0.20	µg/L							
Vanadium	ND	5.0	µg/L							
Zinc	ND	10	µg/L							
LCS (B159446-BS1)				Prepared: 09/29/16 Analyzed: 09/30/16						
Antimony	265	5.0	µg/L	250		106	80-120			
Arsenic	267	2.0	µg/L	250		107	80-120			
Barium	263	50	µg/L	250		105	80-120			
Beryllium	260	2.0	µg/L	250		104	80-120			
Cadmium	265	2.5	µg/L	250		106	80-120			
Chromium	267	5.0	µg/L	250		107	80-120			
Lead	264	5.0	µg/L	250		105	80-120			
Nickel	269	25	µg/L	250		107	80-120			
Selenium	279	25	µg/L	250		112	80-120			
Silver	253	2.5	µg/L	250		101	80-120			
Thallium	251	1.0	µg/L	250		100	80-120			
Vanadium	261	25	µg/L	250		105	80-120			
Zinc	286	50	µg/L	250		114	80-120			
LCS Dup (B159446-BSD1)				Prepared: 09/29/16 Analyzed: 09/30/16						
Antimony	273	5.0	µg/L	250		109	80-120	3.03	20	
Arsenic	265	2.0	µg/L	250		106	80-120	1.03	20	
Barium	260	50	µg/L	250		104	80-120	1.04	20	
Beryllium	274	2.0	µg/L	250		110	80-120	5.16	20	
Cadmium	264	2.5	µg/L	250		106	80-120	0.458	20	
Chromium	259	5.0	µg/L	250		104	80-120	3.01	20	
Lead	264	5.0	µg/L	250		106	80-120	0.170	20	
Nickel	258	25	µg/L	250		103	80-120	3.87	20	
Selenium	274	25	µg/L	250		109	80-120	2.01	20	
Silver	253	2.5	µg/L	250		101	80-120	0.280	20	
Thallium	251	1.0	µg/L	250		100	80-120	0.0176	20	
Vanadium	256	25	µg/L	250		102	80-120	2.26	20	
Zinc	276	50	µg/L	250		110	80-120	3.50	20	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B159603-BS1

Date(s) Analyzed: 10/04/2016 10/04/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.44	
	2	0.00	0.00	0.00	0.49	11
Aroclor-1260	1	0.00	0.00	0.00	0.42	
	2	0.00	0.00	0.00	0.45	6

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B159603-BSD1 Date(s) Analyzed: 10/04/2016 10/04/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	0.00	0.00	0.46	
	2	0.00	0.00	0.00	0.46	0
Aroclor-1260	1	0.00	0.00	0.00	0.41	
	2	0.00	0.00	0.00	0.44	8

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level

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

No results have been blank subtracted unless specified in the case narrative section.

L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-14	Compound classified by MA CAM as difficult with acceptable recoveries of 40-160%. Recovery does not meet 70-130% criteria but does meet difficult compound criteria.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
Z-01	Elevated reporting limit due to sample matrix. MA CAM reporting limit not met.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 6020A-B in Water	
Antimony	CT,NH,NY,ME,VA,NC
Arsenic	CT,NH,NY,ME,VA,NC
Barium	CT,NH,NY,ME,VA,NC
Beryllium	CT,NH,NY,ME,VA,NC
Cadmium	CT,NH,NY,RI,ME,VA,NC
Chromium	CT,NH,NY,ME,VA,NC
Lead	CT,NH,NY,ME,VA,NC
Nickel	CT,NH,NY,ME,VA,NC
Selenium	CT,NH,NY,ME,VA,NC
Silver	CT,NH,NY,ME,VA,NC
Thallium	CT,NH,NY,ME,VA,NC
Vanadium	CT,NH,NY,ME,VA,NC
Zinc	CT,NH,NY,ME,VA,NC
SW-846 7470A in Water	
Mercury	CT,NH,NY,NC,ME,VA
SW-846 8082A in Water	
Aroclor-1016	CT,NH,NY,NC,ME,VA
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1221	CT,NH,NY,NC,ME,VA
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1232	CT,NH,NY,NC,ME,VA
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1242	CT,NH,NY,NC,ME,VA
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1248	CT,NH,NY,NC,ME,VA
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1254	CT,NH,NY,NC,ME,VA
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1260	CT,NH,NY,NC,ME,VA
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA
Aroclor-1262	NH,NY,NC,ME,VA
Aroclor-1262 [2C]	NH,NY,NC,ME,VA
Aroclor-1268	NH,NY,NC,ME,VA
Aroclor-1268 [2C]	NH,NY,NC,ME,VA
SW-846 8260C in Water	
Acetone	CT,NH,NY,ME
tert-Amyl Methyl Ether (TAME)	NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	NY,ME
sec-Butylbenzene	NY,ME

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
tert-Butylbenzene	NY,ME
tert-Butyl Ethyl Ether (TBEE)	NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	NY,ME
4-Chlorotoluene	NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NH,NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,3-Dichloropropane	NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
Diisopropyl Ether (DIPE)	NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	CT,NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	NY,ME
p-Isopropyltoluene (p-Cymene)	CT,NH,NY,ME
Methyl tert-Butyl Ether (MTBE)	CT,NH,NY,ME
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,ME
Naphthalene	NH,NY,ME
n-Propylbenzene	CT,NH,NY,ME
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	NH,NY,ME
1,2,4-Trichlorobenzene	CT,NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	NY,ME
1,3,5-Trimethylbenzene	NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

16I 1257

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks Dr
Attention: A. Foley, B. Butler, E. Furlong
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # 1785-6100
Client PO# ~~[illegible]~~ 17APF

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley, bbutler, efurlong
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	VOC	PCBs	Metals
01	Containment H2O	9/27/16	8:00		X	W	U	X	X	X

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	Date/Time:
[signature] 9/28/16	2:25
Received by: (signature) [signature] 9/28/16	2:30
Relinquished by: (signature) [signature] 9/28/16	5:20
Received by: (signature) [signature] 3.9 9/28/16	1720

Turnaround ††
☐ 7-Day
☐ 10-Day
☑ Other 5
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: GW-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY:** JM **DATE:** 9/28/16

1) **Was the chain(s) of custody relinquished and signed?** **Yes** ✓ **No** ____ **No COC Incl.**
2) **Does the chain agree with the samples?** **Yes** ✓ **No** ____
   If not, explain:
3) **Are all the samples in good condition?** **Yes** ✓ **No** ____
   If not, explain:
4) **How were the samples received:**
   On Ice ✓ Direct from Sampling ____ Ambient ____ In Cooler(s) ✓
   Were the samples received in Temperature Compliance of (2-6°C)? **Yes** ✓ **No** ____ **N/A** ____
   Temperature °C by Temp blank ____ Temperature °C by Temp gun 3.9
5) **Are there Dissolved samples for the lab to filter?** **Yes** ____ **No** ✓
   Who was notified ____ Date ____ Time ____
6) **Are there any RUSH or SHORT HOLDING TIME samples?** **Yes** ____ **No** ✓
   Who was notified ____ Date ____ Time ____
7) **Location where samples are stored:** Log-n

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) **Do all samples have the proper Acid pH:** **Yes** ✓ **No** ____ **N/A** ____
9) **Do all samples have the proper Base pH:** **Yes** ____ **No** ____ **N/A** ✓
10) **Was the PC notified of any discrepancies with the CoC vs the samples:** **Yes** ____ **N/A** ✓

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber	2	16 oz amber	
500 mL Amber		8 oz amber/clear jar	
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic	1	SOC Kit	
40 mL Vial - type listed below	3	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials:	# HCl 3	# Methanol ____	Time and Date Frozen:
Doc# 277	# Bisulfate ____	# DI Water ____	
Rev. 4 August 2013	# Thiosulfate ____	Unpreserved ____	

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	N/A	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	N/A	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	N/A	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** JM **Date/Time:** 9/28/16 1720

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16I1257
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16I1257-01

Matrices: Water

CAM Protocol (check all that below)

8260 VOC CAM II A (X)	7470/7471 Hg CAM IIIB (X)	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D (X)	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Project Manager

Printed Name: Lisa A. Worthington Date: 10/05/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 7, 2016

Drew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-6100
Laboratory Work Order Number: 16I1385

Enclosed are results of analyses for samples received by the laboratory on September 30, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Drew Foley

REPORT DATE: 10/7/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6100

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16I1385

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-9 (5'E)(0-1)	16I1385-01	Soil		SM 2540G	
				SW-846 8082A	
B-9 (5'E)(1-3)	16I1385-02	Soil		SM 2540G	
				SW-846 8082A	
B-9 (5'N)(0-1)	16I1385-03	Soil		SM 2540G	
				SW-846 8082A	
B-9 (5'W)(0-1)	16I1385-04	Soil		SM 2540G	
				SW-846 8082A	
B-9 (5'S)(0-1)	16I1385-05	Soil		SM 2540G	
				SW-846 8082A	
Containment H2O	16I1385-06	Water		SW-846 1010A	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8082A

Qualifications:

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Aroclor-1016
16I1385-01[B-9 (5'E)(0-1)], 16I1385-02[B-9 (5'E)(1-3)], 16I1385-03[B-9 (5'N)(0-1)], 16I1385-04[B-9 (5'W)(0-1)], 16I1385-05[B-9 (5'S)(0-1)], B159636-BLK1, B159636-BS1, B159636-BSD1

Aroclor-1016 [2C]
16I1385-01[B-9 (5'E)(0-1)], 16I1385-02[B-9 (5'E)(1-3)], 16I1385-03[B-9 (5'N)(0-1)], 16I1385-04[B-9 (5'W)(0-1)], 16I1385-05[B-9 (5'S)(0-1)], B159636-BLK1, B159636-BS1, B159636-BSD1

Aroclor-1260
16I1385-01[B-9 (5'E)(0-1)], 16I1385-02[B-9 (5'E)(1-3)], 16I1385-03[B-9 (5'N)(0-1)], 16I1385-04[B-9 (5'W)(0-1)], 16I1385-05[B-9 (5'S)(0-1)], B159636-BLK1, B159636-BS1, B159636-BSD1

Aroclor-1260 [2C]
16I1385-01[B-9 (5'E)(0-1)], 16I1385-02[B-9 (5'E)(1-3)], 16I1385-03[B-9 (5'N)(0-1)], 16I1385-04[B-9 (5'W)(0-1)], 16I1385-05[B-9 (5'S)(0-1)], B159636-BLK1, B159636-BS1, B159636-BSD1

S-01

The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

Analyte & Samples(s) Qualified:

Decachlorobiphenyl
16I1385-01[B-9 (5'E)(0-1)], 16I1385-02[B-9 (5'E)(1-3)], 16I1385-03[B-9 (5'N)(0-1)], 16I1385-04[B-9 (5'W)(0-1)], 16I1385-05[B-9 (5'S)(0-1)]

Decachlorobiphenyl [2C]
16I1385-01[B-9 (5'E)(0-1)], 16I1385-02[B-9 (5'E)(1-3)], 16I1385-03[B-9 (5'N)(0-1)], 16I1385-04[B-9 (5'W)(0-1)], 16I1385-05[B-9 (5'S)(0-1)]

Tetrachloro-m-xylene
16I1385-01[B-9 (5'E)(0-1)], 16I1385-02[B-9 (5'E)(1-3)], 16I1385-03[B-9 (5'N)(0-1)], 16I1385-04[B-9 (5'W)(0-1)], 16I1385-05[B-9 (5'S)(0-1)]

Tetrachloro-m-xylene [2C]
16I1385-01[B-9 (5'E)(0-1)], 16I1385-02[B-9 (5'E)(1-3)], 16I1385-03[B-9 (5'N)(0-1)], 16I1385-04[B-9 (5'W)(0-1)], 16I1385-05[B-9 (5'S)(0-1)]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I1385
Date Received: 9/30/2016
Field Sample #: B-9 (5'E)(0-1)
Sampled: 9/30/2016 00:00
Sample ID: 16I1385-01
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	2.4	mg/Kg dry	100	R-05	SW-846 8082A	9/30/16	10/3/16 19:20	KAL
Aroclor-1221 [1]	ND	2.4	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 19:20	KAL
Aroclor-1232 [1]	ND	2.4	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 19:20	KAL
Aroclor-1242 [1]	ND	2.4	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 19:20	KAL
Aroclor-1248 [1]	ND	2.4	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 19:20	KAL
Aroclor-1254 [2]	18	2.4	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 19:20	KAL
Aroclor-1260 [2]	4.2	2.4	mg/Kg dry	100	R-05	SW-846 8082A	9/30/16	10/3/16 19:20	KAL
Aroclor-1262 [1]	ND	2.4	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 19:20	KAL
Aroclor-1268 [1]	ND	2.4	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 19:20	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	10/3/16 19:20
Decachlorobiphenyl [2]	*	30-150	S-01	10/3/16 19:20
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/3/16 19:20
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/3/16 19:20

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I1385

Date Received: 9/30/2016

Field Sample #: B-9 (5'E)(0-1)
Sampled: 9/30/2016 00:00

Sample ID: 16I1385-01

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	81.7		% Wt	1		SM 2540G	9/30/16	10/1/16 11:57	CTL

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Project Location: Lowell
Sample Description:
Work Order: 16I1385
Date Received: 9/30/2016
Field Sample #: B-9 (5'E)(1-3)
Sampled: 9/30/2016 00:00
Sample ID: 16I1385-02
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.1	mg/Kg dry	50	R-05	SW-846 8082A	9/30/16	10/3/16 19:37	KAL
Aroclor-1221 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:37	KAL
Aroclor-1232 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:37	KAL
Aroclor-1242 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:37	KAL
Aroclor-1248 [2]	2.5	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:37	KAL
Aroclor-1254 [2]	9.8	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:37	KAL
Aroclor-1260 [2]	5.4	1.1	mg/Kg dry	50	R-05	SW-846 8082A	9/30/16	10/3/16 19:37	KAL
Aroclor-1262 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:37	KAL
Aroclor-1268 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:37	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	10/3/16 19:37
Decachlorobiphenyl [2]	*	30-150	S-01	10/3/16 19:37
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/3/16 19:37
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/3/16 19:37

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I1385

Date Received: 9/30/2016

Field Sample #: B-9 (5'E)(1-3)
Sampled: 9/30/2016 00:00

Sample ID: 16I1385-02

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	86.7		% Wt	1		SM 2540G	9/30/16	10/1/16 11:57	CTL

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Project Location: Lowell
Sample Description:
Work Order: 16I1385
Date Received: 9/30/2016
Field Sample #: B-9 (5'N)(0-1)
Sampled: 9/30/2016 00:00
Sample ID: 16I1385-03
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	1.1	mg/Kg dry	50	R-05	SW-846 8082A	9/30/16	10/3/16 19:55	KAL
Aroclor-1221 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:55	KAL
Aroclor-1232 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:55	KAL
Aroclor-1242 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:55	KAL
Aroclor-1248 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:55	KAL
Aroclor-1254 [2]	7.4	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:55	KAL
Aroclor-1260 [2]	1.7	1.1	mg/Kg dry	50	R-05	SW-846 8082A	9/30/16	10/3/16 19:55	KAL
Aroclor-1262 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:55	KAL
Aroclor-1268 [1]	ND	1.1	mg/Kg dry	50		SW-846 8082A	9/30/16	10/3/16 19:55	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	10/3/16 19:55
Decachlorobiphenyl [2]	*	30-150	S-01	10/3/16 19:55
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/3/16 19:55
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/3/16 19:55

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16I1385

Date Received: 9/30/2016

Field Sample #: B-9 (5'N)(0-1)
Sampled: 9/30/2016 00:00

Sample ID: 16I1385-03

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.9		% Wt	1		SM 2540G	9/30/16	10/1/16 11:57	CTL

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Project Location: Lowell
Sample Description:
Work Order: 16I1385
Date Received: 9/30/2016
Field Sample #: B-9 (5'W)(0-1)
Sampled: 9/30/2016 00:00
Sample ID: 16I1385-04
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	3.1	mg/Kg dry	100	R-05	SW-846 8082A	9/30/16	10/3/16 20:12	KAL
Aroclor-1221 [1]	ND	3.1	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 20:12	KAL
Aroclor-1232 [1]	ND	3.1	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 20:12	KAL
Aroclor-1242 [1]	ND	3.1	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 20:12	KAL
Aroclor-1248 [1]	ND	3.1	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 20:12	KAL
Aroclor-1254 [2]	20	3.1	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 20:12	KAL
Aroclor-1260 [2]	4.4	3.1	mg/Kg dry	100	R-05	SW-846 8082A	9/30/16	10/3/16 20:12	KAL
Aroclor-1262 [1]	ND	3.1	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 20:12	KAL
Aroclor-1268 [1]	ND	3.1	mg/Kg dry	100		SW-846 8082A	9/30/16	10/3/16 20:12	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	10/3/16 20:12
Decachlorobiphenyl [2]	*	30-150	S-01	10/3/16 20:12
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/3/16 20:12
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/3/16 20:12

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Project Location: Lowell
Sample Description:
Work Order: 16I1385

Date Received: 9/30/2016

Field Sample #: B-9 (5'W)(0-1)
Sampled: 9/30/2016 00:00

Sample ID: 16I1385-04

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	63.1		% Wt	1		SM 2540G	9/30/16	10/1/16 11:57	CTL

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Project Location: Lowell
Sample Description:
Work Order: 16I1385
Date Received: 9/30/2016
Field Sample #: B-9 (5'S)(0-1)
Sampled: 9/30/2016 00:00
Sample ID: 16I1385-05
Sample Matrix: Soil

Polychlorinated Biphenyls with 3540 Soxhlet Extraction

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	4.6	mg/Kg dry	200	R-05	SW-846 8082A	9/30/16	10/3/16 20:29	KAL
Aroclor-1221 [1]	ND	4.6	mg/Kg dry	200		SW-846 8082A	9/30/16	10/3/16 20:29	KAL
Aroclor-1232 [1]	ND	4.6	mg/Kg dry	200		SW-846 8082A	9/30/16	10/3/16 20:29	KAL
Aroclor-1242 [1]	ND	4.6	mg/Kg dry	200		SW-846 8082A	9/30/16	10/3/16 20:29	KAL
Aroclor-1248 [1]	ND	4.6	mg/Kg dry	200		SW-846 8082A	9/30/16	10/3/16 20:29	KAL
Aroclor-1254 [2]	30	4.6	mg/Kg dry	200		SW-846 8082A	9/30/16	10/3/16 20:29	KAL
Aroclor-1260 [2]	6.5	4.6	mg/Kg dry	200	R-05	SW-846 8082A	9/30/16	10/3/16 20:29	KAL
Aroclor-1262 [1]	ND	4.6	mg/Kg dry	200		SW-846 8082A	9/30/16	10/3/16 20:29	KAL
Aroclor-1268 [1]	ND	4.6	mg/Kg dry	200		SW-846 8082A	9/30/16	10/3/16 20:29	KAL

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	*	30-150	S-01	10/3/16 20:29
Decachlorobiphenyl [2]	*	30-150	S-01	10/3/16 20:29
Tetrachloro-m-xylene [1]	*	30-150	S-01	10/3/16 20:29
Tetrachloro-m-xylene [2]	*	30-150	S-01	10/3/16 20:29

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Project Location: Lowell | Sample Description: | Work Order: 16I1385

Date Received: 9/30/2016

Field Sample #: B-9 (5'S)(0-1) | Sampled: 9/30/2016 00:00

Sample ID: 16I1385-05

Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	85.2		% Wt	1		SM 2540G	9/30/16	10/1/16 11:57	CTL

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Project Location: Lowell
Sample Description:
Work Order: 16I1385

Date Received: 9/30/2016

Field Sample #: Containment H2O

Sample ID: 16I1385-06
Start Date/Time: 9/30/2016 9:00:00AM

Sample Matrix: Water
Stop Date/Time: 9/30/2016 1:05:00PM

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Flashpoint	> 212 °F		°F	1		SW-846 1010A	10/3/16	10/3/16 17:55	AG

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Sample Extraction Data

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
16I1385-01 [B-9 (5'E)(0-1)]	B159628	09/30/16
16I1385-02 [B-9 (5'E)(1-3)]	B159628	09/30/16
16I1385-03 [B-9 (5'N)(0-1)]	B159628	09/30/16
16I1385-04 [B-9 (5'W)(0-1)]	B159628	09/30/16
16I1385-05 [B-9 (5'S)(0-1)]	B159628	09/30/16

SW-846 1010A

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
16I1385-06 [Containment H2O]	B159726	50.0	50.0	10/03/16

Prep Method: SW-846 3540C-SW-846 8082A

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
16I1385-01 [B-9 (5'E)(0-1)]	B159636	10.0	10.0	09/30/16
16I1385-02 [B-9 (5'E)(1-3)]	B159636	10.1	10.0	09/30/16
16I1385-03 [B-9 (5'N)(0-1)]	B159636	10.0	10.0	09/30/16
16I1385-04 [B-9 (5'W)(0-1)]	B159636	10.2	10.0	09/30/16
16I1385-05 [B-9 (5'S)(0-1)]	B159636	10.1	10.0	09/30/16

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QUALITY CONTROL

Polychlorinated Biphenyls with 3540 Soxhlet Extraction - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD		RPD Limit	Notes
Batch B159636 - SW-846 3540C											
Blank (B159636-BLK1)				Prepared: 09/30/16 Analyzed: 10/03/16							
Aroclor-1016	ND	0.020	mg/Kg wet								R-05
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet								R-05
Aroclor-1221	ND	0.020	mg/Kg wet								
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1232	ND	0.020	mg/Kg wet								
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1242	ND	0.020	mg/Kg wet								
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1248	ND	0.020	mg/Kg wet								
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1254	ND	0.020	mg/Kg wet								
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1260	ND	0.020	mg/Kg wet								R-05
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet								R-05
Aroclor-1262	ND	0.020	mg/Kg wet								
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet								
Aroclor-1268	ND	0.020	mg/Kg wet								
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet								
Surrogate: Decachlorobiphenyl	*0.189*		mg/Kg wet	0.200		94.7	30-150				
Surrogate: Decachlorobiphenyl [2C]	*0.220*		mg/Kg wet	0.200		110	30-150				
Surrogate: Tetrachloro-m-xylene	*0.155*		mg/Kg wet	0.200		77.5	30-150				
Surrogate: Tetrachloro-m-xylene [2C]	*0.184*		mg/Kg wet	0.200		92.0	30-150				
LCS (B159636-BS1)				Prepared: 09/30/16 Analyzed: 10/03/16							
Aroclor-1016	0.12	0.020	mg/Kg wet	0.200		60.9	40-140				R-05
Aroclor-1016 [2C]	0.13	0.020	mg/Kg wet	0.200		63.2	40-140				R-05
Aroclor-1260	0.12	0.020	mg/Kg wet	0.200		62.0	40-140				R-05
Aroclor-1260 [2C]	0.13	0.020	mg/Kg wet	0.200		64.7	40-140				R-05
Surrogate: Decachlorobiphenyl	*0.132*		mg/Kg wet	0.200		66.1	30-150				
Surrogate: Decachlorobiphenyl [2C]	*0.150*		mg/Kg wet	0.200		74.8	30-150				
Surrogate: Tetrachloro-m-xylene	*0.114*		mg/Kg wet	0.200		57.0	30-150				
Surrogate: Tetrachloro-m-xylene [2C]	*0.135*		mg/Kg wet	0.200		67.7	30-150				
LCS Dup (B159636-BSD1)				Prepared: 09/30/16 Analyzed: 10/03/16							
Aroclor-1016	0.17	0.020	mg/Kg wet	0.200		82.6	40-140	**30.3**	*	30	R-05
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		85.8	40-140	**30.3**	*	30	R-05
Aroclor-1260	0.17	0.020	mg/Kg wet	0.200		85.1	40-140	**31.4**	*	30	R-05
Aroclor-1260 [2C]	0.18	0.020	mg/Kg wet	0.200		91.2	40-140	**34.0**	*	30	R-05
Surrogate: Decachlorobiphenyl	*0.183*		mg/Kg wet	0.200		91.5	30-150				
Surrogate: Decachlorobiphenyl [2C]	*0.212*		mg/Kg wet	0.200		106	30-150				
Surrogate: Tetrachloro-m-xylene	*0.157*		mg/Kg wet	0.200		78.6	30-150				
Surrogate: Tetrachloro-m-xylene [2C]	*0.186*		mg/Kg wet	0.200		93.0	30-150				

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QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B159726 - SW-846 1010A										
Blank (B159726-BLK1)				Prepared & Analyzed: 10/03/16						
Flashpoint	> 212 °F		°F							
LCS (B159726-BS1)				Prepared & Analyzed: 10/03/16						
Flashpoint	80		°F	81.0		98.8	98.8-101			
LCS Dup (B159726-BSD1)				Prepared & Analyzed: 10/03/16						
Flashpoint	80		°F	81.0		99.0	98.8-101	0.250	5	

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-9 (5'E)(0-1)

Lab Sample ID: 16I1385-01 Date(s) Analyzed 10/03/2016 10/03/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	17	
	2	0.00	-0.03	0.03	18	4.0
Aroclor-1260	1	0.00	-0.03	0.03	3.1	
	2	0.00	-0.03	0.03	4.2	28.6

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-9 (5'E)(1-3)

Lab Sample ID: 16I1385-02 Date(s) Analyzed 10/03/2016 10/03/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1248	1	0.00	-0.03	0.03	1.9	
	2	0.00	-0.03	0.03	2.5	27.8
Aroclor-1254	1	0.00	-0.03	0.03	9.4	
	2	0.00	-0.03	0.03	9.8	3.9
Aroclor-1260	1	0.00	-0.03	0.03	4.6	
	2	0.00	-0.03	0.03	5.4	15.4

con-test® ANALYTICAL LABORATORY

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-9 (5'N)(0-1)

Lab Sample ID: 16I1385-03 Date(s) Analyzed 10/03/2016 10/03/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	6.7	
	2	0.00	-0.03	0.03	7.4	9.3
Aroclor-1260	1	0.00	-0.03	0.03	1.2	
	2	0.00	-0.03	0.03	1.7	35.3

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-9 (5'W)(0-1)

Lab Sample ID: 16I1385-04 Date(s) Analyzed 10/03/2016 10/03/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	19	
	2	0.00	-0.03	0.03	20	4.6
Aroclor-1260	1	0.00	-0.03	0.03	3.5	
	2	0.00	-0.03	0.03	4.4	23.1

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

B-9 (5'S)(0-1)

Lab Sample ID: 16I1385-05 Date(s) Analyzed 10/03/2016 10/03/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1254	1	0.00	-0.03	0.03	28	
	2	0.00	-0.03	0.03	30	8.0
Aroclor-1260	1	0.00	-0.03	0.03	5.2	
	2	0.00	-0.03	0.03	6.5	22.8

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B159636-BS1

Date(s) Analyzed 10/03/2016 10/03/2016

Instrument ID (1):

Instrument ID (2):

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.12	
	2	0.00	-0.03	0.03	0.13	6
Aroclor-1260	1	0.00	-0.03	0.03	0.12	
	2	0.00	-0.03	0.03	0.13	5

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IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B159636-BSD1 Date(s) Analyzed 10/03/2016 10/03/2016

Instrument ID (1): Instrument ID (2):

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Aroclor-1016	1	0.00	-0.03	0.03	0.17	
	2	0.00	-0.03	0.03	0.17	3
Aroclor-1260	1	0.00	-0.03	0.03	0.17	
	2	0.00	-0.03	0.03	0.18	6

con-test® ANALYTICAL LABORATORY

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level

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

No results have been blank subtracted unless specified in the case narrative section.

R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
S-01	The surrogate recovery for this sample is not available due to sample dilution below the surrogate reporting limit required from high analyte concentration and/or matrix interferences.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,ME,NC,VA
Aroclor-1016 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1221	CT,NH,NY,ME,NC,VA
Aroclor-1221 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1232	CT,NH,NY,ME,NC,VA
Aroclor-1232 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1242	CT,NH,NY,ME,NC,VA
Aroclor-1242 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1248	CT,NH,NY,ME,NC,VA
Aroclor-1248 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1254	CT,NH,NY,ME,NC,VA
Aroclor-1254 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1260	CT,NH,NY,ME,NC,VA
Aroclor-1260 [2C]	CT,NH,NY,ME,NC,VA
Aroclor-1262	NY,NC,VA
Aroclor-1262 [2C]	NY,NC,VA
Aroclor-1268	NY,NC,VA
Aroclor-1268 [2C]	NY,NC,VA

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

con-test® ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

1 of 1385

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks
Attention: A Foley, B Butler, E Furlong
Project Location: Cornell
Sampled By: A. Foley

Telephone:
Project #:
Client PO#: 1785-6100

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email: afoley, bbutler, efurlong
Format: ☒ PDF ☒ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	PCBs Soxhlet	Glass	# of Containers	** Preservation	***Container Code
01	B-9(5'E)(0-1')	9/30/16			X	S	U	X				
02	B-9(5'E)(1-3)	↓			X	S	↓	X				
03	B-9(5'N)(0-1')				X	S		X				
04	B-9(5'W)(0-1')				X	S		X				
05	B-9(5'S)(0-1')	↓			X	S	↓	X				
06	~~Rinse~~ Containment H2O	9/30/16	9:00	1:05	X	W	U		X			

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

***Cont. Code:**
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Dissolved Metals
○ Field Filtered
○ Lab to Filter

Relinquished by: (signature) Erin Foley	9/30/16	Date/Time:
Received by: (signature)	9-30-16	Date/Time: 1400
Relinquished by: (signature)	9-30-16	Date/Time: 1740
Received by: (signature) 4.1°C	9/30/16	Date/Time: 1740

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other _____
RUSH †
☐ †24-Hr ☒ 48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: ~~50~~ 5-1/GW1
Connecticut:
Other:

Is your project MCP or RCP ?
☒ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

Table of Contents

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY:** CMIC **DATE:** 9/30/16

1) **Was the chain(s) of custody relinquished and signed?** **Yes** ✓ **No** ____ **No COC Incl.**
2) **Does the chain agree with the samples?** **Yes** ✓ **No** ____
   If not, explain:
3) **Are all the samples in good condition?** **Yes** ✓ **No** ____
   If not, explain:
4) **How were the samples received:**

On Ice ✓ Direct from Sampling ____ Ambient ____ In Cooler(s) ✓

Were the samples received in Temperature Compliance of (2-6°C)? **Yes** ✓ **No** ____ **N/A** ____

Temperature °C by Temp blank ____ Temperature °C by Temp gun 4.1°C

5) **Are there Dissolved samples for the lab to filter?** **Yes** ____ **No** ✓
   Who was notified ____ Date ____ Time ____
6) **Are there any RUSH or SHORT HOLDING TIME samples?** **Yes** ✓ **No** ____
   Who was notified Mac Date 9/30/16 Time 1750
7) **Location where samples are stored:** Cogin

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) **Do all samples have the proper Acid pH:** **Yes** ____ **No** ____ **N/A** ✓
9) **Do all samples have the proper Base pH:** **Yes** ____ **No** ____ **N/A** ✓
10) **Was the PC notified of any discrepancies with the CoC vs the samples:** **Yes** ____ **N/A** ✓

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	5
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic		SOC Kit	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	1
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials: # HCl ____ # Methanol ____ **Time and Date Frozen:**
Bisulfate ____ # DI Water ____
Thiosulfate ____ Unpreserved ____

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	4.1°C
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** CMC **Date/Time:** 9/30/12 1740

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test Analytical Laboratory	Project #: 16I1385
Project Location: Lowell	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

16I1385-01 thru 16I1385-06

Matrices: Soil Water

CAM Protocol (check all that below)

8260 VOC CAM II A ( )	7470/7471 Hg CAM IIIB ( )	MassDEP VPH CAM IV A ( )	8081 Pesticides CAM V B ( )	7196 Hex Cr CAM VI B ( )	MassDEP APH CAM IX A ( )
8270 SVOC CAM II B ( )	7010 Metals CAM III C ( )	MassDEP EPH CAM IV A ( )	8151 Herbicides CAM V C ( )	8330 Explosives CAM VIII A ( )	TO-15 VOC CAM IX B ( )
6010 Metals CAM III A ( )	6020 Metals CAM III D ( )	8082 PCB CAM V A (X)	9014 Total Cyanide/PAC CAM VI A ( )	6860 Perchlorate CAM VIII B ( )	

Affirmative response to Questions A throughF is required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
E a	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes	☑ No[1]

***Data User Note:* Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.**

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☑ Yes	☐ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: Lisa Worthington Position: Project Manager

Printed Name: Lisa A. Worthington Date: 10/04/16

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 21, 2016

Drew Foley
Goldman Environmental
60 Brooks Drive
Braintree, MA 02184

Project Location: Lowell
Client Job Number:
Project Number: 1785-6100
Laboratory Work Order Number: 16J0047

Enclosed are results of analyses for samples received by the laboratory on October 3, 2016. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

James M. Georgantas
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Goldman Environmental
60 Brooks Drive
Braintree, MA 02184
ATTN: Drew Foley

REPORT DATE: 10/21/2016

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1785-6100

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 16J0047

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Lowell

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
River (Surface)	16J0047-01	Surface Water		SM21-22 4500 H B	

con-test® ANALYTICAL LABORATORY

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SM21-22 4500 H B

Qualifications:

H-05

Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.

Analyte & Samples(s) Qualified:

pH

16J0047-01[River (Surface)]

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Project Manager

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: Lowell
Sample Description:
Work Order: 16J0047

Date Received: 10/3/2016

Field Sample #: River (Surface)
Sampled: 10/3/2016 09:25

Sample ID: 16J0047-01

Sample Matrix: Surface Water

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
pH @21°C	7.0		pH Units	1	H-05	SM21-22 4500 H B	10/3/16	10/3/16 20:30	IS

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Sample Extraction Data

SM21-22 4500 H B

Lab Number [Field ID]	Batch	Initial [mL]	Date
16J0047-01 [River (Surface)]	B159741	50.0	10/03/16

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B159741 - SM21-22 4500 H B										
LCS (B159741-BS1)				Prepared & Analyzed: 10/03/16						
pH	6.03		pH Units	6.00		100	98.5-110			

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit
DL	Method Detection Limit
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-05	Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SM21-22 4500 H B in Water	
pH	CT,MA,RI

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2005	100033	02/1/2018
MA	Massachusetts DEP	M-MA100	06/30/2017
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2017
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2017
RI	Rhode Island Department of Health	LAO00112	12/30/2016
NC	North Carolina Div. of Water Quality	652	12/31/2016
NJ	New Jersey DEP	MA007 NELAP	06/30/2017
FL	Florida Department of Health	E871027 NELAP	06/30/2017
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2017
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2016
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2017

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CHAIN OF CUSTODY RECORD

16J0047

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: GEC
Address: 60 Brooks Dr
Attention: A. Foley B Butler E Furlong
Project Location: Lowell
Sampled By: A. Foley

Project Proposal Provided? (for billing purposes)
○ yes _____ proposal date

Telephone:
Project # ~~1785~~
Client PO# 1785-6100

DATA DELIVERY (check all that apply)
○ FAX ☑ EMAIL ○ WEBSITE
Fax #
Email: afoley BButler@gdlab
Format: ☑ PDF ☑ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Beginning Date/Time	Collection Ending Date/Time	Composite	Grab	*Matrix Code	Conc Code	Corrosivity	pH
1	River (Surface)	10/03	9:25		X	W	U	X	X

Comments:

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:

H - High; M - Medium; L - Low; C - Clean; U - Unknown

Relinquished by: (signature)	10/3/16	Date/Time: 10:00
Received by: (signature)	10/3/16	Date/Time: 2:45
Relinquished by: (signature)	10/3/16	Date/Time: 4:40
Received by: (signature) 2.50	10/3/16	Date/Time: 1640

Turnaround ††
☐ 7-Day
☐ 10-Day
☒ Other ____
RUSH †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts: GW-1
Connecticut:
Other:

Is your project MCP or RCP ?
☑ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certifie

# of Containers
** Preservation
***Container Code

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

Table of Contents

39 Spruce St.
East Longmeadow, MA. 01028
P: 413-525-2332
F: 413-525-6405
www.contestlabs.com

con-test® ANALYTICAL LABORATORY

Sample Receipt Checklist

CLIENT NAME: GEC **RECEIVED BY:** RJM **DATE:** 10/3/16

1) Was the chain(s) of custody relinquished and signed? **Yes** X **No** ____ **No COC Incl.**

2) Does the chain agree with the samples? **Yes** X **No** ____

If not, explain:

3) Are all the samples in good condition? **Yes** X **No** ____

If not, explain:

4) How were the samples received:

On Ice X Direct from Sampling ____ Ambient ____ In Cooler(s) X

Were the samples received in Temperature Compliance of (2-6°C)? **Yes** X **No** ____ **N/A** ____

Temperature °C by Temp blank ____ Temperature °C by Temp gun 25°

5) Are there Dissolved samples for the lab to filter? **Yes** ____ **No** X

Who was notified ____ Date ____ Time ____

6) Are there any RUSH or SHORT HOLDING TIME samples? **Yes** ✓ **No** X JM

Who was notified Isma Date 10/3/16 Time 1700

7) Location where samples are stored: Log in

Permission to subcontract samples? Yes No
(Walk-in clients only) if not already approved
Client Signature: ____

8) Do all samples have the proper Acid pH: **Yes** ____ **No** ____ **N/A** X

9) Do all samples have the proper Base pH: **Yes** ____ **No** ____ **N/A** X

10) Was the PC notified of any discrepancies with the CoC vs the samples: **Yes** ____ **N/A** X

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		16 oz amber	
500 mL Amber		8 oz amber/clear jar	
250 mL Amber (8oz amber)		4 oz amber/clear jar	
1 Liter Plastic		2 oz amber/clear jar	
500 mL Plastic		Plastic Bag / Ziploc	
250 mL plastic	1	SOC Kit	
40 mL Vial - type listed below		Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

40 mL vials:	# HCl ____	# Methanol ____	Time and Date Frozen:
Doc# 277	# Bisulfate ____	# DI Water ____	
Rev. 4 August 2013	# Thiosulfate ____	Unpreserved ____	

Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)

Any False statement will be brought to the attention of Client

Question	Answer (True/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	NA	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	NA	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** RJM **Date/Time:** 10/3/16 1640