ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

Report Date: September 22, 2016

Project: MHIC AST 389 Piping Closure

Submittal Date: 09/07/2016
Group Number: 1704970
PO Number: 213402428
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
TB-20160906 Water	8572702
MH389-12 Grab Soil	8572703
MH389-13 Grab Soil	8572704
MH389-14 Grab Soil	8572705
MH389-15 Grab Soil	8572706
MH389-16 Grab Soil	8572707
MH389-17 Grab Soil	8572708
MH389-18 Grab Soil	8572709
MH389-19 Grab Soil	8572710
MH389-20 Grab Soil	8572711
MH389-21 Grab Soil	8572712
MH389-22 Grab Soil	8572713

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Stantec	Attn: Mark Schaeffer
Electronic Copy To	Evergreen c/o Stantec	Attn: Andrew Bradley
Electronic Copy To	Sunoco c/o Stantec	Attn: Jennifer Menges

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Respectfully Submitted,

Amek Carter
Specialist

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Analysis Report

Sample Description: TB-20160906 Water

Project Name: MHIC AST 389 Piping Closure

LL Sample # WW 8572702
LL Group # 1704970
Account # 16657

Collected: 09/01/2016

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHKTB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10335	Benzene	71-43-2	N.D.	0.5	1
10335	sec-Butylbenzene	135-98-8	N.D.	1	1
10335	tert-Butylbenzene	98-06-6	N.D.	1	1
10335	Cyclohexane	110-82-7	N.D.	2	1
10335	1,2-Dibromoethane	106-93-4	N.D.	0.5	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10335	Ethylbenzene	100-41-4	N.D.	0.5	1
10335	n-Hexane	110-54-3	N.D.	2	1
10335	Isopropylbenzene	98-82-8	N.D.	1	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10335	Naphthalene	91-20-3	N.D.	1	1
10335	Toluene	108-88-3	N.D.	0.5	1
10335	1,2,4-Trimethylbenzene	95-63-6	N.D.	1	1
10335	1,3,5-Trimethylbenzene	108-67-8	N.D.	1	1
10335	Xylene (Total)	1330-20-7	N.D.	0.5	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	Evergreen Comprehensive VOCs	SW-846 8260B	1	N162561AA	09/12/2016 11:02	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N162561AA	09/12/2016 11:02	Nicole S Lamoreaux	1

Sample Description: MH389-12 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572703
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:00 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

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Suite 140
West Chester PA 19380

MHK12

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**		**mg/kg**	
10237	Benzene	71-43-2	0.003	J	0.0007	1.18
10237	sec-Butylbenzene	135-98-8	0.006	J	0.001	1.18
10237	tert-Butylbenzene	98-06-6	0.003	J	0.001	1.18
10237	Cyclohexane	110-82-7	0.004	J	0.001	1.18
10237	1,2-Dichloroethane	107-06-2	N.D.		0.001	1.18
10237	Ethylbenzene	100-41-4	0.002	J	0.001	1.18
10237	n-Hexane	110-54-3	0.004	J	0.001	1.18
10237	Isopropylbenzene	98-82-8	0.002	J	0.001	1.18
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.0007	1.18
10237	Naphthalene	91-20-3	0.006	J	0.001	1.18
10237	Toluene	108-88-3	0.003	J	0.001	1.18
10237	1,2,4-Trimethylbenzene	95-63-6	0.002	J	0.001	1.18
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.001	1.18
10237	Xylene (Total)	1330-20-7	0.003	J	0.001	1.18
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
10728	Acenaphthene	83-32-9	N.D.		0.037	10
10728	Anthracene	120-12-7	0.20		0.037	10
10728	Benzo(a)anthracene	56-55-3	0.25		0.037	10
10728	Benzo(a)pyrene	50-32-8	0.22		0.037	10
10728	Benzo(b)fluoranthene	205-99-2	0.15	J	0.037	10
10728	Benzo(g,h,i)perylene	191-24-2	0.73		0.037	10
10728	Benzo(k)fluoranthene	207-08-9	0.069	J	0.037	10
10728	1,1'-Biphenyl	92-52-4	N.D.		0.19	10
10728	Di-n-butylphthalate	84-74-2	N.D.		0.74	10
10728	Chrysene	218-01-9	0.42		0.037	10
10728	Dibenz(a,h)anthracene	53-70-3	N.D.		0.037	10
10728	Diethylphthalate	84-66-2	N.D.		0.74	10
10728	2,4-Dimethylphenol	105-67-9	N.D.		0.19	10
10728	2,4-Dinitrophenol	51-28-5	N.D.		3.3	10
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		0.74	10
10728	Fluoranthene	206-44-0	0.17	J	0.037	10
10728	Fluorene	86-73-7	0.33		0.037	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.14	J	0.037	10
10728	2-Methylnaphthalene	91-57-6	1.2		0.037	10
10728	2-Methylphenol	95-48-7	N.D.		0.19	10
10728	4-Methylphenol	106-44-5	N.D.		0.19	10
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10728	4-Nitrophenol	100-02-7	N.D.		1.9	10
10728	Phenanthrene	85-01-8	1.1		0.037	10
10728	Phenol	108-95-2	N.D.		0.19	10
10728	Pyrene	129-00-0	0.82		0.037	10
10728	Pyridine	110-86-1	N.D.		0.74	10
10728	Quinoline	91-22-5	N.D.		0.37	10

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC/DoD Standards. The following analytes are accepted based on this allowance:
2,4-Dimethylphenol

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Analysis Report

Sample Description: MH389-12 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572703
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:00 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Volatiles by Extraction	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.0022	10
	Reporting limits were raised due to interference from the sample matrix.				
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	8.82	0.107	1
06955	Lead	7439-92-1	76.8	0.489	1
06961	Nickel	7440-02-0	18.2	0.267	1
06971	Vanadium	7440-62-2	43.5	0.125	1
06972	Zinc	7440-66-6	175	0.605	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	10.1	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10237	Evergreen Comprehensive VOCs	SW-846 8260B	1	X162561AA	09/12/2016	13:55	Jennifer K Howe	1.18
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201625342559	09/06/2016	10:00	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201625342559	09/06/2016	10:00	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16254SLB026	09/13/2016	01:49	Anthony P Bauer	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16254SLB026	09/12/2016	17:00	Kate E Lutte	1
13214	EPA 8011 Solids	SW-846 8011	1	162600013A	09/19/2016	18:21	Heather M Miller	10
13218	EDB Soil Extraction	SW-846 8011	1	162600013A	09/16/2016	20:30	Shawn J McMullen	1
06952	Cobalt	SW-846 6010B	1	162535708002	09/12/2016	13:45	Suzanne M Will	1
06955	Lead	SW-846 6010B	1	162535708002	09/12/2016	13:45	Suzanne M Will	1
06961	Nickel	SW-846 6010B	1	162535708002	09/12/2016	13:45	Suzanne M Will	1
06971	Vanadium	SW-846 6010B	1	162535708002	09/12/2016	13:45	Suzanne M Will	1
06972	Zinc	SW-846 6010B	1	162535708002	09/12/2016	13:45	Suzanne M Will	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	162535708002	09/09/2016	15:55	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	16258820016A	09/15/2016	11:02	William C Schwebel	1

Sample Description: MH389-13 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572704
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:05 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

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MHK13

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.0006 J	0.0005	0.89
10237	sec-Butylbenzene	135-98-8	N.D.	0.001	0.89
10237	tert-Butylbenzene	98-06-6	N.D.	0.001	0.89
10237	Cyclohexane	110-82-7	N.D.	0.001	0.89
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.89
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.89
10237	n-Hexane	110-54-3	N.D.	0.001	0.89
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.89
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.89
10237	Naphthalene	91-20-3	0.003 J	0.001	0.89
10237	Toluene	108-88-3	N.D.	0.001	0.89
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.89
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.89
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.89
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**	**mg/kg**	
10728	Acenaphthene	83-32-9	0.090 J	0.036	10
10728	Anthracene	120-12-7	0.21	0.036	10
10728	Benzo(a)anthracene	56-55-3	0.10 J	0.036	10
10728	Benzo(a)pyrene	50-32-8	0.13 J	0.036	10
10728	Benzo(b)fluoranthene	205-99-2	0.084 J	0.036	10
10728	Benzo(g,h,i)perylene	191-24-2	0.091 J	0.036	10
10728	Benzo(k)fluoranthene	207-08-9	0.039 J	0.036	10
10728	1,1'-Biphenyl	92-52-4	N.D.	0.18	10
10728	Di-n-butylphthalate	84-74-2	N.D.	0.73	10
10728	Chrysene	218-01-9	0.19	0.036	10
10728	Dibenz(a,h)anthracene	53-70-3	N.D.	0.036	10
10728	Diethylphthalate	84-66-2	N.D.	0.73	10
10728	2,4-Dimethylphenol	105-67-9	N.D.	0.18	10
10728	2,4-Dinitrophenol	51-28-5	N.D.	3.3	10
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	0.73	10
10728	Fluoranthene	206-44-0	0.14 J	0.036	10
10728	Fluorene	86-73-7	0.25	0.036	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.036	10
10728	2-Methylnaphthalene	91-57-6	0.36	0.036	10
10728	2-Methylphenol	95-48-7	N.D.	0.18	10
10728	4-Methylphenol	106-44-5	N.D.	0.18	10
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
10728	4-Nitrophenol	100-02-7	N.D.	1.8	10
10728	Phenanthrene	85-01-8	0.92	0.036	10
10728	Phenol	108-95-2	N.D.	0.18	10
10728	Pyrene	129-00-0	0.67	0.036	10
10728	Pyridine	110-86-1	N.D.	0.73	10
10728	Quinoline	91-22-5	N.D.	0.36	10

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC/DoD Standards. The following analytes are accepted based on this allowance:
2,4-Dimethylphenol

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Analysis Report

Sample Description: MH389-13 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572704
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:05 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

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1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK13

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Volatiles by Extraction	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.0010	5
	Reporting limits were raised due to interference from the sample matrix.				
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	25.4	0.631	5
06955	Lead	7439-92-1	17.7	2.89	5
06961	Nickel	7440-02-0	50.2	0.316	1
06971	Vanadium	7440-62-2	41.9	0.736	5
06972	Zinc	7440-66-6	44.9	3.58	5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	8.6	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	Evergreen Comprehensive VOCs	SW-846 8260B	1	X162561AA	09/12/2016 18:10	Jennifer K Howe	0.89
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201625342559	09/06/2016 10:05	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201625342559	09/06/2016 10:05	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201625342559	09/06/2016 10:05	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16254SLB026	09/13/2016 02:10	Anthony P Bauer	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16254SLB026	09/12/2016 17:00	Kate E Lutte	1
13214	EPA 8011 Solids	SW-846 8011	1	162600013A	09/19/2016 18:37	Heather M Miller	5
13218	EDB Soil Extraction	SW-846 8011	1	162600013A	09/16/2016 20:30	Shawn J McMullen	1
06952	Cobalt	SW-846 6010B	1	162535708002	09/12/2016 18:17	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	162535708002	09/12/2016 23:55	Matthew R Machtinger	5
06961	Nickel	SW-846 6010B	1	162535708002	09/12/2016 13:48	Suzanne M Will	1
06971	Vanadium	SW-846 6010B	1	162535708002	09/12/2016 18:17	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	162535708002	09/12/2016 18:17	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	162535708002	09/09/2016 15:55	JoElla L Rice	1

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Analysis Report

Sample Description: MH389-13 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572704
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:05 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

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West Chester PA 19380

MHK13

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997	1	16258820016A	09/15/2016 11:02	William C Schwebel	1

Sample Description: MH389-14 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572705
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:10 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK14

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**		**mg/kg**	
10237	Benzene	71-43-2	0.001	J	0.0006	1.08
10237	sec-Butylbenzene	135-98-8	N.D.		0.001	1.08
10237	tert-Butylbenzene	98-06-6	N.D.		0.001	1.08
10237	Cyclohexane	110-82-7	N.D.		0.001	1.08
10237	1,2-Dichloroethane	107-06-2	N.D.		0.001	1.08
10237	Ethylbenzene	100-41-4	N.D.		0.001	1.08
10237	n-Hexane	110-54-3	N.D.		0.001	1.08
10237	Isopropylbenzene	98-82-8	N.D.		0.001	1.08
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.0006	1.08
10237	Naphthalene	91-20-3	0.002	J	0.001	1.08
10237	Toluene	108-88-3	0.001	J	0.001	1.08
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.001	1.08
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.001	1.08
10237	Xylene (Total)	1330-20-7	N.D.		0.001	1.08
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
10728	Acenaphthene	83-32-9	0.095	J	0.035	10
10728	Anthracene	120-12-7	0.30		0.035	10
10728	Benzo(a)anthracene	56-55-3	0.36		0.035	10
10728	Benzo(a)pyrene	50-32-8	0.21		0.035	10
10728	Benzo(b)fluoranthene	205-99-2	0.25		0.035	10
10728	Benzo(g,h,i)perylene	191-24-2	0.20		0.035	10
10728	Benzo(k)fluoranthene	207-08-9	0.088	J	0.035	10
10728	1,1'-Biphenyl	92-52-4	N.D.		0.18	10
10728	Di-n-butylphthalate	84-74-2	N.D.		0.70	10
10728	Chrysene	218-01-9	0.44		0.035	10
10728	Dibenz(a,h)anthracene	53-70-3	N.D.		0.035	10
10728	Diethylphthalate	84-66-2	N.D.		0.70	10
10728	2,4-Dimethylphenol	105-67-9	N.D.		0.18	10
10728	2,4-Dinitrophenol	51-28-5	N.D.		3.2	10
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		0.70	10
10728	Fluoranthene	206-44-0	0.40		0.035	10
10728	Fluorene	86-73-7	0.37		0.035	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.088	J	0.035	10
10728	2-Methylnaphthalene	91-57-6	0.65		0.035	10
10728	2-Methylphenol	95-48-7	N.D.		0.18	10
10728	4-Methylphenol	106-44-5	N.D.		0.18	10
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10728	4-Nitrophenol	100-02-7	N.D.		1.8	10
10728	Phenanthrene	85-01-8	1.6		0.035	10
10728	Phenol	108-95-2	N.D.		0.18	10
10728	Pyrene	129-00-0	1.2		0.035	10
10728	Pyridine	110-86-1	N.D.		0.70	10
10728	Quinoline	91-22-5	N.D.		0.35	10

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC/DoD Standards. The following analytes are accepted based on this allowance:
2,4-Dimethylphenol

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Analysis Report

Sample Description: MH389-14 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572705
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:10 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK14

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Volatiles by Extraction	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.0011	5
	Reporting limits were raised due to interference from the sample matrix.				
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	7.81	0.114	1
06955	Lead	7439-92-1	20.9	0.521	1
06961	Nickel	7440-02-0	16.1	0.284	1
06971	Vanadium	7440-62-2	40.0	0.133	1
06972	Zinc	7440-66-6	57.4	0.645	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	5.8	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	Evergreen Comprehensive VOCs	SW-846 8260B	1	X162561AA	09/12/2016 14:19	Jennifer K Howe	1.08
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201625342559	09/06/2016 10:10	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201625342559	09/06/2016 10:10	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201625342559	09/06/2016 10:10	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16254SLB026	09/13/2016 02:31	Anthony P Bauer	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16254SLB026	09/12/2016 17:00	Kate E Lutte	1
13214	EPA 8011 Solids	SW-846 8011	1	162600013A	09/19/2016 18:53	Heather M Miller	5
13218	EDB Soil Extraction	SW-846 8011	1	162600013A	09/16/2016 20:30	Shawn J McMullen	1
06952	Cobalt	SW-846 6010B	1	162535708002	09/12/2016 13:51	Suzanne M Will	1
06955	Lead	SW-846 6010B	1	162535708002	09/12/2016 13:51	Suzanne M Will	1
06961	Nickel	SW-846 6010B	1	162535708002	09/12/2016 13:51	Suzanne M Will	1
06971	Vanadium	SW-846 6010B	1	162535708002	09/12/2016 13:51	Suzanne M Will	1
06972	Zinc	SW-846 6010B	1	162535708002	09/12/2016 13:51	Suzanne M Will	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	162535708002	09/09/2016 15:55	JoElla L Rice	1

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Analysis Report

Sample Description: MH389-14 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572705
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:10 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

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Suite 140
West Chester PA 19380

MHK14

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997	1	16258820016A	09/15/2016 11:02	William C Schwebel	1

Sample Description: MH389-15 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572706
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:15 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

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Suite 140
West Chester PA 19380

MHK15

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**		**mg/kg**	
10237	Benzene	71-43-2	0.002	J	0.0007	1.26
10237	sec-Butylbenzene	135-98-8	N.D.		0.001	1.26
10237	tert-Butylbenzene	98-06-6	N.D.		0.001	1.26
10237	Cyclohexane	110-82-7	0.002	J	0.001	1.26
10237	1,2-Dichloroethane	107-06-2	N.D.		0.001	1.26
10237	Ethylbenzene	100-41-4	N.D.		0.001	1.26
10237	n-Hexane	110-54-3	0.001	J	0.001	1.26
10237	Isopropylbenzene	98-82-8	N.D.		0.001	1.26
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.0007	1.26
10237	Naphthalene	91-20-3	0.022		0.001	1.26
10237	Toluene	108-88-3	0.002	J	0.001	1.26
10237	1,2,4-Trimethylbenzene	95-63-6	0.003	J	0.001	1.26
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.001	1.26
10237	Xylene (Total)	1330-20-7	0.002	J	0.001	1.26
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
10728	Acenaphthene	83-32-9	2.7		0.035	10
10728	Anthracene	120-12-7	3.4		0.035	10
10728	Benzo(a)anthracene	56-55-3	1.3		0.035	10
10728	Benzo(a)pyrene	50-32-8	0.40		0.035	10
10728	Benzo(b)fluoranthene	205-99-2	0.29		0.035	10
10728	Benzo(g,h,i)perylene	191-24-2	0.27		0.035	10
10728	Benzo(k)fluoranthene	207-08-9	0.13	J	0.035	10
10728	1,1'-Biphenyl	92-52-4	0.40		0.17	10
10728	Di-n-butylphthalate	84-74-2	N.D.		0.69	10
10728	Chrysene	218-01-9	1.6		0.035	10
10728	Dibenz(a,h)anthracene	53-70-3	0.18	J	0.035	10
10728	Diethylphthalate	84-66-2	N.D.		0.69	10
10728	2,4-Dimethylphenol	105-67-9	N.D.		0.17	10
10728	2,4-Dinitrophenol	51-28-5	N.D.		3.1	10
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		0.69	10
10728	Fluoranthene	206-44-0	1.7		0.035	10
10728	Fluorene	86-73-7	5.5		0.035	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.13	J	0.035	10
10728	2-Methylnaphthalene	91-57-6	2.2		0.035	10
10728	2-Methylphenol	95-48-7	N.D.		0.17	10
10728	4-Methylphenol	106-44-5	N.D.		0.17	10
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10728	4-Nitrophenol	100-02-7	N.D.		1.7	10
10728	Phenanthrene	85-01-8	2.3		0.035	10
10728	Phenol	108-95-2	N.D.		0.17	10
10728	Pyrene	129-00-0	5.0		0.035	10
10728	Pyridine	110-86-1	N.D.		0.69	10
10728	Quinoline	91-22-5	N.D.		0.35	10

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC/DoD Standards. The following analytes are accepted based on this allowance:
2,4-Dimethylphenol

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Analysis Report

Sample Description: MH389-15 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572706
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:15 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Volatiles by Extraction	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.0021	10
	Reporting limits were raised due to interference from the sample matrix.				
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	8.14	0.0831	1
06955	Lead	7439-92-1	12.8	0.381	1
06961	Nickel	7440-02-0	14.7	0.208	1
06971	Vanadium	7440-62-2	40.4	0.0969	1
06972	Zinc	7440-66-6	55.1	0.471	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	3.7	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	Evergreen Comprehensive VOCs	SW-846 8260B	1	X162561AA	09/12/2016 14:42	Jennifer K Howe	1.26
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201625342559	09/06/2016 10:15	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201625342559	09/06/2016 10:15	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201625342559	09/06/2016 10:15	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16254SLB026	09/13/2016 02:52	Anthony P Bauer	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16254SLB026	09/12/2016 17:00	Kate E Lutte	1
13214	EPA 8011 Solids	SW-846 8011	1	162600013A	09/19/2016 19:42	Heather M Miller	10
13218	EDB Soil Extraction	SW-846 8011	1	162600013A	09/16/2016 20:30	Shawn J McMullen	1
06952	Cobalt	SW-846 6010B	1	162535708002	09/12/2016 13:54	Suzanne M Will	1
06955	Lead	SW-846 6010B	1	162535708002	09/12/2016 13:54	Suzanne M Will	1
06961	Nickel	SW-846 6010B	1	162535708002	09/12/2016 13:54	Suzanne M Will	1
06971	Vanadium	SW-846 6010B	1	162535708002	09/12/2016 13:54	Suzanne M Will	1
06972	Zinc	SW-846 6010B	1	162535708002	09/12/2016 13:54	Suzanne M Will	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	162535708002	09/09/2016 15:55	JoElla L Rice	1

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Analysis Report

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Sample Description: MH389-15 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572706
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:15 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

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Suite 140
West Chester PA 19380

MHK15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997	1	16258820016A	09/15/2016 11:02	William C Schwebel	1

Sample Description: MH389-16 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572707
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:20 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK16

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0007	1.37
10237	sec-Butylbenzene	135-98-8	N.D.	0.001	1.37
10237	tert-Butylbenzene	98-06-6	N.D.	0.001	1.37
10237	Cyclohexane	110-82-7	N.D.	0.001	1.37
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	1.37
10237	Ethylbenzene	100-41-4	N.D.	0.001	1.37
10237	n-Hexane	110-54-3	N.D.	0.001	1.37
10237	Isopropylbenzene	98-82-8	N.D.	0.001	1.37
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0007	1.37
10237	Naphthalene	91-20-3	N.D.	0.001	1.37
10237	Toluene	108-88-3	N.D.	0.001	1.37
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	1.37
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	1.37
10237	Xylene (Total)	1330-20-7	N.D.	0.001	1.37
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**	**mg/kg**	
10728	Acenaphthene	83-32-9	0.016 J	0.0035	1
10728	Anthracene	120-12-7	0.064	0.0035	1
10728	Benzo(a)anthracene	56-55-3	0.14	0.0035	1
10728	Benzo(a)pyrene	50-32-8	0.11	0.0035	1
10728	Benzo(b)fluoranthene	205-99-2	0.16	0.0035	1
10728	Benzo(g,h,i)perylene	191-24-2	0.12	0.0035	1
10728	Benzo(k)fluoranthene	207-08-9	0.077	0.0035	1
10728	1,1'-Biphenyl	92-52-4	0.053	0.017	1
10728	Di-n-butylphthalate	84-74-2	N.D.	0.069	1
10728	Chrysene	218-01-9	0.18	0.0035	1
10728	Dibenz(a,h)anthracene	53-70-3	0.026	0.0035	1
10728	Diethylphthalate	84-66-2	N.D.	0.069	1
10728	2,4-Dimethylphenol	105-67-9	N.D.	0.017	1
10728	2,4-Dinitrophenol	51-28-5	N.D.	0.31	1
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	0.069	1
10728	Fluoranthene	206-44-0	0.22	0.0035	1
10728	Fluorene	86-73-7	0.039	0.0035	1
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.074	0.0035	1
10728	2-Methylnaphthalene	91-57-6	0.37	0.0035	1
10728	2-Methylphenol	95-48-7	N.D.	0.017	1
10728	4-Methylphenol	106-44-5	N.D.	0.017	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
10728	4-Nitrophenol	100-02-7	N.D.	0.17	1
10728	Phenanthrene	85-01-8	0.29	0.0035	1
10728	Phenol	108-95-2	N.D.	0.017	1
10728	Pyrene	129-00-0	0.33	0.0035	1
10728	Pyridine	110-86-1	N.D.	0.069	1
10728	Quinoline	91-22-5	N.D.	0.035	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC/DoD Standards. The following analytes are accepted based on this allowance:
2,4-Dimethylphenol

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Analysis Report

Sample Description: MH389-16 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572707
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:20 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

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1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK16

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Volatiles by Extraction	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00021	1
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	7.21	0.112	1
06955	Lead	7439-92-1	17.3	0.514	1
06961	Nickel	7440-02-0	16.3	0.280	1
06971	Vanadium	7440-62-2	48.3	0.131	1
06972	Zinc	7440-66-6	63.9	0.636	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	4.5	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	Evergreen Comprehensive VOCs	SW-846 8260B	1	X162561AA	09/12/2016 15:05	Jennifer K Howe	1.37
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201625342559	09/06/2016 10:20	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201625342559	09/06/2016 10:20	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201625342559	09/06/2016 10:20	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16254SLB026	09/13/2016 03:13	Anthony P Bauer	1
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16254SLB026	09/12/2016 17:00	Kate E Lutte	1
13214	EPA 8011 Solids	SW-846 8011	1	162600013A	09/19/2016 19:58	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	1	162600013A	09/16/2016 20:30	Shawn J McMullen	1
06952	Cobalt	SW-846 6010B	1	162535708002	09/12/2016 13:57	Suzanne M Will	1
06955	Lead	SW-846 6010B	1	162535708002	09/12/2016 13:57	Suzanne M Will	1
06961	Nickel	SW-846 6010B	1	162535708002	09/12/2016 13:57	Suzanne M Will	1
06971	Vanadium	SW-846 6010B	1	162535708002	09/12/2016 13:57	Suzanne M Will	1
06972	Zinc	SW-846 6010B	1	162535708002	09/12/2016 13:57	Suzanne M Will	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	162535708002	09/09/2016 15:55	JoElla L Rice	1
00111	Moisture	SM 2540 G-1997	1	16258820016A	09/15/2016 11:02	William C Schwebel	1

Sample Description: MH389-17 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572708
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:25 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

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West Chester PA 19380

MHK17

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.0005 J	0.0005	0.87
10237	sec-Butylbenzene	135-98-8	N.D.	0.0009	0.87
10237	tert-Butylbenzene	98-06-6	N.D.	0.0009	0.87
10237	Cyclohexane	110-82-7	N.D.	0.0009	0.87
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0009	0.87
10237	Ethylbenzene	100-41-4	N.D.	0.0009	0.87
10237	n-Hexane	110-54-3	N.D.	0.0009	0.87
10237	Isopropylbenzene	98-82-8	N.D.	0.0009	0.87
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.87
10237	Naphthalene	91-20-3	N.D.	0.0009	0.87
10237	Toluene	108-88-3	N.D.	0.0009	0.87
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0009	0.87
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0009	0.87
10237	Xylene (Total)	1330-20-7	N.D.	0.0009	0.87
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**	**mg/kg**	
10728	Acenaphthene	83-32-9	N.D.	0.035	10
10728	Anthracene	120-12-7	0.080 J	0.035	10
10728	Benzo(a)anthracene	56-55-3	0.074 J	0.035	10
10728	Benzo(a)pyrene	50-32-8	0.063 J	0.035	10
10728	Benzo(b)fluoranthene	205-99-2	0.048 J	0.035	10
10728	Benzo(g,h,i)perylene	191-24-2	0.077 J	0.035	10
10728	Benzo(k)fluoranthene	207-08-9	N.D.	0.035	10
10728	1,1'-Biphenyl	92-52-4	N.D.	0.18	10
10728	Di-n-butylphthalate	84-74-2	N.D.	0.71	10
10728	Chrysene	218-01-9	0.075 J	0.035	10
10728	Dibenz(a,h)anthracene	53-70-3	N.D.	0.035	10
10728	Diethylphthalate	84-66-2	N.D.	0.71	10
10728	2,4-Dimethylphenol	105-67-9	N.D.	0.18	10
10728	2,4-Dinitrophenol	51-28-5	N.D.	3.2	10
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	0.71	10
10728	Fluoranthene	206-44-0	0.051 J	0.035	10
10728	Fluorene	86-73-7	0.071 J	0.035	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.035	10
10728	2-Methylnaphthalene	91-57-6	0.71	0.035	10
10728	2-Methylphenol	95-48-7	N.D.	0.18	10
10728	4-Methylphenol	106-44-5	N.D.	0.18	10
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
10728	4-Nitrophenol	100-02-7	N.D.	1.8	10
10728	Phenanthrene	85-01-8	0.34	0.035	10
10728	Phenol	108-95-2	N.D.	0.18	10
10728	Pyrene	129-00-0	0.22	0.035	10
10728	Pyridine	110-86-1	N.D.	0.71	10
10728	Quinoline	91-22-5	N.D.	0.35	10

Reporting limits were raised due to interference from the sample matrix.

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC/DoD Standards. The following analytes are accepted based on this allowance:

Sample Description: MH389-17 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572708
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:25 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK17

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
	2,4-Dimethylphenol				
Volatiles by Extraction		**SW-846 8011**	**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00021	1
Metals		**SW-846 6010B**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	7.03	0.0952	1
06955	Lead	7439-92-1	18.3	0.436	1
06961	Nickel	7440-02-0	15.0	0.238	1
06971	Vanadium	7440-62-2	42.2	0.111	1
06972	Zinc	7440-66-6	78.4	0.539	1
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	
00111	Moisture	n.a.	6.6	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	Evergreen Comprehensive VOCs	SW-846 8260B	1	X162561AA	09/12/2016 15:28	Jennifer K Howe	0.87
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201625342559	09/06/2016 10:25	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201625342559	09/06/2016 10:25	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201625342559	09/06/2016 10:25	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16254SLB026	09/13/2016 03:34	Anthony P Bauer	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16254SLB026	09/12/2016 17:00	Kate E Lutte	1
13214	EPA 8011 Solids	SW-846 8011	1	162600013A	09/19/2016 20:14	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	1	162600013A	09/16/2016 20:30	Shawn J McMullen	1
06952	Cobalt	SW-846 6010B	1	162565708001	09/14/2016 09:17	Eric L Eby	1
06955	Lead	SW-846 6010B	1	162565708001	09/14/2016 09:17	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	162565708001	09/14/2016 09:17	Eric L Eby	1
06971	Vanadium	SW-846 6010B	1	162565708001	09/14/2016 09:17	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	162565708001	09/14/2016 09:17	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	162565708001	09/13/2016 21:18	Annamaria Kuhns	1

eurofins
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2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: MH389-17 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572708
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:25 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK17

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997	1	16258820016A	09/15/2016 11:02	William C Schwebel	1

Sample Description: MH389-18 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572709
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:30 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

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Suite 140
West Chester PA 19380

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.0007 J	0.0005	0.99
10237	sec-Butylbenzene	135-98-8	N.D.	0.001	0.99
10237	tert-Butylbenzene	98-06-6	N.D.	0.001	0.99
10237	Cyclohexane	110-82-7	N.D.	0.001	0.99
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.99
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.99
10237	n-Hexane	110-54-3	N.D.	0.001	0.99
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.99
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.99
10237	Naphthalene	91-20-3	N.D.	0.001	0.99
10237	Toluene	108-88-3	N.D.	0.001	0.99
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.99
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.99
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.99
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**	**mg/kg**	
10728	Acenaphthene	83-32-9	0.0039 J	0.0035	1
10728	Anthracene	120-12-7	0.013 J	0.0035	1
10728	Benzo(a)anthracene	56-55-3	0.017 J	0.0035	1
10728	Benzo(a)pyrene	50-32-8	0.021	0.0035	1
10728	Benzo(b)fluoranthene	205-99-2	0.022	0.0035	1
10728	Benzo(g,h,i)perylene	191-24-2	0.030	0.0035	1
10728	Benzo(k)fluoranthene	207-08-9	0.012 J	0.0035	1
10728	1,1'-Biphenyl	92-52-4	N.D.	0.018	1
10728	Di-n-butylphthalate	84-74-2	N.D.	0.071	1
10728	Chrysene	218-01-9	0.030	0.0035	1
10728	Dibenz(a,h)anthracene	53-70-3	N.D.	0.0035	1
10728	Diethylphthalate	84-66-2	N.D.	0.071	1
10728	2,4-Dimethylphenol	105-67-9	N.D.	0.018	1
10728	2,4-Dinitrophenol	51-28-5	N.D.	0.32	1
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	0.071	1
10728	Fluoranthene	206-44-0	0.027	0.0035	1
10728	Fluorene	86-73-7	0.0083 J	0.0035	1
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.015 J	0.0035	1
10728	2-Methylnaphthalene	91-57-6	0.13	0.0035	1
10728	2-Methylphenol	95-48-7	N.D.	0.018	1
10728	4-Methylphenol	106-44-5	N.D.	0.018	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
10728	4-Nitrophenol	100-02-7	N.D.	0.18	1
10728	Phenanthrene	85-01-8	0.077	0.0035	1
10728	Phenol	108-95-2	N.D.	0.018	1
10728	Pyrene	129-00-0	0.074	0.0035	1
10728	Pyridine	110-86-1	N.D.	0.071	1
10728	Quinoline	91-22-5	N.D.	0.036	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC/DoD Standards. The following analytes are accepted based on this allowance:
2,4-Dimethylphenol

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Analysis Report

Sample Description: MH389-18 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572709
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 10:30 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK18

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Volatiles by Extraction	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00021	1
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	5.77	0.117	1
06955	Lead	7439-92-1	17.5	0.535	1
06961	Nickel	7440-02-0	11.5	0.292	1
06971	Vanadium	7440-62-2	45.7	0.136	1
06972	Zinc	7440-66-6	73.6	0.662	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	6.6	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	Evergreen Comprehensive VOCs	SW-846 8260B	1	X162561AA	09/12/2016 15:51	Jennifer K Howe	0.99
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201625342559	09/06/2016 10:30	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201625342559	09/06/2016 10:30	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201625342559	09/06/2016 10:30	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16254SLB026	09/13/2016 03:55	Anthony P Bauer	1
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16254SLB026	09/12/2016 17:00	Kate E Lutte	1
13214	EPA 8011 Solids	SW-846 8011	1	162600013A	09/19/2016 20:30	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	1	162600013A	09/16/2016 20:30	Shawn J McMullen	1
06952	Cobalt	SW-846 6010B	1	162565708001	09/14/2016 09:20	Eric L Eby	1
06955	Lead	SW-846 6010B	1	162565708001	09/14/2016 09:20	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	162565708001	09/14/2016 09:20	Eric L Eby	1
06971	Vanadium	SW-846 6010B	1	162565708001	09/14/2016 09:20	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	162565708001	09/14/2016 09:20	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	162565708001	09/13/2016 21:18	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16258820016A	09/15/2016 11:02	William C Schwebel	1

Sample Description: MH389-19 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572710
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 11:10 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

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CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**		**mg/kg**	
10237	Benzene	71-43-2	N.D.		0.029	51.02
10237	sec-Butylbenzene	135-98-8	0.15	J	0.059	51.02
10237	tert-Butylbenzene	98-06-6	0.063	J	0.059	51.02
10237	Cyclohexane	110-82-7	N.D.		0.059	51.02
10237	1,2-Dichloroethane	107-06-2	N.D.		0.059	51.02
10237	Ethylbenzene	100-41-4	N.D.		0.059	51.02
10237	n-Hexane	110-54-3	N.D.		0.059	51.02
10237	Isopropylbenzene	98-82-8	0.45		0.059	51.02
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.029	51.02
10237	Naphthalene	91-20-3	0.078	J	0.059	51.02
10237	Toluene	108-88-3	N.D.		0.059	51.02
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.059	51.02
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.059	51.02
10237	Xylene (Total)	1330-20-7	N.D.		0.059	51.02
	Reporting limits were raised due to interference from the sample matrix.					
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
10728	Acenaphthene	83-32-9	0.16	J	0.038	10
10728	Anthracene	120-12-7	0.29		0.038	10
10728	Benzo(a)anthracene	56-55-3	0.25		0.038	10
10728	Benzo(a)pyrene	50-32-8	0.12	J	0.038	10
10728	Benzo(b)fluoranthene	205-99-2	0.12	J	0.038	10
10728	Benzo(g,h,i)perylene	191-24-2	0.17	J	0.038	10
10728	Benzo(k)fluoranthene	207-08-9	N.D.		0.038	10
10728	1,1'-Biphenyl	92-52-4	N.D.		0.19	10
10728	Di-n-butylphthalate	84-74-2	N.D.		0.76	10
10728	Chrysene	218-01-9	0.35		0.038	10
10728	Dibenz(a,h)anthracene	53-70-3	N.D.		0.038	10
10728	Diethylphthalate	84-66-2	N.D.		0.76	10
10728	2,4-Dimethylphenol	105-67-9	N.D.		0.19	10
10728	2,4-Dinitrophenol	51-28-5	N.D.		3.4	10
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		0.76	10
10728	Fluoranthene	206-44-0	0.23		0.038	10
10728	Fluorene	86-73-7	0.16	J	0.038	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.077	J	0.038	10
10728	2-Methylnaphthalene	91-57-6	1.4		0.038	10
10728	2-Methylphenol	95-48-7	N.D.		0.19	10
10728	4-Methylphenol	106-44-5	N.D.		0.19	10
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.					
10728	4-Nitrophenol	100-02-7	N.D.		1.9	10
10728	Phenanthrene	85-01-8	0.63		0.038	10
10728	Phenol	108-95-2	N.D.		0.19	10
10728	Pyrene	129-00-0	1.1		0.038	10
10728	Pyridine	110-86-1	N.D.		0.76	10
10728	Quinoline	91-22-5	N.D.		0.38	10

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC/DoD Standards. The following analytes are accepted based on this allowance:
2,4-Dimethylphenol

eurofins
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Analysis Report

Sample Description: MH389-19 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572710
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 11:10 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

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1060 Andrew Drive
Suite 140
West Chester PA 19380

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Volatiles by Extraction	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00023	1
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	6.58	0.128	1
06955	Lead	7439-92-1	13.5	0.589	1
06961	Nickel	7440-02-0	13.2	0.321	1
06971	Vanadium	7440-62-2	37.8	0.150	1
06972	Zinc	7440-66-6	47.6	0.728	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	13.5	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time		Analyst	Dilution Factor
10237	Evergreen Comprehensive VOCs	SW-846 8260B	1	R162571AA	09/13/2016	09:04	Anita M Dale	51.02
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201625342559	09/06/2016	11:10	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201625342559	09/06/2016	11:10	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201625342559	09/06/2016	11:10	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16254SLB026	09/13/2016	04:16	Anthony P Bauer	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16254SLB026	09/12/2016	17:00	Kate E Lutte	1
13214	EPA 8011 Solids	SW-846 8011	1	162600013A	09/19/2016	20:45	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	1	162600013A	09/16/2016	20:30	Shawn J McMullen	1
06952	Cobalt	SW-846 6010B	1	162565708001	09/14/2016	09:24	Eric L Eby	1
06955	Lead	SW-846 6010B	1	162565708001	09/14/2016	09:24	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	162565708001	09/14/2016	09:24	Eric L Eby	1
06971	Vanadium	SW-846 6010B	1	162565708001	09/14/2016	09:24	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	162565708001	09/14/2016	09:24	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	162565708001	09/13/2016	21:18	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16258820016A	09/15/2016	11:02	William C Schwebel	1

Sample Description: MH389-20 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572711
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 11:25 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

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MHK20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	1.04
10237	sec-Butylbenzene	135-98-8	N.D.	0.001	1.04
10237	tert-Butylbenzene	98-06-6	N.D.	0.001	1.04
10237	Cyclohexane	110-82-7	0.003 J	0.001	1.04
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	1.04
10237	Ethylbenzene	100-41-4	N.D.	0.001	1.04
10237	n-Hexane	110-54-3	N.D.	0.001	1.04
10237	Isopropylbenzene	98-82-8	N.D.	0.001	1.04
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	1.04
10237	Naphthalene	91-20-3	N.D.	0.001	1.04
10237	Toluene	108-88-3	N.D.	0.001	1.04
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	1.04
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	1.04
10237	Xylene (Total)	1330-20-7	N.D.	0.001	1.04
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**	**mg/kg**	
10728	Acenaphthene	83-32-9	N.D.	0.0036	1
10728	Anthracene	120-12-7	N.D.	0.0036	1
10728	Benzo(a)anthracene	56-55-3	N.D.	0.0036	1
10728	Benzo(a)pyrene	50-32-8	N.D.	0.0036	1
10728	Benzo(b)fluoranthene	205-99-2	N.D.	0.0036	1
10728	Benzo(g,h,i)perylene	191-24-2	0.0041 J	0.0036	1
10728	Benzo(k)fluoranthene	207-08-9	N.D.	0.0036	1
10728	1,1'-Biphenyl	92-52-4	N.D.	0.018	1
10728	Di-n-butylphthalate	84-74-2	N.D.	0.073	1
10728	Chrysene	218-01-9	N.D.	0.0036	1
10728	Dibenz(a,h)anthracene	53-70-3	N.D.	0.0036	1
10728	Diethylphthalate	84-66-2	N.D.	0.073	1
10728	2,4-Dimethylphenol	105-67-9	N.D.	0.018	1
10728	2,4-Dinitrophenol	51-28-5	N.D.	0.33	1
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	0.073	1
10728	Fluoranthene	206-44-0	0.0038 J	0.0036	1
10728	Fluorene	86-73-7	N.D.	0.0036	1
10728	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.0036	1
10728	2-Methylnaphthalene	91-57-6	0.0071 J	0.0036	1
10728	2-Methylphenol	95-48-7	N.D.	0.018	1
10728	4-Methylphenol	106-44-5	N.D.	0.018	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
10728	4-Nitrophenol	100-02-7	N.D.	0.18	1
10728	Phenanthrene	85-01-8	0.0036 J	0.0036	1
10728	Phenol	108-95-2	N.D.	0.018	1
10728	Pyrene	129-00-0	0.0051 J	0.0036	1
10728	Pyridine	110-86-1	N.D.	0.073	1
10728	Quinoline	91-22-5	N.D.	0.036	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC/DoD Standards. The following analytes are accepted based on this allowance:
2,4-Dimethylphenol

eurofins
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Analysis Report

Sample Description: MH389-20 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572711
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 11:25 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Volatiles by Extraction	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00022	1
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	8.37	0.101	1
06955	Lead	7439-92-1	2.83	0.461	1
06961	Nickel	7440-02-0	18.9	0.252	1
06971	Vanadium	7440-62-2	49.9	0.117	1
06972	Zinc	7440-66-6	54.6	0.570	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	9.0	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	Evergreen Comprehensive VOCs	SW-846 8260B	1	X162561AA	09/12/2016 16:15	Jennifer K Howe	1.04
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201625342559	09/06/2016 11:25	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201625342559	09/06/2016 11:25	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201625342559	09/06/2016 11:25	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16254SLB026	09/13/2016 04:37	Anthony P Bauer	1
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16254SLB026	09/12/2016 17:00	Kate E Lutte	1
13214	EPA 8011 Solids	SW-846 8011	1	162600013A	09/19/2016 21:01	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	1	162600013A	09/16/2016 20:30	Shawn J McMullen	1
06952	Cobalt	SW-846 6010B	1	162565708001	09/14/2016 09:27	Eric L Eby	1
06955	Lead	SW-846 6010B	1	162565708001	09/14/2016 09:27	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	162565708001	09/14/2016 09:27	Eric L Eby	1
06971	Vanadium	SW-846 6010B	1	162565708001	09/14/2016 09:27	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	162565708001	09/14/2016 09:27	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	162565708001	09/13/2016 21:18	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16258820016A	09/15/2016 11:02	William C Schwebel	1

Sample Description: MH389-21 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572712
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 11:40 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK21

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	1.06
10237	sec-Butylbenzene	135-98-8	N.D.	0.001	1.06
10237	tert-Butylbenzene	98-06-6	N.D.	0.001	1.06
10237	Cyclohexane	110-82-7	N.D.	0.001	1.06
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	1.06
10237	Ethylbenzene	100-41-4	N.D.	0.001	1.06
10237	n-Hexane	110-54-3	N.D.	0.001	1.06
10237	Isopropylbenzene	98-82-8	N.D.	0.001	1.06
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	1.06
10237	Naphthalene	91-20-3	N.D.	0.001	1.06
10237	Toluene	108-88-3	N.D.	0.001	1.06
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	1.06
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	1.06
10237	Xylene (Total)	1330-20-7	N.D.	0.001	1.06
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**	**mg/kg**	
10728	Acenaphthene	83-32-9	0.019 J	0.0037	1
10728	Anthracene	120-12-7	0.062	0.0037	1
10728	Benzo(a)anthracene	56-55-3	0.14	0.0037	1
10728	Benzo(a)pyrene	50-32-8	0.11	0.0037	1
10728	Benzo(b)fluoranthene	205-99-2	0.14	0.0037	1
10728	Benzo(g,h,i)perylene	191-24-2	0.087	0.0037	1
10728	Benzo(k)fluoranthene	207-08-9	0.075	0.0037	1
10728	1,1'-Biphenyl	92-52-4	N.D.	0.018	1
10728	Di-n-butylphthalate	84-74-2	N.D.	0.073	1
10728	Chrysene	218-01-9	0.13	0.0037	1
10728	Dibenz(a,h)anthracene	53-70-3	0.023	0.0037	1
10728	Diethylphthalate	84-66-2	N.D.	0.073	1
10728	2,4-Dimethylphenol	105-67-9	N.D.	0.018	1
10728	2,4-Dinitrophenol	51-28-5	N.D.	0.33	1
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	0.073	1
10728	Fluoranthene	206-44-0	0.30	0.0037	1
10728	Fluorene	86-73-7	0.023	0.0037	1
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.069	0.0037	1
10728	2-Methylnaphthalene	91-57-6	0.028	0.0037	1
10728	2-Methylphenol	95-48-7	N.D.	0.018	1
10728	4-Methylphenol	106-44-5	N.D.	0.018	1
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
10728	4-Nitrophenol	100-02-7	N.D.	0.18	1
10728	Phenanthrene	85-01-8	0.29	0.0037	1
10728	Phenol	108-95-2	N.D.	0.018	1
10728	Pyrene	129-00-0	0.27	0.0037	1
10728	Pyridine	110-86-1	N.D.	0.073	1
10728	Quinoline	91-22-5	N.D.	0.037	1

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC/DoD Standards. The following analytes are accepted based on this allowance:
2,4-Dimethylphenol

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Analysis Report

Sample Description: MH389-21 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572712
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 11:40 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK21

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Volatiles by Extraction	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00022	1
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	6.57	0.117	1
06955	Lead	7439-92-1	15.9	0.538	1
06961	Nickel	7440-02-0	12.8	0.294	1
06971	Vanadium	7440-62-2	40.1	0.137	1
06972	Zinc	7440-66-6	51.0	0.666	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	9.6	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	Evergreen Comprehensive VOCs	SW-846 8260B	1	X162561AA	09/12/2016 16:38	Jennifer K Howe	1.06
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201625342559	09/06/2016 11:40	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201625342559	09/06/2016 11:40	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201625342559	09/06/2016 11:40	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16254SLB026	09/13/2016 04:58	Anthony P Bauer	1
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16254SLB026	09/12/2016 17:00	Kate E Lutte	1
13214	EPA 8011 Solids	SW-846 8011	1	162600013A	09/19/2016 21:51	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	1	162600013A	09/16/2016 20:30	Shawn J McMullen	1
06952	Cobalt	SW-846 6010B	1	162565708001	09/14/2016 09:30	Eric L Eby	1
06955	Lead	SW-846 6010B	1	162565708001	09/14/2016 09:30	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	162565708001	09/14/2016 09:30	Eric L Eby	1
06971	Vanadium	SW-846 6010B	1	162565708001	09/14/2016 09:30	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	162565708001	09/14/2016 09:30	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	162565708001	09/13/2016 21:18	Annamaria Kuhns	1
00111	Moisture	SM 2540 G-1997	1	16258820016A	09/15/2016 11:02	William C Schwebel	1

Sample Description: MH389-22 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572713
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 11:55 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

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CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.0006 J	0.0005	0.84
10237	sec-Butylbenzene	135-98-8	N.D.	0.001	0.84
10237	tert-Butylbenzene	98-06-6	N.D.	0.001	0.84
10237	Cyclohexane	110-82-7	N.D.	0.001	0.84
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.84
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.84
10237	n-Hexane	110-54-3	N.D.	0.001	0.84
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.84
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.84
10237	Naphthalene	91-20-3	N.D.	0.001	0.84
10237	Toluene	108-88-3	N.D.	0.001	0.84
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.84
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.84
10237	Xylene (Total)	1330-20-7	N.D.	0.001	0.84
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**	**mg/kg**	
10728	Acenaphthene	83-32-9	N.D.	0.039	10
10728	Anthracene	120-12-7	0.053 J	0.039	10
10728	Benzo(a)anthracene	56-55-3	0.10 J	0.039	10
10728	Benzo(a)pyrene	50-32-8	0.098 J	0.039	10
10728	Benzo(b)fluoranthene	205-99-2	0.12 J	0.039	10
10728	Benzo(g,h,i)perylene	191-24-2	0.15 J	0.039	10
10728	Benzo(k)fluoranthene	207-08-9	0.064 J	0.039	10
10728	1,1'-Biphenyl	92-52-4	N.D.	0.20	10
10728	Di-n-butylphthalate	84-74-2	N.D.	0.79	10
10728	Chrysene	218-01-9	0.13 J	0.039	10
10728	Dibenz(a,h)anthracene	53-70-3	N.D.	0.039	10
10728	Diethylphthalate	84-66-2	N.D.	0.79	10
10728	2,4-Dimethylphenol	105-67-9	N.D.	0.20	10
10728	2,4-Dinitrophenol	51-28-5	N.D.	3.6	10
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	0.79	10
10728	Fluoranthene	206-44-0	0.19 J	0.039	10
10728	Fluorene	86-73-7	N.D.	0.039	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.070 J	0.039	10
10728	2-Methylnaphthalene	91-57-6	0.30	0.039	10
10728	2-Methylphenol	95-48-7	N.D.	0.20	10
10728	4-Methylphenol	106-44-5	N.D.	0.20	10
	3-Methylphenol and 4-methylphenol cannot be resolved under the chromatographic conditions used for sample analysis. The result reported for 4-methylphenol represents the combined total of both compounds.				
10728	4-Nitrophenol	100-02-7	N.D.	2.0	10
10728	Phenanthrene	85-01-8	0.24	0.039	10
10728	Phenol	108-95-2	N.D.	0.20	10
10728	Pyrene	129-00-0	0.30	0.039	10
10728	Pyridine	110-86-1	N.D.	0.79	10
10728	Quinoline	91-22-5	N.D.	0.39	10

The LCS and/or LCSD recoveries are outside the stated QC window but within the marginal exceedance allowance of +/- 4 standard deviations as defined in the NELAC/DoD Standards. The following analytes are accepted based on this allowance:
2,4-Dimethylphenol

eurofins
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Analysis Report

Sample Description: MH389-22 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572713
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 11:55 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK22

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
	Reporting limits were raised due to interference from the sample matrix.				
Volatiles by Extraction		**SW-846 8011**	**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00024	1
Metals		**SW-846 6010B**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	7.83	0.119	1
06955	Lead	7439-92-1	34.4	0.544	1
06961	Nickel	7440-02-0	24.4	0.297	1
06971	Vanadium	7440-62-2	52.9	0.139	1
06972	Zinc	7440-66-6	88.8	0.673	1
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	
00111	Moisture	n.a.	15.8	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.				

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	Evergreen Comprehensive VOCs	SW-846 8260B	1	X162561AA	09/12/2016 17:01	Jennifer K Howe	0.84
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201625342559	09/06/2016 11:55	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201625342559	09/06/2016 11:55	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201625342559	09/06/2016 11:55	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16254SLB026	09/13/2016 05:19	Anthony P Bauer	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16254SLB026	09/12/2016 17:00	Kate E Lutte	1
13214	EPA 8011 Solids	SW-846 8011	1	162600013A	09/19/2016 22:07	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	1	162600013A	09/16/2016 20:30	Shawn J McMullen	1
06952	Cobalt	SW-846 6010B	1	162565708001	09/14/2016 09:33	Eric L Eby	1
06955	Lead	SW-846 6010B	1	162565708001	09/14/2016 09:33	Eric L Eby	1
06961	Nickel	SW-846 6010B	1	162565708001	09/14/2016 09:33	Eric L Eby	1
06971	Vanadium	SW-846 6010B	1	162565708001	09/14/2016 09:33	Eric L Eby	1
06972	Zinc	SW-846 6010B	1	162565708001	09/14/2016 09:33	Eric L Eby	1
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	162565708001	09/13/2016 21:18	Annamaria Kuhns	1

eurofins
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2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

Sample Description: MH389-22 Grab Soil

Project Name: MHIC AST 389 Piping Closure

LL Sample # SW 8572713
LL Group # 1704970
Account # 16657

Collected: 09/06/2016 11:55 by DH

Submitted: 09/07/2016 17:35
Reported: 09/22/2016 17:36

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

MHK22

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00111	Moisture	SM 2540 G-1997	1	16258820016A	09/15/2016 11:02	William C Schwebel	1

Quality Control Summary

Client Name: Stantec
Reported: 09/22/2016 17:36

Group Number: 1704970

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL
	mg/kg	mg/kg
Batch number: R162571AA	Sample number(s): 8572710	
Benzene	N.D.	0.025
sec-Butylbenzene	N.D.	0.050
tert-Butylbenzene	N.D.	0.050
Cyclohexane	N.D.	0.050
1,2-Dichloroethane	N.D.	0.050
Ethylbenzene	N.D.	0.050
n-Hexane	N.D.	0.050
Isopropylbenzene	N.D.	0.050
Methyl Tertiary Butyl Ether	N.D.	0.025
Naphthalene	N.D.	0.050
Toluene	N.D.	0.050
1,2,4-Trimethylbenzene	N.D.	0.050
1,3,5-Trimethylbenzene	N.D.	0.050
Xylene (Total)	N.D.	0.050
Batch number: X162561AA	Sample number(s): 8572703-8572709,8572711-8572713	
Benzene	N.D.	0.0005
sec-Butylbenzene	N.D.	0.001
tert-Butylbenzene	N.D.	0.001
Cyclohexane	N.D.	0.001
1,2-Dichloroethane	N.D.	0.001
Ethylbenzene	N.D.	0.001
n-Hexane	N.D.	0.001
Isopropylbenzene	N.D.	0.001
Methyl Tertiary Butyl Ether	N.D.	0.0005
Naphthalene	N.D.	0.001
Toluene	N.D.	0.001
1,2,4-Trimethylbenzene	N.D.	0.001
1,3,5-Trimethylbenzene	N.D.	0.001
Xylene (Total)	N.D.	0.001
	ug/l	ug/l
Batch number: N162561AA	Sample number(s): 8572702	
Benzene	N.D.	0.5
sec-Butylbenzene	N.D.	1
tert-Butylbenzene	N.D.	1
Cyclohexane	N.D.	2
1,2-Dibromoethane	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5
Ethylbenzene	N.D.	0.5
n-Hexane	N.D.	2
Isopropylbenzene	N.D.	1
Methyl Tertiary Butyl Ether	N.D.	0.5

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 09/22/2016 17:36

Group Number: 1704970

Method Blank (continued)

Analysis Name	Result	MDL
	ug/l	ug/l
Naphthalene	N.D.	1
Toluene	N.D.	0.5
1,2,4-Trimethylbenzene	N.D.	1
1,3,5-Trimethylbenzene	N.D.	1
Xylene (Total)	N.D.	0.5
	mg/kg	mg/kg
Batch number: 16254SLB026	Sample number(s): 8572703-8572713	
Acenaphthene	N.D.	0.0033
Anthracene	N.D.	0.0033
Benzo(a)anthracene	N.D.	0.0033
Benzo(a)pyrene	N.D.	0.0033
Benzo(b)fluoranthene	N.D.	0.0033
Benzo(g,h,i)perylene	N.D.	0.0033
Benzo(k)fluoranthene	N.D.	0.0033
1,1'-Biphenyl	N.D.	0.017
Di-n-butylphthalate	N.D.	0.067
Chrysene	N.D.	0.0033
Dibenz(a,h)anthracene	N.D.	0.0033
Diethylphthalate	N.D.	0.067
2,4-Dimethylphenol	N.D.	0.017
2,4-Dinitrophenol	N.D.	0.30
bis(2-Ethylhexyl)phthalate	N.D.	0.067
Fluoranthene	N.D.	0.0033
Fluorene	N.D.	0.0033
Indeno(1,2,3-cd)pyrene	N.D.	0.0033
2-Methylnaphthalene	N.D.	0.0033
2-Methylphenol	N.D.	0.017
4-Methylphenol	N.D.	0.017
4-Nitrophenol	N.D.	0.17
Phenanthrene	N.D.	0.0033
Phenol	N.D.	0.017
Pyrene	N.D.	0.0033
Pyridine	N.D.	0.067
Quinoline	N.D.	0.033
Batch number: 162600013A	Sample number(s): 8572703-8572713	
Ethylene dibromide	N.D.	0.00020
Batch number: 162535708002	Sample number(s): 8572703-8572707	
Cobalt	N.D.	0.120
Lead	N.D.	0.550
Nickel	N.D.	0.300
Vanadium	N.D.	0.140
Zinc	N.D.	0.680
Batch number: 162565708001	Sample number(s): 8572708-8572713	
Cobalt	N.D.	0.120
Lead	N.D.	0.550
Nickel	N.D.	0.300
Vanadium	N.D.	0.140
Zinc	N.D.	0.680

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Quality Control Summary

Client Name: Stantec
Reported: 09/22/2016 17:36

Group Number: 1704970

LCS/LCSD

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: R162571AA	Sample number(s): 8572710								
Benzene	1.00	0.942	1.00	0.938	94	94	80-120	0	30
sec-Butylbenzene	1.00	0.927	1.00	0.916	93	92	69-120	1	30
tert-Butylbenzene	1.00	0.891	1.00	0.885	89	89	68-120	1	30
Cyclohexane	1.00	1.03	1.00	1.04	103	104	58-120	1	30
1,2-Dichloroethane	1.00	0.953	1.00	0.936	95	94	70-133	2	30
Ethylbenzene	1.00	0.909	1.00	0.923	91	92	80-120	2	30
n-Hexane	1.00	1.17	1.00	1.15	117	115	51-141	2	30
Isopropylbenzene	1.00	0.897	1.00	0.910	90	91	76-120	1	30
Methyl Tertiary Butyl Ether	1.00	0.942	1.00	0.933	94	93	72-120	1	30
Naphthalene	1.00	0.868	1.00	0.854	87	85	53-120	2	30
Toluene	1.00	0.908	1.00	0.913	91	91	80-120	0	30
1,2,4-Trimethylbenzene	1.00	0.892	1.00	0.905	89	91	74-120	1	30
1,3,5-Trimethylbenzene	1.00	0.896	1.00	0.887	90	89	73-120	1	30
Xylene (Total)	3.00	2.71	3.00	2.76	90	92	80-120	2	30
Batch number: X162561AA	Sample number(s): 8572703-8572709,8572711-8572713								
Benzene	0.0200	0.0206	0.0200	0.0206	103	103	80-120	0	30
sec-Butylbenzene	0.0200	0.0205	0.0200	0.0205	103	102	69-120	0	30
tert-Butylbenzene	0.0200	0.0200	0.0200	0.0202	100	101	68-120	1	30
Cyclohexane	0.0200	0.0205	0.0200	0.0199	102	100	58-120	3	30
1,2-Dichloroethane	0.0200	0.0217	0.0200	0.0221	108	110	70-133	2	30
Ethylbenzene	0.0200	0.0205	0.0200	0.0207	102	104	80-120	1	30
n-Hexane	0.0200	0.0206	0.0200	0.0196	103	98	51-141	5	30
Isopropylbenzene	0.0200	0.0208	0.0200	0.0210	104	105	76-120	1	30
Methyl Tertiary Butyl Ether	0.0200	0.0205	0.0200	0.0205	103	103	72-120	0	30
Naphthalene	0.0200	0.0183	0.0200	0.0178	92	89	53-120	3	30
Toluene	0.0200	0.0203	0.0200	0.0207	101	104	80-120	2	30
1,2,4-Trimethylbenzene	0.0200	0.0201	0.0200	0.0202	101	101	74-120	0	30
1,3,5-Trimethylbenzene	0.0200	0.0204	0.0200	0.0204	102	102	73-120	0	30
Xylene (Total)	0.0600	0.0609	0.0600	0.0617	102	103	80-120	1	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: N162561AA	Sample number(s): 8572702								
Benzene	20	21.33			107		78-120		
sec-Butylbenzene	20	20.85			104		77-120		
tert-Butylbenzene	20	19.7			99		74-121		
Cyclohexane	20	20.64			103		65-131		
1,2-Dibromoethane	20	21.24			106		80-120		
1,2-Dichloroethane	20	20.15			101		66-128		
Ethylbenzene	20	21.1			105		78-120		
n-Hexane	20	21.2			106		62-144		
Isopropylbenzene	20	19.79			99		80-120		
Methyl Tertiary Butyl Ether	20	20.04			100		75-120		
Naphthalene	20	19.76			99		59-120		
Toluene	20	21.02			105		80-120		
1,2,4-Trimethylbenzene	20	20.45			102		75-120		
1,3,5-Trimethylbenzene	20	21.42			107		75-120		

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Quality Control Summary

Client Name: Stantec
Reported: 09/22/2016 17:36

Group Number: 1704970

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Xylene (Total)	60	62.93			105		80-120		
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 16254SLB026	Sample number(s): 8572703-8572713								
Acenaphthene	1.67	1.53			92		83-116		
Anthracene	1.67	1.48			89		82-118		
Benzo(a)anthracene	1.67	1.53			92		76-119		
Benzo(a)pyrene	1.67	1.47			88		85-117		
Benzo(b)fluoranthene	1.67	1.54			93		79-121		
Benzo(g,h,i)perylene	1.67	1.46			88		71-123		
Benzo(k)fluoranthene	1.67	1.47			88		79-120		
1,1'-Biphenyl	1.67	1.44			86		78-106		
Di-n-butylphthalate	1.67	1.56			94		84-120		
Chrysene	1.67	1.53			92		80-121		
Dibenz(a,h)anthracene	1.67	1.47			88		81-123		
Diethylphthalate	1.67	1.57			94		81-118		
2,4-Dimethylphenol	1.67	1.16			70*		73-117		
2,4-Dinitrophenol	3.33	1.89			57		16-132		
bis(2-Ethylhexyl)phthalate	1.67	1.52			91		81-121		
Fluoranthene	1.67	1.52			91		81-117		
Fluorene	1.67	1.55			93		86-118		
Indeno(1,2,3-cd)pyrene	1.67	1.44			86		75-118		
2-Methylnaphthalene	1.67	1.48			89		83-109		
2-Methylphenol	1.67	1.53			92		80-133		
4-Methylphenol	1.67	1.59			95		73-125		
4-Nitrophenol	1.67	1.43			86		52-133		
Phenanthrene	1.67	1.44			86		80-120		
Phenol	1.67	1.55			93		73-122		
Pyrene	1.67	1.42			85		80-120		
Pyridine	1.67	1.30			78		55-109		
Quinoline	1.67	1.56			94		80-119		
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 162600013A	Sample number(s): 8572703-8572713								
Ethylene dibromide	0.00450	0.00299			66		60-140		
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 162535708002	Sample number(s): 8572703-8572707								
Cobalt	50	52.15			104		80-120		
Lead	15	15.47			103		80-120		
Nickel	50	52.5			105		80-120		
Vanadium	50	52.49			105		80-120		
Zinc	50	51.64			103		80-120		
Batch number: 162565708001	Sample number(s): 8572708-8572713								
Cobalt	50	50.37			101		80-120		
Lead	15	15			100		80-120		
Nickel	50	50.42			101		80-120		
Vanadium	50	51.35			103		80-120		
Zinc	50	51.34			103		80-120		

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Quality Control Summary

Client Name: Stantec
Reported: 09/22/2016 17:36

Group Number: 1704970

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	%	%	%	%					
Batch number: 16258820016A	Sample number(s): 8572703-8572713								
Moisture	89.5	89.4			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: R162571AA	Sample number(s): 8572710 UNSPK: P576373									
Benzene	N.D.	0.776	0.851	0.770	0.727	110	94	80-120	16	30
sec-Butylbenzene	N.D.	0.776	0.829	0.770	0.702	107	91	69-120	17	30
tert-Butylbenzene	N.D.	0.776	0.862	0.770	0.719	111	93	68-120	18	30
Cyclohexane	N.D.	0.776	0.774	0.770	0.626	100	81	58-120	21	30
1,2-Dichloroethane	N.D.	0.776	0.876	0.770	0.739	113	96	70-133	17	30
Ethylbenzene	N.D.	0.776	0.834	0.770	0.705	107	91	80-120	17	30
n-Hexane	N.D.	0.776	0.654	0.770	0.511	84	66	51-141	24	30
Isopropylbenzene	N.D.	0.776	0.829	0.770	0.702	107	91	76-120	17	30
Methyl Tertiary Butyl Ether	N.D.	0.776	0.902	0.770	0.735	116	95	72-120	20	30
Naphthalene	N.D.	0.776	1.03	0.770	0.671	132*	87	53-120	42*	30
Toluene	0.134	0.776	0.950	0.770	0.799	105	86	80-120	17	30
1,2,4-Trimethylbenzene	N.D.	0.776	0.852	0.770	0.696	110	90	74-120	20	30
1,3,5-Trimethylbenzene	N.D.	0.776	0.851	0.770	0.694	110	90	73-120	20	30
Xylene (Total)	N.D.	2.33	2.50	2.31	2.12	107	92	80-120	17	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: N162561AA	Sample number(s): 8572702 UNSPK: P568518									
Benzene	N.D.	20	22.91	20	22.55	115	113	78-120	2	30
sec-Butylbenzene	N.D.	20	21.6	20	21.34	108	107	77-120	1	30
tert-Butylbenzene	N.D.	20	21.23	20	20.21	106	101	74-121	5	30
Cyclohexane	N.D.	20	22.56	20	22.17	113	111	65-131	2	30
1,2-Dibromoethane	N.D.	20	21.36	20	20.84	107	104	80-120	2	30
1,2-Dichloroethane	N.D.	20	21.66	20	20.33	108	102	66-128	6	30
Ethylbenzene	N.D.	20	22.68	20	22.11	113	111	78-120	3	30
n-Hexane	N.D.	20	22.68	20	22.3	113	112	62-144	2	30
Isopropylbenzene	N.D.	20	21.03	20	20.5	105	102	80-120	3	30
Methyl Tertiary Butyl Ether	N.D.	20	19.8	20	19.49	99	97	75-120	2	30
Naphthalene	N.D.	20	17.34	20	17.31	87	87	59-120	0	30
Toluene	N.D.	20	22.82	20	21.88	114	109	80-120	4	30
1,2,4-Trimethylbenzene	N.D.	20	21.52	20	20.75	108	104	75-120	4	30
1,3,5-Trimethylbenzene	N.D.	20	21.91	20	21.44	110	107	75-120	2	30
Xylene (Total)	N.D.	60	67.32	60	64.87	112	108	80-120	4	30

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Quality Control Summary

Client Name: Stantec
Reported: 09/22/2016 17:36

Group Number: 1704970

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/kg	MS Spike Added mg/kg	MS Conc mg/kg	MSD Spike Added mg/kg	MSD Conc mg/kg	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 16254SLB026	Sample number(s): 8572703-8572713 UNSPK: P570494									
Acenaphthene	N.D.	1.64	1.37	1.65	1.26	84	77*	83-116	8	30
Anthracene	0.0162	1.64	1.35	1.65	1.22	81*	73*	82-118	10	30
Benzo(a)anthracene	N.D.	1.64	1.12	1.65	1.07	68*	65*	76-119	5	30
Benzo(a)pyrene	N.D.	1.64	0.997	1.65	0.935	61*	57*	85-117	6	30
Benzo(b)fluoranthene	N.D.	1.64	1.14	1.65	0.975	69*	59*	79-121	15	30
Benzo(g,h,i)perylene	2.75	1.64	3.96	1.65	3.72	73	59*	71-123	6	30
Benzo(k)fluoranthene	N.D.	1.64	0.999	1.65	0.933	61*	57*	79-120	7	30
1,1'-Biphenyl	0.881	1.64	2.13	1.65	1.99	76*	67*	78-106	7	30
Di-n-butylphthalate	N.D.	1.64	1.49	1.65	1.39	91	84	84-120	7	30
Chrysene	N.D.	1.64	1.02	1.65	0.978	62*	59*	80-121	4	30
Dibenz(a,h)anthracene	1.19	1.64	2.32	1.65	2.13	69*	57*	81-123	8	30
Diethylphthalate	N.D.	1.64	1.44	1.65	1.34	88	81	81-118	7	30
2,4-Dimethylphenol	N.D.	1.64	1.15	1.65	1.13	70*	68*	73-117	2	30
2,4-Dinitrophenol	N.D.	3.28	N.D.	3.29	N.D.	0*	0*	16-132	0	30
bis(2-Ethylhexyl)phthalate	N.D.	1.64	1.41	1.65	1.33	86	81	81-121	6	30
Fluoranthene	N.D.	1.64	1.20	1.65	1.13	73*	68*	81-117	6	30
Fluorene	0.0742	1.64	1.37	1.65	1.28	79*	73*	86-118	7	30
Indeno(1,2,3-cd)pyrene	0.879	1.64	1.89	1.65	1.74	62*	53*	75-118	8	30
2-Methylnaphthalene	N.D.	1.64	1.42	1.65	1.37	87	83	83-109	4	30
2-Methylphenol	N.D.	1.64	1.43	1.65	1.37	87	83	80-133	4	30
4-Methylphenol	N.D.	1.64	1.41	1.65	1.37	86	83	73-125	3	30
4-Nitrophenol	N.D.	1.64	1.31	1.65	1.31	80	79	52-133	0	30
Phenanthrene	0.0388	1.64	1.31	1.65	1.22	78*	72*	80-120	7	30
Phenol	N.D.	1.64	1.41	1.65	1.35	86	82	73-122	4	30
Pyrene	0.830	1.64	2.05	1.65	1.94	74*	67*	80-120	6	30
Pyridine	3.47	1.64	2.14	1.65	2.17	-81*	-78*	55-109	2	30
Quinoline	N.D.	1.64	0.428	1.65	0.360	26*	22*	80-119	17	30
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 162600013A	Sample number(s): 8572703-8572713 UNSPK: 8572711									
Ethylene dibromide	N.D.	0.00428	0.00372	0.00445	0.00348	87	78	60-140	7	20
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 162535708002	Sample number(s): 8572703-8572707 UNSPK: P569205									
Cobalt	2.48	34.25	35.66	45.45	46.78	97	97	75-125	27*	20
Lead	17.82	10.27	27.79	13.64	30.97	97	96	75-125	11	20
Nickel	7.80	34.25	41.33	45.45	52.61	98	99	75-125	24*	20
Vanadium	21.74	34.25	57.3	45.45	69.55	104	105	75-125	19	20
Zinc	54.02	34.25	86.29	45.45	97.7	94	96	75-125	12	20
Batch number: 162565708001	Sample number(s): 8572708-8572713 UNSPK: P575277									
Cobalt	8.26	42.02	47.1	48.54	54.92	92	96	75-125	15	20
Lead	23.28	12.61	44.11	14.56	41.51	165*	125	75-125	6	20
Nickel	89.25	42.02	146.55	48.54	168.75	136*	164*	75-125	14	20
Vanadium	56.38	42.02	116.16	48.54	124.91	142*	141*	75-125	7	20
Zinc	461.1	42.02	611.13	48.54	614.22	357 (2)	315 (2)	75-125	1	20

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 09/22/2016 17:36

Group Number: 1704970

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/kg	mg/kg		
Batch number: X162561AA	Sample number(s): 8572703-8572709,8572711-8572713 BKG: P563929			
Benzene	N.D.	N.D.	0 (1)	30
Cyclohexane	N.D.	N.D.	0 (1)	30
1,2-Dichloroethane	N.D.	N.D.	0 (1)	30
Ethylbenzene	N.D.	N.D.	0 (1)	30
Isopropylbenzene	N.D.	N.D.	0 (1)	30
Methyl Tertiary Butyl Ether	N.D.	N.D.	0 (1)	30
Toluene	N.D.	N.D.	0 (1)	30
1,2,4-Trimethylbenzene	N.D.	N.D.	0 (1)	30
	mg/kg	mg/kg		
Batch number: 162535708002	Sample number(s): 8572703-8572707 BKG: P569205			
Cobalt	2.48	2.28	8	20
Lead	17.82	16.45	8	20
Nickel	7.80	7.17	8	20
Vanadium	21.74	19.94	9	20
Zinc	54.02	51.89	4	20
Batch number: 162565708001	Sample number(s): 8572708-8572713 BKG: P575277			
Cobalt	8.26	9.23	11	20
Lead	23.28	30.51	27*	20
Nickel	89.25	124.57	33*	20
Vanadium	56.38	75.97	30*	20
Zinc	461.1	656.08	35*	20
	%	%		
Batch number: 16258820016A	Sample number(s): 8572703-8572713 BKG: 8572706			
Moisture	3.68	4.90	28*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Evergreen Comprehensive VOCs
Batch number: N162561AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8572702	103	104	96	89
Blank	100	101	97	92
LCS	99	98	102	99
MS	100	99	100	100
MSD	100	100	100	100
Limits:	80-116	77-113	80-113	78-113

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 09/22/2016 17:36

Group Number: 1704970

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Evergreen Comprehensive VOCs
Batch number: R162571AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8572710	83	85	86	88
Blank	89	90	87	88
LCS	87	87	85	89
LCSD	88	86	86	91
MS	88	85	82	86
MSD	80	80	74	74
Limits:	50-141	54-135	52-141	50-131

Analysis Name: Evergreen Comprehensive VOCs
Batch number: X162561AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8572703	102	106	113	86
8572704	99	105	100	97
8572705	99	102	106	87
8572706	99	103	106	85
8572707	98	103	102	92
8572708	99	102	102	92
8572709	99	103	100	95
8572711	99	102	101	96
8572712	100	100	101	93
8572713	99	99	102	91
Blank	99	99	100	96
DUP	102	106	98	97
LCS	101	102	99	98
LCSD	101	100	100	98
Limits:	50-141	54-135	52-141	50-131

Analysis Name: Skinner 8270 (microwave)
Batch number: 16254SLB026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8572703	67	66	62	70	71	71
8572704	73	73	63	73	77	76
8572705	73	74	64	78	78	78
8572706	77	77	64	77	81	75
8572707	80	80	71	82	83	81
8572708	77	77	66	76	77	78
8572709	77	77	65	76	79	78
8572710	76	78	66	79	78	77
8572711	81	83	72	82	84	83
8572712	84	85	70	82	86	84
8572713	79	80	68	76	80	84
Blank	96	97	95	93	94	95
LCS	86	87	85	83	83	83
MS	81	82	71	77	77	68
MSD	77	78	65	69	72	63

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 09/22/2016 17:36

Group Number: 1704970

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Limits:	58-122	57-126	28-141	54-123	63-117	49-129

Analysis Name: EPA 8011 Solids
Batch number: 162600013A

	1,1,2,2-Tetrachloroethane
8572703	0*
8572704	95
8572705	110
8572706	148*
8572707	101
8572708	101
8572709	102
8572710	102
8572711	81
8572712	104
8572713	108
Blank	93
LCS	69
MS	87
MSD	76
Limits:	60-140

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

Acct. # 16657 Group # 1704970 Sample # 8572702-13

COC # 509801

Client Information

Client: Stantec

Acct. #:

Project Name/#: 213402428 / 400.03

PWSID #:

Project Manager: Jennifer Menges

P.O. #:

Sampler: Dane Hopkins

Quote #:

State where samples were collected: Pa

For Compliance: Yes ☐ No ☐

For Lab Use Only

FSC:

SCR#: 193811

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks

* Comprehensive list attached
Analyze EDB by 8011

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil ☒ Sediment ☐ Tissue ☐	Water: Potable ☐ Ground ☐ Surface ☐ NPDES ☐	Other: tip blank	Total # of Containers	*Explosives comprehensive soil/sediment list	VOCs 8260								
TB-20160906	9/1/16	—					X	2		X								
MH389-12	9/6/16	1000	X		X			6	X									
MH389-13		1005							X									
MH389-14		1010							X									
MH389-15		1015							X									
MH389-16		1020							X									
MH389-17		1025							X									
MH389-18		1030							X									
MH389-19		1110							X									
MH389-20		1125							X									

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: jennifer.menges@stantec.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Bottle Storage	9/6/16	0800	Dane	9/6/16	0800
Dane	9/7/16	1430	Jena	9.7.16	1430
Jena	9.7.16	1730			

EDD Required? Yes No

If yes, format: EQuIS EFW Stantec

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt -0.2 -0.8 °C

Environmental Analysis Request/Chain of Custody

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Acct. # 166657 Group # 1704970 Sample # 8572702-13

COC # 509802

Client Information

Client: Stantec

Acct. #:

Project Name/#: 213402428 / 4CC.03

PWSID #:

Project Manager: Jennifer Menges

P.O. #:

Sampler: Dane Hopkins

Quote #:

State where samples were collected: Pa

For Compliance: Yes ☐ No ☐

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil ☒ Sediment ☐ Tissue ☐	Water: Potable ☐ Ground ☐ Surface ☐ NPDES ☐	Other:	Total # of Containers	*Evergreen comprehensive soil sample list
MH389-21	9/6/16	1140	X		X			6	X
MH389-22	↓	1155	X		X			6	X

Analysis Requested / Preservation Codes

For Lab Use Only

FSC:

SCR#:

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks

* comprehensive list attached
Analyze EDB by 8011

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: Jennifer.Menges@stantec.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Dane	9/7/16	1430	[illegible]	9.7.16	1430
[illegible]	9.7.16	1735			
			[illegible]	9/7/16	1735

EDD Required? Yes No

If yes, format: EQuIS EFW Stantec

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt -0.2-0.8

~~1704969~~ JN 9/9/16 ①

G#1704970

Evergreen Comprehensive List (June 2016)

VOCs by EPA Method 8260	CAS No.
Benzene	71-43-2
Butylbenzene, sec-	135-98-8
Butylbenzene, tert-	98-06-6
Cumene	98-82-8
Cyclohexane	110-82-7
Dichloroethane, 1,2-	107-06-2
Ethylbenzene	100-41-4
Ethylene Dibromide*	106-93-4
Hexane	110-54-3
Methyl tert butyl ether	1634-04-4
Toluene	108-88-3
Trimethylbenzene, 1,2,4-	95-63-6
Trimethylbenzene, 1,3,5-	108-67-8
Xylenes	1330-20-7

Metals by Method 6010/6020	CAS No.
Cobalt ***	7440-48-4
Lead***	7439-92-1
Nickel***	7440-02-0
Vanadium***	7440-62-2
Zinc***	7440-66-6

SVOCs by EPA Method 8270	CAS No.
Acenaphthene	83-32-9
Anthracene	120-12-7
Benzo(a)anthracene	56-55-3
Benzo(a)pyrene	50-32-8
Benzo(b)fluroranthene	205-99-2
Benzo(g,h,i)perylene	191-24-2
Benzo(k)fluoranthene	207-08-9
Biphenyl, 1,1-	92-52-4
Bis(2-ethylhexyl) phthalate	117-81-7
Chrysene	218-01-9
Cresol, m- (3-methylphenol)	108-39-4
Cresol, o- (2-methylphenol)	95-48-7
Cresol, p- (4-methylphenol)	106-44-5
Dibenz(a,h)anthracene	53-70-3
Diethyl phthalate	84-66-2
Dimethylphenol, 2,4-	105-67-9
Dibutyl phthalate, n-	84-74-2
Dinitrophenol, 2,4-	51-28-5
Fluoranthene	206-44-0
Fluorene	86-73-7
Indeno(1,2,3-cd)pyrene	193-39-5
Methylnaphthalene, 2-	91-57-6
Naphthalene**	91-20-3
Nitrophenol, 4-	100-02-7
Phenanthrene	85-01-8
Phenol	108-95-2
Pyrene	129-00-0
Pyridine	110-86-1
Quinoline	91-22-5

*Ethylene Dibromide (EDB) should be analyzed by Method 8011 instead of 8260 in soil for tank investigations and in **all groundwater samples**. EDB in all trip blank samples should be analyzed by 8260 regardless of method used for primary samples.

**Naphthalene should be analyzed by EPA Method 8260 instead of 8270 for tank investigations.

***Metals analysis should be total in soil and dissolved in groundwater.

This list is generated from the PADEP SERO Crude Oil Parameters for Corrective Action (CDB|SERO|PADEP|9 Aug 2013) combined with PADEP Short List of Petroleum Products (leaded and unleaded gasoline and No. 1, 2, 4, 5, 6 Fuel Oils).

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Sample Administration Receipt Documentation Log

Doc Log ID: 161304

Group Number(s): ~~1704969~~ 1704970 JH 9/9/16

Client: Stantec

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	09/07/2016 17:35
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	PA		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	2
Samples Intact:	Yes	Trip Blank Type:	HCl
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Karen Diem (3060) at 18:14 on 09/07/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	-0.2	DT	Wet	Y	Bagged	N
2	DT131	0.8	DT	Wet	Y	Bagged	N

General Comments: sample MH389-19 1 JAR BROKEN IN BAG WITH VIALS PLACED IN OTHER BACK CAN BE USED

2425 New Holland Pike
Lancaster, PA 17605-2425
T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

< less than

> greater than

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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