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: April 19, 2016

Project: MHIC AST Bottom Sampling

Submittal Date: 03/17/2016
Group Number: 1641737
PO Number: MHIC AST
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
AOI5-BH-15-MH07-11_031616 Grab Soil	8290954
AOI5-BH-15-MH07-12_031616 Grab Soil	8290955
AOI5-BH-15-MH07-13_031616 Grab Soil	8290956
AOI5-BH-15-MH07-14_031616 Grab Soil	8290957
AOI5-BH-15-MH07-17_031616 Grab Soil	8290958
AOI5-BH-15-MH07-16_031616 Grab Soil	8290959
AOI5-BH-15-MH07-15_031616 Grab Soil	8290960
AOI5-BH-15-MH07-18_031616 Grab Soil	8290961
AOI5-BH-15-MH10-13_031616 Grab Soil	8290962
AOI5-BH-15-MH10-12_031616 Grab Soil	8290963
AOI5-BH-15-MH10-11_031616 Grab Soil	8290964
AOI5-BH-15-MH11-02_031716 Grab Soil	8290965
AOI5-BH-15-MH11-01_031716 Grab Soil	8290966
AOI5-BH-15-MH11-03_031716 Grab Soil	8290967
AOI5-BH-15-MH11-04_031716 Grab Soil	8290968
AOI5-BH-15-MH11-05_031716 Grab Soil	8290969
AOI5-BH-15-MH11-06_031716 Grab Soil	8290970
AOI5-BH-15-MH11-07_031716 Grab Soil	8290971
AOI5-BH-15-MH11-08_031716 Grab Soil	8290972
AOI5-BH-15-MH11-09_031716 Grab Soil	8290973
Trip Blank Water	8290974

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 scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To Stantec Attn: Mark Schaeffer

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

Sample Description: AOI5-BH-15-MH07-11_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290954
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 09:50 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M01

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.		0.0005	0.9
10237	sec-Butylbenzene	135-98-8	N.D.		0.001	0.9
10237	tert-Butylbenzene	98-06-6	N.D.		0.001	0.9
10237	Cyclohexane	110-82-7	N.D.		0.001	0.9
10237	1,2-Dichloroethane	107-06-2	N.D.		0.001	0.9
10237	Ethylbenzene	100-41-4	N.D.		0.001	0.9
10237	n-Hexane	110-54-3	N.D.		0.001	0.9
10237	Isopropylbenzene	98-82-8	N.D.		0.001	0.9
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.0005	0.9
10237	Naphthalene	91-20-3	N.D.		0.001	0.9
10237	Toluene	108-88-3	N.D.		0.001	0.9
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.001	0.9
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.001	0.9
10237	Xylene (Total)	1330-20-7	N.D.		0.001	0.9
	The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.					
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
10728	Acenaphthene	83-32-9	0.34	J	0.075	10
10728	Anthracene	120-12-7	0.45		0.075	10
10728	Benzo(a)anthracene	56-55-3	2.5		0.075	10
10728	Benzo(a)pyrene	50-32-8	2.0		0.075	10
10728	Benzo(b)fluoranthene	205-99-2	0.83		0.075	10
10728	Benzo(g,h,i)perylene	191-24-2	0.99		0.075	10
10728	Benzo(k)fluoranthene	207-08-9	N.D.		0.075	10
10728	1,1'-Biphenyl	92-52-4	N.D.		0.37	10
10728	Di-n-butylphthalate	84-74-2	N.D.		1.5	10
10728	Chrysene	218-01-9	4.8		0.075	10
10728	Dibenz(a,h)anthracene	53-70-3	0.38	J	0.075	10
10728	Diethylphthalate	84-66-2	N.D.		1.5	10
10728	2,4-Dimethylphenol	105-67-9	N.D.		0.37	10
10728	2,4-Dinitrophenol	51-28-5	N.D.		6.7	10
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		1.5	10
10728	Fluoranthene	206-44-0	0.55		0.075	10
10728	Fluorene	86-73-7	0.36	J	0.075	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.27	J	0.075	10
10728	2-Methylnaphthalene	91-57-6	0.54		0.075	10
10728	2-Methylphenol	95-48-7	N.D.		0.37	10
10728	4-Methylphenol	106-44-5	N.D.		0.37	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.		3.7	10
10728	Phenanthrene	85-01-8	1.5		0.075	10
10728	Phenol	108-95-2	N.D.		0.37	10
10728	Pyrene	129-00-0	4.2		0.075	10
10728	Pyridine	110-86-1	N.D.		1.5	10
10728	Quinoline	91-22-5	N.D.		0.75	10
	Reporting limits were raised due to interference from the sample matrix.					

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Analysis Report

Sample Description: AOI5-BH-15-MH07-11_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290954
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 09:50 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00022	1
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	15.7	0.330	5
06955	Lead	7439-92-1	232	1.67	5
06961	Nickel	7440-02-0	94.5	0.938	5
06971	Vanadium	7440-62-2	64.0	0.938	5
06972	Zinc	7440-66-6	1,350	3.14	5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	11.8	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	VOCs- Solid by 8260B	SW-846 8260B	1	X160822AA	03/22/2016 13:17	Jennifer K Howe	0.9
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/16/2016 09:50	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/16/2016 09:50	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/16/2016 09:50	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 18:50	Linda M Hartenstine	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 04:56	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 08:16	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 08:16	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 08:16	Suzanne M Will	5

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Analysis Report

Sample Description: AOI5-BH-15-MH07-11_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290954
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 09:50 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

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Suite 140
West Chester PA 19380

08M01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 08:16	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 08:16	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009A	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH07-12_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290955
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 10:40 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

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1060 Andrew Drive
Suite 140
West Chester PA 19380

08M02

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.		0.0005	0.88
10237	sec-Butylbenzene	135-98-8	N.D.		0.001	0.88
10237	tert-Butylbenzene	98-06-6	N.D.		0.001	0.88
10237	Cyclohexane	110-82-7	N.D.		0.001	0.88
10237	1,2-Dichloroethane	107-06-2	N.D.		0.001	0.88
10237	Ethylbenzene	100-41-4	0.002	J	0.001	0.88
10237	n-Hexane	110-54-3	N.D.		0.001	0.88
10237	Isopropylbenzene	98-82-8	N.D.		0.001	0.88
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.0005	0.88
10237	Naphthalene	91-20-3	0.002	J	0.001	0.88
10237	Toluene	108-88-3	0.002	J	0.001	0.88
10237	1,2,4-Trimethylbenzene	95-63-6	0.004	J	0.001	0.88
10237	1,3,5-Trimethylbenzene	108-67-8	0.002	J	0.001	0.88
10237	Xylene (Total)	1330-20-7	0.019		0.001	0.88
	The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.					
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
10728	Acenaphthene	83-32-9	0.039	J	0.037	10
10728	Anthracene	120-12-7	0.23		0.037	10
10728	Benzo(a)anthracene	56-55-3	0.62		0.037	10
10728	Benzo(a)pyrene	50-32-8	0.59		0.037	10
10728	Benzo(b)fluoranthene	205-99-2	0.34		0.037	10
10728	Benzo(g,h,i)perylene	191-24-2	0.31		0.037	10
10728	Benzo(k)fluoranthene	207-08-9	0.086	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.		0.75	10
10728	Chrysene	218-01-9	1.5		0.037	10
10728	Dibenz(a,h)anthracene	53-70-3	0.13	J	0.037	10
10728	Diethylphthalate	84-66-2	N.D.		0.75	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.		0.75	10
10728	Fluoranthene	206-44-0	0.24		0.037	10
10728	Fluorene	86-73-7	0.11	J	0.037	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.11	J	0.037	10
10728	2-Methylnaphthalene	91-57-6	0.24		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	1.6		0.037	10
10728	Pyridine	110-86-1	N.D.		0.75	10
10728	Quinoline	91-22-5	N.D.		0.37	10

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Analysis Report

Sample Description: AOI5-BH-15-MH07-12_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290955
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 10:40 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

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1060 Andrew Drive
Suite 140
West Chester PA 19380

08M02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00022	1
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	2.83	0.339	5
06955	Lead	7439-92-1	15.7	1.71	5
06961	Nickel	7440-02-0	20.7	0.961	5
06971	Vanadium	7440-62-2	4.46	0.961	5
06972	Zinc	7440-66-6	68.1	3.22	5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	11.4	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	VOCs- Solid by 8260B	SW-846 8260B	1	X160831AA	03/23/2016 10:47	Jennifer K Howe	0.88
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/16/2016 10:40	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/16/2016 10:40	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/16/2016 10:40	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 11:36	Linda M Hartenstine	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 05:48	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 08:36	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 08:36	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 08:36	Suzanne M Will	5

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Analysis Report

Sample Description: AOI5-BH-15-MH07-12_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290955
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 10:40 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 08:36	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 08:36	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009A	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH07-13_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290956
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 10:55 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M03

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	0.98
10237	sec-Butylbenzene	135-98-8	N.D.	0.001	0.98
10237	tert-Butylbenzene	98-06-6	N.D.	0.001	0.98
10237	Cyclohexane	110-82-7	N.D.	0.001	0.98
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	0.98
10237	Ethylbenzene	100-41-4	N.D.	0.001	0.98
10237	n-Hexane	110-54-3	N.D.	0.001	0.98
10237	Isopropylbenzene	98-82-8	N.D.	0.001	0.98
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	0.98
10237	Naphthalene	91-20-3	N.D.	0.001	0.98
10237	Toluene	108-88-3	N.D.	0.001	0.98
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	0.98
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	0.98
10237	Xylene (Total)	1330-20-7	0.004 J	0.001	0.98
	The secondary vial was analyzed and no valid data was collected during re-analysis. Therefore the matrix effects observed in the initial analysis could not be confirmed. The values reported here are from the initial analysis.				
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**	**mg/kg**	
10728	Acenaphthene	83-32-9	N.D.	0.019	5
10728	Anthracene	120-12-7	0.033 J	0.019	5
10728	Benzo(a)anthracene	56-55-3	0.12	0.019	5
10728	Benzo(a)pyrene	50-32-8	0.19	0.019	5
10728	Benzo(b)fluoranthene	205-99-2	0.11	0.019	5
10728	Benzo(g,h,i)perylene	191-24-2	0.22	0.019	5
10728	Benzo(k)fluoranthene	207-08-9	0.029 J	0.019	5
10728	1,1'-Biphenyl	92-52-4	N.D.	0.094	5
10728	Di-n-butylphthalate	84-74-2	N.D.	0.37	5
10728	Chrysene	218-01-9	0.37	0.019	5
10728	Dibenz(a,h)anthracene	53-70-3	0.052 J	0.019	5
10728	Diethylphthalate	84-66-2	N.D.	0.37	5
10728	2,4-Dimethylphenol	105-67-9	N.D.	0.094	5
10728	2,4-Dinitrophenol	51-28-5	N.D.	1.7	5
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	0.37	5
10728	Fluoranthene	206-44-0	0.039 J	0.019	5
10728	Fluorene	86-73-7	0.019 J	0.019	5
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.048 J	0.019	5
10728	2-Methylnaphthalene	91-57-6	0.042 J	0.019	5
10728	2-Methylphenol	95-48-7	N.D.	0.094	5
10728	4-Methylphenol	106-44-5	N.D.	0.094	5
	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.	0.94	5
10728	Phenanthrene	85-01-8	0.18	0.019	5
10728	Phenol	108-95-2	N.D.	0.094	5
10728	Pyrene	129-00-0	0.38	0.019	5
10728	Pyridine	110-86-1	N.D.	0.37	5
10728	Quinoline	91-22-5	N.D.	0.19	5

Sample Description: AOI5-BH-15-MH07-13_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290956
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 10:55 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00022	1
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	3.26	0.399	5
06955	Lead	7439-92-1	56.6	2.02	5
06961	Nickel	7440-02-0	23.7	1.13	5
06971	Vanadium	7440-62-2	4.54	1.13	5
06972	Zinc	7440-66-6	283	3.79	5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	11.7	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	VOCs- Solid by 8260B	SW-846 8260B	1	X160822AA	03/22/2016 14:04	Jennifer K Howe	0.98
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/16/2016 10:55	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/16/2016 10:55	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/16/2016 10:55	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 11:59	Linda M Hartenstine	5
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 06:06	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 08:39	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 08:39	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 08:39	Suzanne M Will	5

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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: AOI5-BH-15-MH07-13_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290956
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 10:55 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 08:39	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 08:39	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009B	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH07-14_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290957
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 11:10 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M04

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.	0.0004	0.69
10237	sec-Butylbenzene	135-98-8	N.D.	0.0008	0.69
10237	tert-Butylbenzene	98-06-6	N.D.	0.0008	0.69
10237	Cyclohexane	110-82-7	N.D.	0.0008	0.69
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0008	0.69
10237	Ethylbenzene	100-41-4	N.D.	0.0008	0.69
10237	n-Hexane	110-54-3	N.D.	0.0008	0.69
10237	Isopropylbenzene	98-82-8	N.D.	0.0008	0.69
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0004	0.69
10237	Naphthalene	91-20-3	N.D.	0.0008	0.69
10237	Toluene	108-88-3	N.D.	0.0008	0.69
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0008	0.69
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0008	0.69
10237	Xylene (Total)	1330-20-7	N.D.	0.0008	0.69
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**	**mg/kg**	
10728	Acenaphthene	83-32-9	N.D.	0.0037	1
10728	Anthracene	120-12-7	N.D.	0.0037	1
10728	Benzo(a)anthracene	56-55-3	0.0041 J	0.0037	1
10728	Benzo(a)pyrene	50-32-8	N.D.	0.0037	1
10728	Benzo(b)fluoranthene	205-99-2	N.D.	0.0037	1
10728	Benzo(g,h,i)perylene	191-24-2	0.017 J	0.0037	1
10728	Benzo(k)fluoranthene	207-08-9	N.D.	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	0.0091 J	0.0037	1
10728	Dibenz(a,h)anthracene	53-70-3	N.D.	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	N.D.	0.0037	1
10728	Fluorene	86-73-7	N.D.	0.0037	1
10728	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.0037	1
10728	2-Methylnaphthalene	91-57-6	0.0067 J	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	N.D.	0.0037	1
10728	Phenol	108-95-2	N.D.	0.018	1
10728	Pyrene	129-00-0	0.0069 J	0.0037	1
10728	Pyridine	110-86-1	N.D.	0.073	1
10728	Quinoline	91-22-5	N.D.	0.037	1
Pesticides/PCBs	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00022	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC

Sample Description: AOI5-BH-15-MH07-14_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290957
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 11:10 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
	Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals		**SW-846 6010B**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	32.7	0.325	5
06955	Lead	7439-92-1	172	1.65	5
06961	Nickel	7440-02-0	984	0.923	5
06971	Vanadium	7440-62-2	210	0.923	5
06972	Zinc	7440-66-6	983	3.09	5
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	
00111	Moisture	n.a.	9.7	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	VOCs- Solid by 8260B	SW-846 8260B	1	X160822AA	03/22/2016 14:27	Jennifer K Howe	0.69
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/16/2016 11:10	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/16/2016 11:10	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/16/2016 11:10	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 12:22	Linda M Hartenstine	1
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 06:59	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 08:49	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 08:49	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 08:49	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 08:49	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 08:49	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009B	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH07-17_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290958
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 11:55 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M05

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.	0.0004	0.69
10237	sec-Butylbenzene	135-98-8	N.D.	0.0008	0.69
10237	tert-Butylbenzene	98-06-6	N.D.	0.0008	0.69
10237	Cyclohexane	110-82-7	N.D.	0.0008	0.69
10237	1,2-Dichloroethane	107-06-2	N.D.	0.0008	0.69
10237	Ethylbenzene	100-41-4	N.D.	0.0008	0.69
10237	n-Hexane	110-54-3	N.D.	0.0008	0.69
10237	Isopropylbenzene	98-82-8	N.D.	0.0008	0.69
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0004	0.69
10237	Naphthalene	91-20-3	N.D.	0.0008	0.69
10237	Toluene	108-88-3	N.D.	0.0008	0.69
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.0008	0.69
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.0008	0.69
10237	Xylene (Total)	1330-20-7	N.D.	0.0008	0.69
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**	**mg/kg**	
10728	Acenaphthene	83-32-9	N.D.	0.019	5
10728	Anthracene	120-12-7	N.D.	0.019	5
10728	Benzo(a)anthracene	56-55-3	N.D.	0.019	5
10728	Benzo(a)pyrene	50-32-8	0.050 J	0.019	5
10728	Benzo(b)fluoranthene	205-99-2	N.D.	0.019	5
10728	Benzo(g,h,i)perylene	191-24-2	0.49	0.019	5
10728	Benzo(k)fluoranthene	207-08-9	N.D.	0.019	5
10728	1,1'-Biphenyl	92-52-4	N.D.	0.093	5
10728	Di-n-butylphthalate	84-74-2	N.D.	0.37	5
10728	Chrysene	218-01-9	N.D.	0.019	5
10728	Dibenz(a,h)anthracene	53-70-3	N.D.	0.019	5
10728	Diethylphthalate	84-66-2	N.D.	0.37	5
10728	2,4-Dimethylphenol	105-67-9	N.D.	0.093	5
10728	2,4-Dinitrophenol	51-28-5	N.D.	1.7	5
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	0.37	5
10728	Fluoranthene	206-44-0	N.D.	0.019	5
10728	Fluorene	86-73-7	N.D.	0.019	5
10728	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.019	5
10728	2-Methylnaphthalene	91-57-6	N.D.	0.019	5
10728	2-Methylphenol	95-48-7	N.D.	0.093	5
10728	4-Methylphenol	106-44-5	N.D.	0.093	5
	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.	0.93	5
10728	Phenanthrene	85-01-8	N.D.	0.019	5
10728	Phenol	108-95-2	N.D.	0.093	5
10728	Pyrene	129-00-0	0.022 J	0.019	5
10728	Pyridine	110-86-1	N.D.	0.37	5
10728	Quinoline	91-22-5	N.D.	0.19	5
Pesticides/PCBs	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00023	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC

Sample Description: AOI5-BH-15-MH07-17_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290958
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 11:55 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
	Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals		**SW-846 6010B**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	7.14	0.317	5
06955	Lead	7439-92-1	17.5	1.60	5
06961	Nickel	7440-02-0	18.0	0.900	5
06971	Vanadium	7440-62-2	34.7	0.900	5
06972	Zinc	7440-66-6	81.5	3.01	5
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	
00111	Moisture	n.a.	11.3	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	VOCs- Solid by 8260B	SW-846 8260B	1	X160822AA	03/22/2016 14:50	Jennifer K Howe	0.69
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/16/2016 11:55	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/16/2016 11:55	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/16/2016 11:55	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 12:45	Linda M Hartenstine	5
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 07:16	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 08:52	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 08:52	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 08:52	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 08:52	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 08:52	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009B	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH07-16_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290959
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 12:10 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M06

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.		0.0004	0.75
10237	sec-Butylbenzene	135-98-8	N.D.		0.0008	0.75
10237	tert-Butylbenzene	98-06-6	N.D.		0.0008	0.75
10237	Cyclohexane	110-82-7	0.002	J	0.0008	0.75
10237	1,2-Dichloroethane	107-06-2	N.D.		0.0008	0.75
10237	Ethylbenzene	100-41-4	N.D.		0.0008	0.75
10237	n-Hexane	110-54-3	N.D.		0.0008	0.75
10237	Isopropylbenzene	98-82-8	N.D.		0.0008	0.75
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.0004	0.75
10237	Naphthalene	91-20-3	0.002	J	0.0008	0.75
10237	Toluene	108-88-3	N.D.		0.0008	0.75
10237	1,2,4-Trimethylbenzene	95-63-6	0.002	J	0.0008	0.75
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.0008	0.75
10237	Xylene (Total)	1330-20-7	N.D.		0.0008	0.75
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
10728	Acenaphthene	83-32-9	0.073	J	0.036	10
10728	Anthracene	120-12-7	0.046	J	0.036	10
10728	Benzo(a)anthracene	56-55-3	0.31		0.036	10
10728	Benzo(a)pyrene	50-32-8	0.74		0.036	10
10728	Benzo(b)fluoranthene	205-99-2	0.29		0.036	10
10728	Benzo(g,h,i)perylene	191-24-2	1.3		0.036	10
10728	Benzo(k)fluoranthene	207-08-9	0.070	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.		0.72	10
10728	Chrysene	218-01-9	1.1		0.036	10
10728	Dibenz(a,h)anthracene	53-70-3	0.16	J	0.036	10
10728	Diethylphthalate	84-66-2	N.D.		0.72	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.		0.72	10
10728	Fluoranthene	206-44-0	0.12	J	0.036	10
10728	Fluorene	86-73-7	0.048	J	0.036	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.20		0.036	10
10728	2-Methylnaphthalene	91-57-6	0.059	J	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	0.14	J	0.036	10
10728	Phenol	108-95-2	N.D.		0.18	10
10728	Pyrene	129-00-0	1.9		0.036	10
10728	Pyridine	110-86-1	N.D.		0.72	10
10728	Quinoline	91-22-5	N.D.		0.36	10
Pesticides/PCBs	**SW-846 8011**		**mg/kg**		**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.		0.00021	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC

Sample Description: AOI5-BH-15-MH07-16_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290959
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 12:10 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
	Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals		**SW-846 6010B**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	5.59	0.317	5
06955	Lead	7439-92-1	16.0	1.61	5
06961	Nickel	7440-02-0	16.8	0.901	5
06971	Vanadium	7440-62-2	24.3	0.901	5
06972	Zinc	7440-66-6	122	3.02	5
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	
00111	Moisture	n.a.	8.2	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	VOCs- Solid by 8260B	SW-846 8260B	1	X160831AA	03/23/2016 16:30	Jennifer K Howe	0.75
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/16/2016 12:10	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/16/2016 12:10	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/16/2016 12:10	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 13:08	Linda M Hartenstine	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 07:33	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 08:56	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 08:56	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 08:56	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 08:56	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 08:56	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009B	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH07-15_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290960
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 12:30 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M07

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.		0.0005	0.9
10237	sec-Butylbenzene	135-98-8	N.D.		0.001	0.9
10237	tert-Butylbenzene	98-06-6	N.D.		0.001	0.9
10237	Cyclohexane	110-82-7	N.D.		0.001	0.9
10237	1,2-Dichloroethane	107-06-2	N.D.		0.001	0.9
10237	Ethylbenzene	100-41-4	N.D.		0.001	0.9
10237	n-Hexane	110-54-3	N.D.		0.001	0.9
10237	Isopropylbenzene	98-82-8	N.D.		0.001	0.9
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.0005	0.9
10237	Naphthalene	91-20-3	0.001	J	0.001	0.9
10237	Toluene	108-88-3	N.D.		0.001	0.9
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.001	0.9
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.001	0.9
10237	Xylene (Total)	1330-20-7	N.D.		0.001	0.9
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
10728	Acenaphthene	83-32-9	0.059	J	0.018	5
10728	Anthracene	120-12-7	0.10		0.018	5
10728	Benzo(a)anthracene	56-55-3	0.51		0.018	5
10728	Benzo(a)pyrene	50-32-8	0.27		0.018	5
10728	Benzo(b)fluoranthene	205-99-2	0.12		0.018	5
10728	Benzo(g,h,i)perylene	191-24-2	0.10		0.018	5
10728	Benzo(k)fluoranthene	207-08-9	0.049	J	0.018	5
10728	1,1'-Biphenyl	92-52-4	N.D.		0.090	5
10728	Di-n-butylphthalate	84-74-2	N.D.		0.36	5
10728	Chrysene	218-01-9	0.89		0.018	5
10728	Dibenz(a,h)anthracene	53-70-3	0.063	J	0.018	5
10728	Diethylphthalate	84-66-2	N.D.		0.36	5
10728	2,4-Dimethylphenol	105-67-9	N.D.		0.090	5
10728	2,4-Dinitrophenol	51-28-5	N.D.		1.6	5
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		0.36	5
10728	Fluoranthene	206-44-0	0.12		0.018	5
10728	Fluorene	86-73-7	0.072	J	0.018	5
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.045	J	0.018	5
10728	2-Methylnaphthalene	91-57-6	0.14		0.018	5
10728	2-Methylphenol	95-48-7	N.D.		0.090	5
10728	4-Methylphenol	106-44-5	N.D.		0.090	5
	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.		0.90	5
10728	Phenanthrene	85-01-8	0.44		0.018	5
10728	Phenol	108-95-2	N.D.		0.090	5
10728	Pyrene	129-00-0	0.79		0.018	5
10728	Pyridine	110-86-1	N.D.		0.36	5
10728	Quinoline	91-22-5	N.D.		0.18	5
Pesticides/PCBs	**SW-846 8011**		**mg/kg**		**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.		0.00021	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC

Sample Description: AOI5-BH-15-MH07-15_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290960
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 12:30 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M07

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
	Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.					
Metals		**SW-846 6010B**	**mg/kg**		**mg/kg**	
06952	Cobalt	7440-48-4	2.82		0.296	5
06955	Lead	7439-92-1	4.99	J	1.50	5
06961	Nickel	7440-02-0	26.4		0.842	5
06971	Vanadium	7440-62-2	2.66		0.842	5
06972	Zinc	7440-66-6	4.83	J	2.82	5
Wet Chemistry		**SM 2540 G-1997**	**%**		**%**	
00111	Moisture	n.a.	8.3		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	VOCs- Solid by 8260B	SW-846 8260B	1	X160831AA	03/23/2016 11:33	Jennifer K Howe	0.9
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/16/2016 12:30	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/16/2016 12:30	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/16/2016 12:30	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 13:31	Linda M Hartenstine	5
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 07:50	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 08:59	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 08:59	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 08:59	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 08:59	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 08:59	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009B	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH07-18_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290961
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 13:00 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M08

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.	0.021	38.42
10237	sec-Butylbenzene	135-98-8	N.D.	0.042	38.42
10237	tert-Butylbenzene	98-06-6	N.D.	0.042	38.42
10237	Cyclohexane	110-82-7	N.D.	0.042	38.42
10237	1,2-Dichloroethane	107-06-2	N.D.	0.042	38.42
10237	Ethylbenzene	100-41-4	N.D.	0.042	38.42
10237	n-Hexane	110-54-3	N.D.	0.042	38.42
10237	Isopropylbenzene	98-82-8	N.D.	0.042	38.42
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.021	38.42
10237	Naphthalene	91-20-3	N.D.	0.042	38.42
10237	Toluene	108-88-3	N.D.	0.042	38.42
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.042	38.42
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.042	38.42
10237	Xylene (Total)	1330-20-7	N.D.	0.042	38.42
	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	0.25	0.0036	1
10728	Anthracene	120-12-7	0.12	0.0036	1
10728	Benzo(a)anthracene	56-55-3	0.33	0.0036	1
10728	Benzo(a)pyrene	50-32-8	0.28	0.0036	1
10728	Benzo(b)fluoranthene	205-99-2	0.14	0.0036	1
10728	Benzo(g,h,i)perylene	191-24-2	0.11	0.0036	1
10728	Benzo(k)fluoranthene	207-08-9	0.025	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	0.66	0.0036	1
10728	Dibenz(a,h)anthracene	53-70-3	0.056	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	0.090	0.0036	1
10728	Fluorene	86-73-7	0.26	0.0036	1
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.040	0.0036	1
10728	2-Methylnaphthalene	91-57-6	0.36	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	0.39	0.0036	1
10728	Phenol	108-95-2	N.D.	0.018	1
10728	Pyrene	129-00-0	0.71	0.0036	1
10728	Pyridine	110-86-1	N.D.	0.073	1
10728	Quinoline	91-22-5	N.D.	0.036	1
Pesticides/PCBs	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00022	1
	The recovery for a target analyte(s) in the Laboratory Control				

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Analysis Report

Sample Description: AOI5-BH-15-MH07-18_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290961
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 13:00 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
	Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals		**SW-846 6010B**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	15.0	0.299	5
06955	Lead	7439-92-1	31.9	1.51	5
06961	Nickel	7440-02-0	83.9	0.849	5
06971	Vanadium	7440-62-2	66.0	0.849	5
06972	Zinc	7440-66-6	159	2.84	5
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	
00111	Moisture	n.a.	8.5	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	VOCs- Solid by 8260B	SW-846 8260B	1	Q160841AA	03/24/2016 14:04	Anita M Dale	38.42
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/16/2016 13:00	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/16/2016 13:00	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/16/2016 13:00	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 13:54	Linda M Hartenstine	1
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 08:07	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 09:02	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 09:02	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 09:02	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 09:02	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 09:02	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1

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Analysis Report

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Sample Description: AOI5-BH-15-MH07-18_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290961
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 13:00 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M08

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	16082820009B	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH10-13_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290962
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 13:20 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M09

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.		0.35	690.6
10237	sec-Butylbenzene	135-98-8	0.83	J	0.70	690.6
10237	tert-Butylbenzene	98-06-6	N.D.		0.70	690.6
10237	Cyclohexane	110-82-7	N.D.		0.70	690.6
10237	1,2-Dichloroethane	107-06-2	N.D.		0.70	690.6
10237	Ethylbenzene	100-41-4	N.D.		0.70	690.6
10237	n-Hexane	110-54-3	N.D.		0.70	690.6
10237	Isopropylbenzene	98-82-8	N.D.		0.70	690.6
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.35	690.6
10237	Naphthalene	91-20-3	50		0.70	690.6
10237	Toluene	108-88-3	N.D.		0.70	690.6
10237	1,2,4-Trimethylbenzene	95-63-6	0.73	J	0.70	690.6
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.70	690.6
10237	Xylene (Total)	1330-20-7	N.D.		0.70	690.6
	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	7.8		0.17	5
10728	Anthracene	120-12-7	5.3		0.17	5
10728	Benzo(a)anthracene	56-55-3	0.17	J	0.17	5
10728	Benzo(a)pyrene	50-32-8	N.D.		0.17	5
10728	Benzo(b)fluoranthene	205-99-2	N.D.		0.17	5
10728	Benzo(g,h,i)perylene	191-24-2	N.D.		0.17	5
10728	Benzo(k)fluoranthene	207-08-9	N.D.		0.17	5
10728	1,1'-Biphenyl	92-52-4	N.D.		0.85	5
10728	Di-n-butylphthalate	84-74-2	N.D.		3.4	5
10728	Chrysene	218-01-9	0.43	J	0.17	5
10728	Dibenz(a,h)anthracene	53-70-3	N.D.		0.17	5
10728	Diethylphthalate	84-66-2	N.D.		3.4	5
10728	2,4-Dimethylphenol	105-67-9	N.D.		0.85	5
10728	2,4-Dinitrophenol	51-28-5	N.D.		15	5
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		3.4	5
10728	Fluoranthene	206-44-0	0.88		0.17	5
10728	Fluorene	86-73-7	13		0.17	5
10728	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.17	5
10728	2-Methylnaphthalene	91-57-6	110		0.17	5
10728	2-Methylphenol	95-48-7	N.D.		0.85	5
10728	4-Methylphenol	106-44-5	N.D.		0.85	5
	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.		8.5	5
10728	Phenanthrene	85-01-8	32		0.17	5
10728	Phenol	108-95-2	N.D.		0.85	5
10728	Pyrene	129-00-0	2.7		0.17	5
10728	Pyridine	110-86-1	N.D.		3.4	5
10728	Quinoline	91-22-5	N.D.		1.7	5
	Reporting limits were raised due to interference from the sample matrix.					
Pesticides/PCBs	**SW-846 8011**		**mg/kg**		**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.		0.020	100

Sample Description: AOI5-BH-15-MH10-13_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290962
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 13:20 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M09

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials. Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly.					
Metals		**SW-846 6010B**	**mg/kg**		**mg/kg**	
06952	Cobalt	7440-48-4	0.455	J	0.297	5
06955	Lead	7439-92-1	1.56	J	1.50	5
06961	Nickel	7440-02-0	0.865	J	0.843	5
06971	Vanadium	7440-62-2	3.76		0.843	5
06972	Zinc	7440-66-6	4.33	J	2.82	5
Wet Chemistry		**SM 2540 G-1997**	**%**		**%**	
00111	Moisture	n.a.	1.9		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	VOCs- Solid by 8260B	SW-846 8260B	1	Q160831AA	03/23/2016 15:35	Anita M Dale	690.6
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/16/2016 13:20	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/16/2016 13:20	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/16/2016 13:20	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 14:18	Linda M Hartenstine	5
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 08:24	Heather M Miller	100
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 09:06	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 09:06	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 09:06	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 09:06	Suzanne M Will	5

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Analysis Report

Sample Description: AOI5-BH-15-MH10-13_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290962
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 13:20 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

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1060 Andrew Drive
Suite 140
West Chester PA 19380

08M09

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 09:06	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009B	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH10-12_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290963
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 14:00 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M10

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.		0.29	574.66
10237	sec-Butylbenzene	135-98-8	0.63	J	0.59	574.66
10237	tert-Butylbenzene	98-06-6	N.D.		0.59	574.66
10237	Cyclohexane	110-82-7	N.D.		0.59	574.66
10237	1,2-Dichloroethane	107-06-2	N.D.		0.59	574.66
10237	Ethylbenzene	100-41-4	N.D.		0.59	574.66
10237	n-Hexane	110-54-3	N.D.		0.59	574.66
10237	Isopropylbenzene	98-82-8	N.D.		0.59	574.66
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.29	574.66
10237	Naphthalene	91-20-3	73		0.59	574.66
10237	Toluene	108-88-3	N.D.		0.59	574.66
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.59	574.66
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.59	574.66
10237	Xylene (Total)	1330-20-7	N.D.		0.59	574.66
	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	9.8		0.17	5
10728	Anthracene	120-12-7	7.0		0.17	5
10728	Benzo(a)anthracene	56-55-3	0.25	J	0.17	5
10728	Benzo(a)pyrene	50-32-8	N.D.		0.17	5
10728	Benzo(b)fluoranthene	205-99-2	N.D.		0.17	5
10728	Benzo(g,h,i)perylene	191-24-2	N.D.		0.17	5
10728	Benzo(k)fluoranthene	207-08-9	N.D.		0.17	5
10728	1,1'-Biphenyl	92-52-4	N.D.		0.85	5
10728	Di-n-butylphthalate	84-74-2	N.D.		3.4	5
10728	Chrysene	218-01-9	0.49	J	0.17	5
10728	Dibenz(a,h)anthracene	53-70-3	N.D.		0.17	5
10728	Diethylphthalate	84-66-2	N.D.		3.4	5
10728	2,4-Dimethylphenol	105-67-9	N.D.		0.85	5
10728	2,4-Dinitrophenol	51-28-5	N.D.		15	5
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		3.4	5
10728	Fluoranthene	206-44-0	1.3		0.17	5
10728	Fluorene	86-73-7	19		0.17	5
10728	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.17	5
10728	2-Methylnaphthalene	91-57-6	130		0.17	5
10728	2-Methylphenol	95-48-7	N.D.		0.85	5
10728	4-Methylphenol	106-44-5	N.D.		0.85	5
	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.		8.5	5
10728	Phenanthrene	85-01-8	39		0.17	5
10728	Phenol	108-95-2	N.D.		0.85	5
10728	Pyrene	129-00-0	4.2		0.17	5
10728	Pyridine	110-86-1	N.D.		3.4	5
10728	Quinoline	91-22-5	N.D.		1.7	5
	Reporting limits were raised due to interference from the sample matrix.					
Pesticides/PCBs	**SW-846 8011**		**mg/kg**		**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.		0.020	100

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Analysis Report

Sample Description: AOI5-BH-15-MH10-12_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290963
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 14:00 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M10

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
	Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly. The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.					
Metals		**SW-846 6010B**	**mg/kg**		**mg/kg**	
06952	Cobalt	7440-48-4	1.67	J	0.298	5
06955	Lead	7439-92-1	2.59	J	1.51	5
06961	Nickel	7440-02-0	4.60		0.847	5
06971	Vanadium	7440-62-2	2.90		0.847	5
06972	Zinc	7440-66-6	6.97	J	2.83	5
Wet Chemistry		**SM 2540 G-1997**	**%**		**%**	
00111	Moisture	n.a.	2.3		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	VOCs- Solid by 8260B	SW-846 8260B	1	Q160831AA	03/23/2016 15:59	Anita M Dale	574.66
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/16/2016 14:00	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/16/2016 14:00	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/16/2016 14:00	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 14:41	Linda M Hartenstine	5
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 08:41	Heather M Miller	100
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 09:09	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 09:09	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 09:09	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 09:09	Suzanne M Will	5

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Analysis Report

Sample Description: AOI5-BH-15-MH10-12_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290963
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 14:00 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 09:09	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009B	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH10-11_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290964
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 14:30 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M11

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.		0.27	528.44
10237	sec-Butylbenzene	135-98-8	N.D.		0.54	528.44
10237	tert-Butylbenzene	98-06-6	N.D.		0.54	528.44
10237	Cyclohexane	110-82-7	N.D.		0.54	528.44
10237	1,2-Dichloroethane	107-06-2	N.D.		0.54	528.44
10237	Ethylbenzene	100-41-4	N.D.		0.54	528.44
10237	n-Hexane	110-54-3	N.D.		0.54	528.44
10237	Isopropylbenzene	98-82-8	N.D.		0.54	528.44
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.27	528.44
10237	Naphthalene	91-20-3	40		0.54	528.44
10237	Toluene	108-88-3	N.D.		0.54	528.44
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.54	528.44
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.54	528.44
10237	Xylene (Total)	1330-20-7	N.D.		0.54	528.44
	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	13		0.30	10
10728	Anthracene	120-12-7	9.0		0.30	10
10728	Benzo(a)anthracene	56-55-3	0.34	J	0.30	10
10728	Benzo(a)pyrene	50-32-8	N.D.		0.30	10
10728	Benzo(b)fluoranthene	205-99-2	N.D.		0.30	10
10728	Benzo(g,h,i)perylene	191-24-2	0.51	J	0.30	10
10728	Benzo(k)fluoranthene	207-08-9	N.D.		0.30	10
10728	1,1'-Biphenyl	92-52-4	N.D.		1.5	10
10728	Di-n-butylphthalate	84-74-2	N.D.		6.1	10
10728	Chrysene	218-01-9	0.75	J	0.30	10
10728	Dibenz(a,h)anthracene	53-70-3	N.D.		0.30	10
10728	Diethylphthalate	84-66-2	N.D.		6.1	10
10728	2,4-Dimethylphenol	105-67-9	N.D.		1.5	10
10728	2,4-Dinitrophenol	51-28-5	N.D.		27	10
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		6.1	10
10728	Fluoranthene	206-44-0	1.9		0.30	10
10728	Fluorene	86-73-7	22		0.30	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.30	10
10728	2-Methylnaphthalene	91-57-6	42		0.30	10
10728	2-Methylphenol	95-48-7	N.D.		1.5	10
10728	4-Methylphenol	106-44-5	N.D.		1.5	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.		15	10
10728	Phenanthrene	85-01-8	33		0.30	10
10728	Phenol	108-95-2	N.D.		1.5	10
10728	Pyrene	129-00-0	5.1		0.30	10
10728	Pyridine	110-86-1	N.D.		6.1	10
10728	Quinoline	91-22-5	N.D.		3.0	10
	Reporting limits were raised due to interference from the sample matrix.					
Pesticides/PCBs	**SW-846 8011**		**mg/kg**		**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.		0.020	100

Sample Description: AOI5-BH-15-MH10-11_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290964
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 14:30 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M11

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
	Due to the nature of the sample extract matrix, a dilution was used for the analysis. The reporting limits were raised accordingly. The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.					
Metals		**SW-846 6010B**	**mg/kg**		**mg/kg**	
06952	Cobalt	7440-48-4	1.55	J	0.307	5
06955	Lead	7439-92-1	2.68	J	1.55	5
06961	Nickel	7440-02-0	3.07	J	0.872	5
06971	Vanadium	7440-62-2	5.29		0.872	5
06972	Zinc	7440-66-6	4.82	J	2.92	5
Wet Chemistry		**SM 2540 G-1997**	**%**		**%**	
00111	Moisture	n.a.	3.0		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	VOCs- Solid by 8260B	SW-846 8260B	1	Q160831AA	03/23/2016 16:22	Anita M Dale	528.44
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/16/2016 14:30	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/16/2016 14:30	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/16/2016 14:30	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 15:04	Linda M Hartenstine	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 08:58	Heather M Miller	100
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 09:13	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 09:13	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 09:13	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 09:13	Suzanne M Will	5

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Analysis Report

Sample Description: AOI5-BH-15-MH10-11_031616 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290964
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016 14:30 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M11

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 09:13	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009B	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH11-02_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290965
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 08:30 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M12

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.		0.026	52.41
10237	sec-Butylbenzene	135-98-8	N.D.		0.053	52.41
10237	tert-Butylbenzene	98-06-6	N.D.		0.053	52.41
10237	Cyclohexane	110-82-7	N.D.		0.053	52.41
10237	1,2-Dichloroethane	107-06-2	N.D.		0.053	52.41
10237	Ethylbenzene	100-41-4	0.15	J	0.053	52.41
10237	n-Hexane	110-54-3	N.D.		0.053	52.41
10237	Isopropylbenzene	98-82-8	N.D.		0.053	52.41
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.026	52.41
10237	Naphthalene	91-20-3	N.D.		0.053	52.41
10237	Toluene	108-88-3	N.D.		0.053	52.41
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.053	52.41
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.053	52.41
10237	Xylene (Total)	1330-20-7	1.2		0.053	52.41
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
10728	Acenaphthene	83-32-9	0.072	J	0.017	5
10728	Anthracene	120-12-7	0.049	J	0.017	5
10728	Benzo(a)anthracene	56-55-3	0.018	J	0.017	5
10728	Benzo(a)pyrene	50-32-8	N.D.		0.017	5
10728	Benzo(b)fluoranthene	205-99-2	N.D.		0.017	5
10728	Benzo(g,h,i)perylene	191-24-2	0.024	J	0.017	5
10728	Benzo(k)fluoranthene	207-08-9	N.D.		0.017	5
10728	1,1'-Biphenyl	92-52-4	N.D.		0.083	5
10728	Di-n-butylphthalate	84-74-2	N.D.		0.33	5
10728	Chrysene	218-01-9	0.062	J	0.017	5
10728	Dibenz(a,h)anthracene	53-70-3	N.D.		0.017	5
10728	Diethylphthalate	84-66-2	N.D.		0.33	5
10728	2,4-Dimethylphenol	105-67-9	N.D.		0.083	5
10728	2,4-Dinitrophenol	51-28-5	N.D.		1.5	5
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		0.33	5
10728	Fluoranthene	206-44-0	N.D.		0.017	5
10728	Fluorene	86-73-7	0.055	J	0.017	5
10728	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.017	5
10728	2-Methylnaphthalene	91-57-6	N.D.		0.017	5
10728	2-Methylphenol	95-48-7	N.D.		0.083	5
10728	4-Methylphenol	106-44-5	N.D.		0.083	5
	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.		0.83	5
10728	Phenanthrene	85-01-8	0.080	J	0.017	5
10728	Phenol	108-95-2	N.D.		0.083	5
10728	Pyrene	129-00-0	0.11		0.017	5
10728	Pyridine	110-86-1	N.D.		0.33	5
10728	Quinoline	91-22-5	N.D.		0.17	5
Pesticides/PCBs	**SW-846 8011**		**mg/kg**		**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.		0.00020	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC

Sample Description: AOI5-BH-15-MH11-02_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290965
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 08:30 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M12

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
	Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.					
Metals		**SW-846 6010B**	**mg/kg**		**mg/kg**	
06952	Cobalt	7440-48-4	1.49	J	0.405	5
06955	Lead	7439-92-1	3.43	J	2.05	5
06961	Nickel	7440-02-0	3.81	J	1.15	5
06971	Vanadium	7440-62-2	7.08		1.15	5
06972	Zinc	7440-66-6	6.80	J	3.85	5
Wet Chemistry		**SM 2540 G-1997**	**%**		**%**	
00111	Moisture	n.a.	0.87		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	VOCs- Solid by 8260B	SW-846 8260B	1	Q160841AA	03/24/2016	14:28	Anita M Dale	52.41
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/17/2016	08:30	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/17/2016	08:30	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/17/2016	08:30	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016	15:28	Linda M Hartenstine	5
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016	18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016	09:15	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016	20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016	09:16	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016	09:16	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016	09:16	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016	09:16	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016	09:16	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016	08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009B	03/22/2016	19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH11-01_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290966
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 08:45 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M13

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.	0.0005	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	N.D.	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.	0.0005	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.	0.0033	1
10728	Anthracene	120-12-7	0.0035 J	0.0033	1
10728	Benzo(a)anthracene	56-55-3	0.0050 J	0.0033	1
10728	Benzo(a)pyrene	50-32-8	0.0061 J	0.0033	1
10728	Benzo(b)fluoranthene	205-99-2	N.D.	0.0033	1
10728	Benzo(g,h,i)perylene	191-24-2	0.0072 J	0.0033	1
10728	Benzo(k)fluoranthene	207-08-9	N.D.	0.0033	1
10728	1,1'-Biphenyl	92-52-4	N.D.	0.017	1
10728	Di-n-butylphthalate	84-74-2	N.D.	0.067	1
10728	Chrysene	218-01-9	0.012 J	0.0033	1
10728	Dibenz(a,h)anthracene	53-70-3	N.D.	0.0033	1
10728	Diethylphthalate	84-66-2	N.D.	0.067	1
10728	2,4-Dimethylphenol	105-67-9	N.D.	0.017	1
10728	2,4-Dinitrophenol	51-28-5	N.D.	0.30	1
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	0.067	1
10728	Fluoranthene	206-44-0	N.D.	0.0033	1
10728	Fluorene	86-73-7	N.D.	0.0033	1
10728	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.0033	1
10728	2-Methylnaphthalene	91-57-6	0.019	0.0033	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	0.014 J	0.0033	1
10728	Phenol	108-95-2	N.D.	0.017	1
10728	Pyrene	129-00-0	0.011 J	0.0033	1
10728	Pyridine	110-86-1	N.D.	0.067	1
10728	Quinoline	91-22-5	N.D.	0.033	1
Pesticides/PCBs	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00019	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC

Sample Description: AOI5-BH-15-MH11-01_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290966
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 08:45 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M13

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
	Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.					
Metals		**SW-846 6010B**	**mg/kg**		**mg/kg**	
06952	Cobalt	7440-48-4	0.741	J	0.293	5
06955	Lead	7439-92-1	3.58	J	1.48	5
06961	Nickel	7440-02-0	2.20	J	0.831	5
06971	Vanadium	7440-62-2	2.98		0.831	5
06972	Zinc	7440-66-6	5.57	J	2.78	5
Wet Chemistry		**SM 2540 G-1997**	**%**		**%**	
00111	Moisture	n.a.	1.2		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	VOCs- Solid by 8260B	SW-846 8260B	1	X160822AA	03/22/2016 10:58	Jennifer K Howe	1.04
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/17/2016 08:45	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/17/2016 08:45	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/17/2016 08:45	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 15:52	Linda M Hartenstine	1
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 09:32	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 09:20	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 09:20	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 09:20	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 09:20	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 09:20	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009A	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH11-03_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290967
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 08:55 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M14

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	1.1
10237	sec-Butylbenzene	135-98-8	N.D.	0.001	1.1
10237	tert-Butylbenzene	98-06-6	N.D.	0.001	1.1
10237	Cyclohexane	110-82-7	N.D.	0.001	1.1
10237	1,2-Dichloroethane	107-06-2	N.D.	0.001	1.1
10237	Ethylbenzene	100-41-4	N.D.	0.001	1.1
10237	n-Hexane	110-54-3	N.D.	0.001	1.1
10237	Isopropylbenzene	98-82-8	N.D.	0.001	1.1
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0006	1.1
10237	Naphthalene	91-20-3	N.D.	0.001	1.1
10237	Toluene	108-88-3	N.D.	0.001	1.1
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	1.1
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	1.1
10237	Xylene (Total)	1330-20-7	0.001 J	0.001	1.1
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**	**mg/kg**	
10728	Acenaphthene	83-32-9	0.022	0.0033	1
10728	Anthracene	120-12-7	0.024	0.0033	1
10728	Benzo(a)anthracene	56-55-3	0.032	0.0033	1
10728	Benzo(a)pyrene	50-32-8	0.020	0.0033	1
10728	Benzo(b)fluoranthene	205-99-2	0.0081 J	0.0033	1
10728	Benzo(g,h,i)perylene	191-24-2	0.0092 J	0.0033	1
10728	Benzo(k)fluoranthene	207-08-9	N.D.	0.0033	1
10728	1,1'-Biphenyl	92-52-4	N.D.	0.017	1
10728	Di-n-butylphthalate	84-74-2	N.D.	0.066	1
10728	Chrysene	218-01-9	0.053	0.0033	1
10728	Dibenz(a,h)anthracene	53-70-3	0.0043 J	0.0033	1
10728	Diethylphthalate	84-66-2	N.D.	0.066	1
10728	2,4-Dimethylphenol	105-67-9	N.D.	0.017	1
10728	2,4-Dinitrophenol	51-28-5	N.D.	0.30	1
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.	0.066	1
10728	Fluoranthene	206-44-0	0.012 J	0.0033	1
10728	Fluorene	86-73-7	0.026	0.0033	1
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.0040 J	0.0033	1
10728	2-Methylnaphthalene	91-57-6	0.10	0.0033	1
10728	2-Methylphenol	95-48-7	N.D.	0.017	1
10728	4-Methylphenol	106-44-5	0.023 J	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	0.093	0.0033	1
10728	Phenol	108-95-2	N.D.	0.017	1
10728	Pyrene	129-00-0	0.068	0.0033	1
10728	Pyridine	110-86-1	N.D.	0.066	1
10728	Quinoline	91-22-5	N.D.	0.033	1
Pesticides/PCBs	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00020	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC

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Analysis Report

Sample Description: AOI5-BH-15-MH11-03_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290967
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 08:55 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M14

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit	Dilution Factor
	Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.					
Metals		**SW-846 6010B**	**mg/kg**		**mg/kg**	
06952	Cobalt	7440-48-4	1.17	J	0.344	5
06955	Lead	7439-92-1	3.24	J	1.74	5
06961	Nickel	7440-02-0	3.19	J	0.977	5
06971	Vanadium	7440-62-2	2.95		0.977	5
06972	Zinc	7440-66-6	5.64	J	3.27	5
Wet Chemistry		**SM 2540 G-1997**	**%**		**%**	
00111	Moisture	n.a.	1.1		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	VOCs- Solid by 8260B	SW-846 8260B	1	X160822AA	03/22/2016	11:21	Jennifer K Howe	1.1
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/17/2016	08:55	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/17/2016	08:55	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/17/2016	08:55	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016	16:17	Linda M Hartenstine	1
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016	18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016	10:23	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016	20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016	09:30	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016	09:30	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016	09:30	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016	09:30	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016	09:30	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016	08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009A	03/22/2016	19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH11-04_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290968
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 09:10 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M15

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	1.29
10237	sec-Butylbenzene	135-98-8	N.D.		0.001	1.29
10237	tert-Butylbenzene	98-06-6	N.D.		0.001	1.29
10237	Cyclohexane	110-82-7	N.D.		0.001	1.29
10237	1,2-Dichloroethane	107-06-2	N.D.		0.001	1.29
10237	Ethylbenzene	100-41-4	N.D.		0.001	1.29
10237	n-Hexane	110-54-3	N.D.		0.001	1.29
10237	Isopropylbenzene	98-82-8	N.D.		0.001	1.29
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.0007	1.29
10237	Naphthalene	91-20-3	N.D.		0.001	1.29
10237	Toluene	108-88-3	N.D.		0.001	1.29
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.001	1.29
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.001	1.29
10237	Xylene (Total)	1330-20-7	N.D.		0.001	1.29
	The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken: The sample was re-analyzed and the QC is again outside of the acceptance limits, indicating a matrix effect. The data is reported from the initial trial.					
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
10728	Acenaphthene	83-32-9	N.D.		0.036	10
10728	Anthracene	120-12-7	0.16	J	0.036	10
10728	Benzo(a)anthracene	56-55-3	0.54		0.036	10
10728	Benzo(a)pyrene	50-32-8	0.43		0.036	10
10728	Benzo(b)fluoranthene	205-99-2	0.22		0.036	10
10728	Benzo(g,h,i)perylene	191-24-2	0.72		0.036	10
10728	Benzo(k)fluoranthene	207-08-9	0.059	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.		0.72	10
10728	Chrysene	218-01-9	1.1		0.036	10
10728	Dibenz(a,h)anthracene	53-70-3	0.14	J	0.036	10
10728	Diethylphthalate	84-66-2	N.D.		0.72	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.		0.72	10
10728	Fluoranthene	206-44-0	0.15	J	0.036	10
10728	Fluorene	86-73-7	0.061	J	0.036	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.15	J	0.036	10
10728	2-Methylnaphthalene	91-57-6	0.23		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	0.53		0.036	10
10728	Phenol	108-95-2	N.D.		0.18	10
10728	Pyrene	129-00-0	0.98		0.036	10
10728	Pyridine	110-86-1	N.D.		0.72	10
10728	Quinoline	91-22-5	N.D.		0.36	10

Sample Description: AOI5-BH-15-MH11-04_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290968
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 09:10 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Pesticides/PCBs	**SW-846 8011**		**mg/kg**	**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.	0.00021	1
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals	**SW-846 6010B**		**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	5.57	0.376	5
06955	Lead	7439-92-1	37.8	1.90	5
06961	Nickel	7440-02-0	21.3	1.07	5
06971	Vanadium	7440-62-2	47.4	1.07	5
06972	Zinc	7440-66-6	134	3.57	5
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	
00111	Moisture	n.a.	8.7	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	VOCs- Solid by 8260B	SW-846 8260B	1	X160822AA	03/22/2016 11:44	Jennifer K Howe	1.29
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/17/2016 09:10	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/17/2016 09:10	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/17/2016 09:10	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 16:40	Linda M Hartenstine	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 10:40	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 09:34	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 09:34	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 09:34	Suzanne M Will	5

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Analysis Report

Sample Description: AOI5-BH-15-MH11-04_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290968
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 09:10 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 09:34	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 09:34	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009A	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH11-05_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290969
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 09:40 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M16

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.		0.022	39.64
10237	sec-Butylbenzene	135-98-8	N.D.		0.043	39.64
10237	tert-Butylbenzene	98-06-6	N.D.		0.043	39.64
10237	Cyclohexane	110-82-7	N.D.		0.043	39.64
10237	1,2-Dichloroethane	107-06-2	N.D.		0.043	39.64
10237	Ethylbenzene	100-41-4	0.12	J	0.043	39.64
10237	n-Hexane	110-54-3	N.D.		0.043	39.64
10237	Isopropylbenzene	98-82-8	N.D.		0.043	39.64
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.022	39.64
10237	Naphthalene	91-20-3	0.053	J	0.043	39.64
10237	Toluene	108-88-3	N.D.		0.043	39.64
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.043	39.64
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.043	39.64
10237	Xylene (Total)	1330-20-7	1.1		0.043	39.64
GC/MS Semivolatiles	**SW-846 8270C**		**mg/kg**		**mg/kg**	
10728	Acenaphthene	83-32-9	0.22		0.036	10
10728	Anthracene	120-12-7	0.64		0.036	10
10728	Benzo(a)anthracene	56-55-3	3.0		0.036	10
10728	Benzo(a)pyrene	50-32-8	9.9		0.036	10
10728	Benzo(b)fluoranthene	205-99-2	4.4		0.036	10
10728	Benzo(g,h,i)perylene	191-24-2	2.8		0.036	10
10728	Benzo(k)fluoranthene	207-08-9	1.0		0.036	10
10728	1,1'-Biphenyl	92-52-4	N.D.		0.18	10
10728	Di-n-butylphthalate	84-74-2	N.D.		0.72	10
10728	Chrysene	218-01-9	12		0.036	10
10728	Dibenz(a,h)anthracene	53-70-3	1.9		0.036	10
10728	Diethylphthalate	84-66-2	N.D.		0.72	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.		0.72	10
10728	Fluoranthene	206-44-0	0.18	J	0.036	10
10728	Fluorene	86-73-7	0.16	J	0.036	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	1.3		0.036	10
10728	2-Methylnaphthalene	91-57-6	0.82		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	1.6		0.036	10
10728	Phenol	108-95-2	N.D.		0.18	10
10728	Pyrene	129-00-0	14		0.036	10
10728	Pyridine	110-86-1	N.D.		0.72	10
10728	Quinoline	91-22-5	N.D.		0.36	10
Pesticides/PCBs	**SW-846 8011**		**mg/kg**		**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.		0.00021	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC

Sample Description: AOI5-BH-15-MH11-05_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290969
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 09:40 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M16

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
	Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals		**SW-846 6010B**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	15.6	0.396	5
06955	Lead	7439-92-1	24.8	2.01	5
06961	Nickel	7440-02-0	93.5	1.13	5
06971	Vanadium	7440-62-2	57.0	1.13	5
06972	Zinc	7440-66-6	110	3.77	5
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	
00111	Moisture	n.a.	8.8	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	VOCs- Solid by 8260B	SW-846 8260B	1	Q160841AA	03/24/2016 14:51	Anita M Dale	39.64
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/17/2016 09:40	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/17/2016 09:40	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/17/2016 09:40	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 17:02	Linda M Hartenstine	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 10:57	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 09:37	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 09:37	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 09:37	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 09:37	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 09:37	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009A	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH11-06_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290970
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 09:50 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M17

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.		0.025	44.22
10237	sec-Butylbenzene	135-98-8	0.23	J	0.050	44.22
10237	tert-Butylbenzene	98-06-6	0.065	J	0.050	44.22
10237	Cyclohexane	110-82-7	0.15	J	0.050	44.22
10237	1,2-Dichloroethane	107-06-2	N.D.		0.050	44.22
10237	Ethylbenzene	100-41-4	N.D.		0.050	44.22
10237	n-Hexane	110-54-3	N.D.		0.050	44.22
10237	Isopropylbenzene	98-82-8	N.D.		0.050	44.22
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.025	44.22
10237	Naphthalene	91-20-3	0.19	J	0.050	44.22
10237	Toluene	108-88-3	N.D.		0.050	44.22
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.050	44.22
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.050	44.22
10237	Xylene (Total)	1330-20-7	N.D.		0.050	44.22
	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	1.2		0.019	5
10728	Anthracene	120-12-7	0.69		0.019	5
10728	Benzo(a)anthracene	56-55-3	0.26		0.019	5
10728	Benzo(a)pyrene	50-32-8	0.25		0.019	5
10728	Benzo(b)fluoranthene	205-99-2	0.13		0.019	5
10728	Benzo(g,h,i)perylene	191-24-2	0.29		0.019	5
10728	Benzo(k)fluoranthene	207-08-9	0.031	J	0.019	5
10728	1,1'-Biphenyl	92-52-4	N.D.		0.095	5
10728	Di-n-butylphthalate	84-74-2	N.D.		0.38	5
10728	Chrysene	218-01-9	0.59		0.019	5
10728	Dibenz(a,h)anthracene	53-70-3	0.043	J	0.019	5
10728	Diethylphthalate	84-66-2	N.D.		0.38	5
10728	2,4-Dimethylphenol	105-67-9	N.D.		0.095	5
10728	2,4-Dinitrophenol	51-28-5	N.D.		1.7	5
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		0.38	5
10728	Fluoranthene	206-44-0	0.33		0.019	5
10728	Fluorene	86-73-7	2.5		0.019	5
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.12		0.019	5
10728	2-Methylnaphthalene	91-57-6	0.98		0.019	5
10728	2-Methylphenol	95-48-7	N.D.		0.095	5
10728	4-Methylphenol	106-44-5	N.D.		0.095	5
	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.		0.95	5
10728	Phenanthrene	85-01-8	4.6		0.019	5
10728	Phenol	108-95-2	N.D.		0.095	5
10728	Pyrene	129-00-0	2.1		0.019	5
10728	Pyridine	110-86-1	N.D.		0.38	5
10728	Quinoline	91-22-5	N.D.		0.19	5
Pesticides/PCBs	**SW-846 8011**		**mg/kg**		**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.		0.00023	1
	The recovery for a target analyte(s) in the Laboratory Control					

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Analysis Report

Sample Description: AOI5-BH-15-MH11-06_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290970
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 09:50 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M17

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
	Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals		**SW-846 6010B**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	16.8	0.388	5
06955	Lead	7439-92-1	30.9	1.96	5
06961	Nickel	7440-02-0	18.1	1.10	5
06971	Vanadium	7440-62-2	53.2	1.10	5
06972	Zinc	7440-66-6	73.6	3.68	5
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	
00111	Moisture	n.a.	12.2	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	VOCs- Solid by 8260B	SW-846 8260B	1	Q160831AA	03/23/2016 17:31	Anita M Dale	44.22
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/17/2016 09:50	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/17/2016 09:50	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/17/2016 09:50	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 17:23	Linda M Hartenstine	5
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 11:14	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 09:41	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 09:41	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 09:41	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 09:41	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 09:41	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1

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Analysis Report

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Sample Description: **AOI5-BH-15-MH11-06_031716 Grab Soil**
MHIC AST Bottom Sampling

LL Sample # SW 8290970
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 09:50 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

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Suite 140
West Chester PA 19380

08M17

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	16082820009A	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH11-07_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290971
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 10:40 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

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1060 Andrew Drive
Suite 140
West Chester PA 19380

08M18

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.		0.025	44.27
10237	sec-Butylbenzene	135-98-8	N.D.		0.050	44.27
10237	tert-Butylbenzene	98-06-6	N.D.		0.050	44.27
10237	Cyclohexane	110-82-7	N.D.		0.050	44.27
10237	1,2-Dichloroethane	107-06-2	N.D.		0.050	44.27
10237	Ethylbenzene	100-41-4	N.D.		0.050	44.27
10237	n-Hexane	110-54-3	N.D.		0.050	44.27
10237	Isopropylbenzene	98-82-8	N.D.		0.050	44.27
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.025	44.27
10237	Naphthalene	91-20-3	N.D.		0.050	44.27
10237	Toluene	108-88-3	N.D.		0.050	44.27
10237	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.050	44.27
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.050	44.27
10237	Xylene (Total)	1330-20-7	N.D.		0.050	44.27
	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	N.D.		0.019	5
10728	Anthracene	120-12-7	0.050	J	0.019	5
10728	Benzo(a)anthracene	56-55-3	0.074	J	0.019	5
10728	Benzo(a)pyrene	50-32-8	0.090	J	0.019	5
10728	Benzo(b)fluoranthene	205-99-2	0.074	J	0.019	5
10728	Benzo(g,h,i)perylene	191-24-2	0.12		0.019	5
10728	Benzo(k)fluoranthene	207-08-9	0.036	J	0.019	5
10728	1,1'-Biphenyl	92-52-4	N.D.		0.093	5
10728	Di-n-butylphthalate	84-74-2	N.D.		0.37	5
10728	Chrysene	218-01-9	0.21		0.019	5
10728	Dibenz(a,h)anthracene	53-70-3	0.039	J	0.019	5
10728	Diethylphthalate	84-66-2	N.D.		0.37	5
10728	2,4-Dimethylphenol	105-67-9	N.D.		0.093	5
10728	2,4-Dinitrophenol	51-28-5	N.D.		1.7	5
10728	bis(2-Ethylhexyl)phthalate	117-81-7	N.D.		0.37	5
10728	Fluoranthene	206-44-0	0.074	J	0.019	5
10728	Fluorene	86-73-7	0.089	J	0.019	5
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.051	J	0.019	5
10728	2-Methylnaphthalene	91-57-6	0.081	J	0.019	5
10728	2-Methylphenol	95-48-7	N.D.		0.093	5
10728	4-Methylphenol	106-44-5	N.D.		0.093	5
	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.		0.93	5
10728	Phenanthrene	85-01-8	0.061	J	0.019	5
10728	Phenol	108-95-2	N.D.		0.093	5
10728	Pyrene	129-00-0	0.37		0.019	5
10728	Pyridine	110-86-1	N.D.		0.37	5
10728	Quinoline	91-22-5	N.D.		0.19	5
Pesticides/PCBs	**SW-846 8011**		**mg/kg**		**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.		0.00022	1
	The recovery for a target analyte(s) in the Laboratory Control					

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Analysis Report

Sample Description: AOI5-BH-15-MH11-07_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290971
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 10:40 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M18

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
	Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals		**SW-846 6010B**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	11.8	0.438	5
06955	Lead	7439-92-1	24.9	2.21	5
06961	Nickel	7440-02-0	23.5	1.24	5
06971	Vanadium	7440-62-2	74.4	1.24	5
06972	Zinc	7440-66-6	76.5	4.16	5
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	
00111	Moisture	n.a.	11.0	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	VOCs- Solid by 8260B	SW-846 8260B	1	R160831AA	03/23/2016 16:17	Anita M Dale	44.27
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/17/2016 10:40	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/17/2016 10:40	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/17/2016 10:40	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 17:45	Linda M Hartenstine	5
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 11:31	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 09:44	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 09:44	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 09:44	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 09:44	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 09:44	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1

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Analysis Report

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Sample Description: AOI5-BH-15-MH11-07_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290971
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 10:40 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M18

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	16082820009A	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH11-08_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290972
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 11:00 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M19

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.		0.024	42.87
10237	sec-Butylbenzene	135-98-8	0.080	J	0.048	42.87
10237	tert-Butylbenzene	98-06-6	N.D.		0.048	42.87
10237	Cyclohexane	110-82-7	N.D.		0.048	42.87
10237	1,2-Dichloroethane	107-06-2	N.D.		0.048	42.87
10237	Ethylbenzene	100-41-4	0.059	J	0.048	42.87
10237	n-Hexane	110-54-3	N.D.		0.048	42.87
10237	Isopropylbenzene	98-82-8	N.D.		0.048	42.87
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.024	42.87
10237	Naphthalene	91-20-3	N.D.		0.048	42.87
10237	Toluene	108-88-3	N.D.		0.048	42.87
10237	1,2,4-Trimethylbenzene	95-63-6	0.20	J	0.048	42.87
10237	1,3,5-Trimethylbenzene	108-67-8	0.055	J	0.048	42.87
10237	Xylene (Total)	1330-20-7	0.087	J	0.048	42.87
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	0.96		0.037	10
10728	Anthracene	120-12-7	0.64		0.037	10
10728	Benzo(a)anthracene	56-55-3	0.39		0.037	10
10728	Benzo(a)pyrene	50-32-8	0.43		0.037	10
10728	Benzo(b)fluoranthene	205-99-2	0.23		0.037	10
10728	Benzo(g,h,i)perylene	191-24-2	0.81		0.037	10
10728	Benzo(k)fluoranthene	207-08-9	0.095	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	0.77		0.037	10
10728	Dibenz(a,h)anthracene	53-70-3	0.15	J	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	0.42		0.037	10
10728	Fluorene	86-73-7	1.7		0.037	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.21		0.037	10
10728	2-Methylnaphthalene	91-57-6	4.5		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	2.8		0.037	10
10728	Phenol	108-95-2	N.D.		0.19	10
10728	Pyrene	129-00-0	2.4		0.037	10
10728	Pyridine	110-86-1	N.D.		0.74	10
10728	Quinoline	91-22-5	N.D.		0.37	10
Pesticides/PCBs	**SW-846 8011**		**mg/kg**		**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.		0.00022	1
The recovery for a target analyte(s) in the Laboratory Control						

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Analysis Report

Sample Description: AOI5-BH-15-MH11-08_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290972
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 11:00 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

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1060 Andrew Drive
Suite 140
West Chester PA 19380

08M19

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
	Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals		**SW-846 6010B**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	16.8	0.434	5
06955	Lead	7439-92-1	57.8	2.20	5
06961	Nickel	7440-02-0	24.1	1.23	5
06971	Vanadium	7440-62-2	63.0	1.23	5
06972	Zinc	7440-66-6	113	4.13	5
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	
00111	Moisture	n.a.	10.3	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	VOCs- Solid by 8260B	SW-846 8260B	1	R160831AA	03/23/2016 16:40	Anita M Dale	42.87
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740493	03/17/2016 11:00	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740493	03/17/2016 11:00	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740493	03/17/2016 11:00	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 18:07	Linda M Hartenstine	10
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 11:48	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 09:47	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 09:47	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 09:47	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 09:47	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 09:47	Suzanne M Will	5
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1

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Analysis Report

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Sample Description: AOI5-BH-15-MH11-08_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290972
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 11:00 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

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1060 Andrew Drive
Suite 140
West Chester PA 19380

08M19

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	16082820009A	03/22/2016 19:22	Scott W Freisher	1

Sample Description: AOI5-BH-15-MH11-09_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290973
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 11:25 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M20

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.		0.020	37.72
10237	sec-Butylbenzene	135-98-8	0.068	J	0.040	37.72
10237	tert-Butylbenzene	98-06-6	N.D.		0.040	37.72
10237	Cyclohexane	110-82-7	N.D.		0.040	37.72
10237	1,2-Dichloroethane	107-06-2	N.D.		0.040	37.72
10237	Ethylbenzene	100-41-4	N.D.		0.040	37.72
10237	n-Hexane	110-54-3	N.D.		0.040	37.72
10237	Isopropylbenzene	98-82-8	0.046	J	0.040	37.72
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.020	37.72
10237	Naphthalene	91-20-3	0.31		0.040	37.72
10237	Toluene	108-88-3	N.D.		0.040	37.72
10237	1,2,4-Trimethylbenzene	95-63-6	0.077	J	0.040	37.72
10237	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.040	37.72
10237	Xylene (Total)	1330-20-7	N.D.		0.040	37.72
	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	2.6		0.036	10
10728	Anthracene	120-12-7	0.82		0.036	10
10728	Benzo(a)anthracene	56-55-3	0.73		0.036	10
10728	Benzo(a)pyrene	50-32-8	0.77		0.036	10
10728	Benzo(b)fluoranthene	205-99-2	0.42		0.036	10
10728	Benzo(g,h,i)perylene	191-24-2	0.89		0.036	10
10728	Benzo(k)fluoranthene	207-08-9	0.15	J	0.036	10
10728	1,1'-Biphenyl	92-52-4	0.49		0.18	10
10728	Di-n-butylphthalate	84-74-2	N.D.		0.71	10
10728	Chrysene	218-01-9	1.9		0.036	10
10728	Dibenz(a,h)anthracene	53-70-3	0.19		0.036	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	0.51		0.036	10
10728	Fluorene	86-73-7	4.6		0.036	10
10728	Indeno(1,2,3-cd)pyrene	193-39-5	0.28		0.036	10
10728	2-Methylnaphthalene	91-57-6	63		0.18	50
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	6.0		0.036	10
10728	Phenol	108-95-2	N.D.		0.18	10
10728	Pyrene	129-00-0	4.1		0.036	10
10728	Pyridine	110-86-1	N.D.		0.71	10
10728	Quinoline	91-22-5	N.D.		0.36	10
Pesticides/PCBs	**SW-846 8011**		**mg/kg**		**mg/kg**	
13214	Ethylene dibromide	106-93-4	N.D.		0.00020	1
	The recovery for a target analyte(s) in the Laboratory Control					

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Analysis Report

Sample Description: AOI5-BH-15-MH11-09_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290973
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 11:25 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
	Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.				
Metals		**SW-846 6010B**	**mg/kg**	**mg/kg**	
06952	Cobalt	7440-48-4	7.55	0.395	5
06955	Lead	7439-92-1	22.9	2.00	5
06961	Nickel	7440-02-0	14.2	1.12	5
06971	Vanadium	7440-62-2	36.2	1.12	5
06972	Zinc	7440-66-6	54.3	3.76	5
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	
00111	Moisture	n.a.	6.8	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	VOCs- Solid by 8260B	SW-846 8260B	1	Q160832AA	03/24/2016 04:29	Kevin A Sposito	37.72
07579	GC/MS-5g Field Preserv.MeOH-NC	SW-846 5035A	1	201607740492	03/17/2016 11:25	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	1	201607740492	03/17/2016 11:25	Client Supplied	1
02392	L/H Field Preserved Bisulfate	SW-846 5035A	2	201607740492	03/17/2016 11:25	Client Supplied	1
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 18:28	Linda M Hartenstine	10
10728	Skinner 8270 (microwave)	SW-846 8270C	1	16083SLC026	03/24/2016 20:18	Linda M Hartenstine	50
10812	BNA Soil Microwave Skinner	SW-846 3546	1	16083SLC026	03/23/2016 18:45	Shawn J McMullen	1
13214	8011 Soil Master	SW-846 8011	1	160900029A	04/08/2016 12:05	Heather M Miller	1
13218	EDB Soil Extraction	SW-846 8011	2	160900029A	03/30/2016 20:30	David V Hershey Jr	1
06952	Cobalt	SW-846 6010B	1	160785708006	03/25/2016 09:51	Suzanne M Will	5
06955	Lead	SW-846 6010B	1	160785708006	03/25/2016 09:51	Suzanne M Will	5
06961	Nickel	SW-846 6010B	1	160785708006	03/25/2016 09:51	Suzanne M Will	5
06971	Vanadium	SW-846 6010B	1	160785708006	03/25/2016 09:51	Suzanne M Will	5
06972	Zinc	SW-846 6010B	1	160785708006	03/25/2016 09:51	Suzanne M Will	5

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Analysis Report

Sample Description: AOI5-BH-15-MH11-09_031716 Grab Soil
MHIC AST Bottom Sampling

LL Sample # SW 8290973
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/17/2016 11:25 by SR

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M20

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05708	ICP-ICPMS - SW, 3050B - U3	SW-846 3050B	1	160785708006	03/21/2016 08:48	Christopher M Klumpp	1
00111	Moisture	SM 2540 G-1997	1	16082820009A	03/22/2016 19:22	Scott W Freisher	1

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Analysis Report

Sample Description: Trip Blank Water
MHIC AST Bottom Sampling

LL Sample # WW 8290974
LL Group # 1641737
Account # 16657

Project Name: MHIC AST Bottom Sampling

Collected: 03/16/2016

Submitted: 03/17/2016 16:00
Reported: 04/19/2016 12:30

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

08M21

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	8260 VOCs	SW-846 8260B	1	N160832AA	03/24/2016 04:47	Caitlin M Carmody	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N160832AA	03/24/2016 04:47	Caitlin M Carmody	1

Quality Control Summary

Client Name: Stantec
Reported: 04/19/2016 12:30

Group Number: 1641737

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: Q160831AA	Sample number(s): 8290962-8290964,8290970	
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: Q160832AA	Sample number(s): 8290973	
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: Q160841AA	Sample number(s): 8290961,8290965,8290969	
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

*- 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: 04/19/2016 12:30

Group Number: 1641737

Method Blank (continued)

Analysis Name	Result	MDL
	mg/kg	mg/kg
1,3,5-Trimethylbenzene	N.D.	0.050
Xylene (Total)	N.D.	0.050
Batch number: R160831AA	Sample number(s): 8290971-8290972	
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: X160822AA	Sample number(s): 8290954,8290956-8290958,8290966-8290968	
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
Batch number: X160831AA	Sample number(s): 8290955,8290959-8290960	
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: N160832AA	Sample number(s): 8290974	

*- 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: 04/19/2016 12:30

Group Number: 1641737

Method Blank (continued)

Analysis Name	Result		MDL
	ug/l		ug/l
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
Naphthalene	1	J	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: 16083SLC026	Sample number(s): 8290954-8290973		
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: 160900029A	Sample number(s): 8290954-8290973		
Ethylene dibromide	N.D.		0.00020
Batch number: 160785708006	Sample number(s): 8290954-8290973		
Cobalt	N.D.		0.0810
Lead	N.D.		0.410

*- 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: 04/19/2016 12:30

Group Number: 1641737

Method Blank (continued)

Analysis Name	Result mg/kg	MDL mg/kg
Nickel	N.D.	0.230
Vanadium	N.D.	0.230
Zinc	N.D.	0.770

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: Q160831AA	Sample number(s): 8290962-8290964,8290970								
Benzene	1.00	0.989	1.00	0.981	99	98	80-120	1	30
sec-Butylbenzene	1.00	0.878	1.00	0.944	88	94	64-122	7	30
tert-Butylbenzene	1.00	0.940	1.00	0.969	94	97	68-120	3	30
Cyclohexane	1.00	0.923	1.00	0.906	92	91	58-120	2	30
1,2-Dichloroethane	1.00	1.14	1.00	1.14	114	114	77-130	0	30
Ethylbenzene	1.00	0.953	1.00	0.954	95	95	80-120	0	30
n-Hexane	1.00	1.03	1.00	0.901	103	90	38-135	13	30
Isopropylbenzene	1.00	0.950	1.00	0.960	95	96	70-120	1	30
Methyl Tertiary Butyl Ether	1.00	1.05	1.00	1.05	105	105	72-120	0	30
Naphthalene	1.00	0.910	1.00	0.944	91	94	53-120	4	30
Toluene	1.00	0.973	1.00	0.956	97	96	80-120	2	30
1,2,4-Trimethylbenzene	1.00	0.938	1.00	0.949	94	95	74-120	1	30
1,3,5-Trimethylbenzene	1.00	0.945	1.00	0.953	95	95	73-120	1	30
Xylene (Total)	3.00	2.89	3.00	2.86	96	95	80-120	1	30
Batch number: Q160832AA	Sample number(s): 8290973								
Benzene	1.00	1.02	1.00	1.10	102	110	80-120	8	30
sec-Butylbenzene	1.00	0.960	1.00	1.00	96	100	64-122	4	30
tert-Butylbenzene	1.00	0.981	1.00	1.03	98	103	68-120	5	30
Cyclohexane	1.00	1.08	1.00	1.17	108	117	58-120	8	30
1,2-Dichloroethane	1.00	1.18	1.00	1.28	118	128	77-130	8	30
Ethylbenzene	1.00	0.975	1.00	1.07	98	107	80-120	9	30
n-Hexane	1.00	1.22	1.00	1.34	122	134	38-135	10	30
Isopropylbenzene	1.00	0.971	1.00	1.05	97	105	70-120	8	30
Methyl Tertiary Butyl Ether	1.00	1.08	1.00	1.17	108	117	72-120	8	30
Naphthalene	1.00	1.02	1.00	1.01	102	101	53-120	0	30
Toluene	1.00	0.973	1.00	1.07	97	107	80-120	9	30
1,2,4-Trimethylbenzene	1.00	0.978	1.00	1.02	98	102	74-120	4	30
1,3,5-Trimethylbenzene	1.00	0.975	1.00	1.02	98	102	73-120	4	30
Xylene (Total)	3.00	2.89	3.00	3.14	96	105	80-120	8	30
Batch number: Q160841AA	Sample number(s): 8290961,8290965,8290969								
Benzene	1.00	0.978	1.00	0.975	98	97	80-120	0	30
sec-Butylbenzene	1.00	0.962	1.00	0.935	96	93	64-122	3	30
tert-Butylbenzene	1.00	1.01	1.00	0.974	101	97	68-120	4	30
Cyclohexane	1.00	0.951	1.00	0.924	95	92	58-120	3	30
1,2-Dichloroethane	1.00	1.17	1.00	1.15	117	115	77-130	2	30
Ethylbenzene	1.00	0.969	1.00	0.965	97	96	80-120	0	30

*- 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: 04/19/2016 12:30

Group Number: 1641737

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
n-Hexane	1.00	1.01	1.00	0.989	101	99	38-135	2	30
Isopropylbenzene	1.00	0.961	1.00	0.941	96	94	70-120	2	30
Methyl Tertiary Butyl Ether	1.00	1.06	1.00	1.05	106	105	72-120	1	30
Naphthalene	1.00	0.993	1.00	0.947	99	95	53-120	5	30
Toluene	1.00	0.971	1.00	0.973	97	97	80-120	0	30
1,2,4-Trimethylbenzene	1.00	0.979	1.00	0.970	98	97	74-120	1	30
1,3,5-Trimethylbenzene	1.00	0.985	1.00	0.957	99	96	73-120	3	30
Xylene (Total)	3.00	2.87	3.00	2.86	96	95	80-120	0	30
Batch number: R160831AA	Sample number(s): 8290971-8290972								
Benzene	1.00	0.985	1.00	0.932	99	93	80-120	6	30
sec-Butylbenzene	1.00	0.848	1.00	0.833	85	83	64-122	2	30
tert-Butylbenzene	1.00	0.930	1.00	0.856	93	86	68-120	8	30
Cyclohexane	1.00	0.904	1.00	0.817	90	82	58-120	10	30
1,2-Dichloroethane	1.00	1.13	1.00	1.07	113	107	77-130	5	30
Ethylbenzene	1.00	0.914	1.00	0.858	91	86	80-120	6	30
n-Hexane	1.00	1.09	1.00	0.965	109	97	38-135	12	30
Isopropylbenzene	1.00	0.949	1.00	0.899	95	90	70-120	5	30
Methyl Tertiary Butyl Ether	1.00	1.03	1.00	0.997	103	100	72-120	3	30
Naphthalene	1.00	0.855	1.00	0.831	86	83	53-120	3	30
Toluene	1.00	0.924	1.00	0.870	92	87	80-120	6	30
1,2,4-Trimethylbenzene	1.00	0.877	1.00	0.841	88	84	74-120	4	30
1,3,5-Trimethylbenzene	1.00	0.899	1.00	0.844	90	84	73-120	6	30
Xylene (Total)	3.00	2.81	3.00	2.63	94	88	80-120	7	30
Batch number: X160822AA	Sample number(s): 8290954,8290956-8290958,8290966-8290968								
Benzene	0.0200	0.0203	0.0200	0.0201	101	101	80-120	1	30
sec-Butylbenzene	0.0200	0.0186	0.0200	0.0188	93	94	64-122	1	30
tert-Butylbenzene	0.0200	0.0178	0.0200	0.0182	89	91	68-120	2	30
Cyclohexane	0.0200	0.0185	0.0200	0.0185	92	92	58-120	0	30
1,2-Dichloroethane	0.0200	0.0199	0.0200	0.0194	99	97	77-130	2	30
Ethylbenzene	0.0200	0.0194	0.0200	0.0193	97	97	80-120	1	30
n-Hexane	0.0200	0.0183	0.0200	0.0186	91	93	38-135	2	30
Isopropylbenzene	0.0200	0.0193	0.0200	0.0192	97	96	70-120	1	30
Methyl Tertiary Butyl Ether	0.0200	0.0177	0.0200	0.0174	89	87	72-120	1	30
Naphthalene	0.0200	0.0160	0.0200	0.0160	80	80	53-120	0	30
Toluene	0.0200	0.0198	0.0200	0.0197	99	99	80-120	1	30
1,2,4-Trimethylbenzene	0.0200	0.0186	0.0200	0.0187	93	94	74-120	1	30
1,3,5-Trimethylbenzene	0.0200	0.0186	0.0200	0.0187	93	94	73-120	1	30
Xylene (Total)	0.0600	0.0579	0.0600	0.0575	96	96	80-120	1	30
Batch number: X160831AA	Sample number(s): 8290955,8290959-8290960								
Benzene	0.0200	0.0200	0.0200	0.0205	100	103	80-120	3	30
sec-Butylbenzene	0.0200	0.0189	0.0200	0.0194	94	97	64-122	3	30
tert-Butylbenzene	0.0200	0.0183	0.0200	0.0190	92	95	68-120	4	30
Cyclohexane	0.0200	0.0181	0.0200	0.0185	91	92	58-120	2	30
1,2-Dichloroethane	0.0200	0.0193	0.0200	0.0198	97	99	77-130	2	30
Ethylbenzene	0.0200	0.0194	0.0200	0.0200	97	100	80-120	3	30
n-Hexane	0.0200	0.0175	0.0200	0.0184	88	92	38-135	5	30
Isopropylbenzene	0.0200	0.0193	0.0200	0.0200	97	100	70-120	3	30
Methyl Tertiary Butyl Ether	0.0200	0.0174	0.0200	0.0179	87	90	72-120	3	30

*- 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: 04/19/2016 12:30

Group Number: 1641737

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
Naphthalene	0.0200	0.0160	0.0200	0.0166	80	83	53-120	4	30
Toluene	0.0200	0.0199	0.0200	0.0203	99	101	80-120	2	30
1,2,4-Trimethylbenzene	0.0200	0.0188	0.0200	0.0194	94	97	74-120	3	30
1,3,5-Trimethylbenzene	0.0200	0.0189	0.0200	0.0194	95	97	73-120	3	30
Xylene (Total)	0.0600	0.0579	0.0600	0.0595	96	99	80-120	3	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: N160832AA	Sample number(s): 8290974								
Benzene	20	20.7	20	21.14	103	106	78-120	2	30
sec-Butylbenzene	20	19.45	20	20.93	97	105	68-124	7	30
tert-Butylbenzene	20	17.74	20	19.21	89	96	74-121	8	30
Cyclohexane	20	18.37	20	19.94	92	100	65-123	8	30
1,2-Dibromoethane	20	20.19	20	20.06	101	100	80-120	1	30
1,2-Dichloroethane	20	20.85	20	20.88	104	104	72-127	0	30
Ethylbenzene	20	19.83	20	20.43	99	102	78-120	3	30
n-Hexane	20	17.65	20	19.78	88	99	57-131	11	30
Isopropylbenzene	20	19.49	20	20.42	97	102	80-120	5	30
Methyl Tertiary Butyl Ether	20	19.5	20	19.61	97	98	75-120	1	30
Naphthalene	20	14.85	20	15.64	74	78	59-120	5	30
Toluene	20	20	20	20.48	100	102	80-120	2	30
1,2,4-Trimethylbenzene	20	20.07	20	21.13	100	106	75-120	5	30
1,3,5-Trimethylbenzene	20	19.92	20	20.84	100	104	75-120	5	30
Xylene (Total)	60	58.79	60	60.89	98	101	80-120	4	30
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 16083SLC026	Sample number(s): 8290954-8290973								
Acenaphthene	1.67	1.73			104		83-116		
Anthracene	1.67	1.67			100		82-118		
Benzo(a)anthracene	1.67	1.68			101		76-119		
Benzo(a)pyrene	1.67	1.69			101		85-117		
Benzo(b)fluoranthene	1.67	1.63			98		78-129		
Benzo(g,h,i)perylene	1.67	1.54			93		77-118		
Benzo(k)fluoranthene	1.67	1.75			105		79-120		
1,1'-Biphenyl	1.67	1.57			94		76-111		
Di-n-butylphthalate	1.67	1.75			105		84-120		
Chrysene	1.67	1.74			104		80-121		
Dibenz(a,h)anthracene	1.67	1.60			96		81-123		
Diethylphthalate	1.67	1.76			105		81-118		
2,4-Dimethylphenol	1.67	1.71			102		83-120		
2,4-Dinitrophenol	3.33	2.40			72		16-132		
bis(2-Ethylhexyl)phthalate	1.67	1.67			100		81-121		
Fluoranthene	1.67	1.72			103		81-117		
Fluorene	1.67	1.73			104		86-118		
Indeno(1,2,3-cd)pyrene	1.67	1.54			93		81-118		
2-Methylnaphthalene	1.67	1.67			100		83-109		
2-Methylphenol	1.67	1.72			103		80-133		
4-Methylphenol	1.67	1.64			99		73-125		
4-Nitrophenol	1.67	1.68			101		52-133		
Phenanthrene	1.67	1.64			99		80-114		
Phenol	1.67	1.66			99		73-122		

*- 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: 04/19/2016 12:30

Group Number: 1641737

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
Pyrene	1.67	1.63			98		81-114		
Pyridine	1.67	1.37			82		55-109		
Quinoline	1.67	1.76			106		80-119		
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 160900029A	Sample number(s): 8290954-8290973								
Ethylene dibromide	0.00450	0.00253	0.00450	0.00257	56*	57*	60-140	1	20
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 160785708006	Sample number(s): 8290954-8290973								
Cobalt	50	51.89			104		80-120		
Lead	15	16.25			108		80-120		
Nickel	50	53.21			106		80-120		
Vanadium	50	51.66			103		80-120		
Zinc	50	52.12			104		80-120		
	%	%	%	%					
Batch number: 16082820009A	Sample number(s): 8290954-8290955,8290966-8290973								
Moisture	89.5	89.42			100		99-101		
Batch number: 16082820009B	Sample number(s): 8290956-8290965								
Moisture	89.5	89.42			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: Q160831AA	Sample number(s): 8290962-8290964,8290970 UNSPK: P291318									
Benzene	N.D.	0.982	0.853	0.938	0.770	87	82	80-120	10	30
sec-Butylbenzene	N.D.	0.982	0.824	0.938	0.763	84	81	64-122	8	30
tert-Butylbenzene	N.D.	0.982	0.891	0.938	0.761	91	81	68-120	16	30
Cyclohexane	N.D.	0.982	0.849	0.938	0.759	86	81	58-120	11	30
1,2-Dichloroethane	N.D.	0.982	1.01	0.938	0.915	103	98	77-130	10	30
Ethylbenzene	N.D.	0.982	0.864	0.938	0.783	88	83	80-120	10	30
n-Hexane	N.D.	0.982	0.728	0.938	0.746	74	80	38-135	2	30
Isopropylbenzene	N.D.	0.982	0.872	0.938	0.800	89	85	70-120	9	30
Methyl Tertiary Butyl Ether	N.D.	0.982	0.984	0.938	0.888	100	95	72-120	10	30
Naphthalene	N.D.	0.982	0.975	0.938	0.791	99	84	53-120	21	30
Toluene	N.D.	0.982	0.855	0.938	0.784	87	84	80-120	9	30
1,2,4-Trimethylbenzene	N.D.	0.982	1.02	0.938	0.796	103	85	74-120	24	30
1,3,5-Trimethylbenzene	N.D.	0.982	0.909	0.938	0.788	93	84	73-120	14	30
Xylene (Total)	N.D.	2.95	2.62	2.81	2.36	89	84	80-120	10	30
Batch number: Q160832AA	Sample number(s): 8290973 UNSPK: P289510									

*- 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: 04/19/2016 12:30

Group Number: 1641737

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
Benzene	N.D.	1.00	1.04	0.873	1.01	103	116	80-120	2	30
sec-Butylbenzene	N.D.	1.00	0.988	0.873	1.05	99	120	64-122	6	30
tert-Butylbenzene	N.D.	1.00	1.03	0.873	1.08	103	124*	68-120	5	30
Cyclohexane	N.D.	1.00	0.862	0.873	0.770	86	88	58-120	11	30
1,2-Dichloroethane	N.D.	1.00	1.31	0.873	1.28	131*	147*	77-130	2	30
Ethylbenzene	N.D.	1.00	1.04	0.873	1.05	104	120	80-120	0	30
n-Hexane	N.D.	1.00	0.830	0.873	0.717	83	82	38-135	15	30
Isopropylbenzene	N.D.	1.00	1.05	0.873	1.04	104	119	70-120	1	30
Methyl Tertiary Butyl Ether	N.D.	1.00	1.19	0.873	1.16	119	133*	72-120	2	30
Naphthalene	N.D.	1.00	0.996	0.873	1.05	99	120	53-120	5	30
Toluene	N.D.	1.00	1.04	0.873	1.04	103	120	80-120	1	30
1,2,4-Trimethylbenzene	N.D.	1.00	1.05	0.873	1.08	105	124*	74-120	3	30
1,3,5-Trimethylbenzene	N.D.	1.00	1.04	0.873	1.07	104	123*	73-120	3	30
Xylene (Total)	N.D.	3.01	3.13	2.62	3.12	104	119	80-120	0	30
	ug/l	**ug/l**	**ug/l**	**ug/l**	**ug/l**					
Batch number: N160832AA	Sample number(s): 8290974 UNSPK: P284933									
Benzene	N.D.	400	438.15	400	454.4	110	114	78-120	4	30
sec-Butylbenzene	N.D.	400	429.97	400	451.36	107	113	68-124	5	30
tert-Butylbenzene	N.D.	400	397.9	400	410.17	99	103	74-121	3	30
Cyclohexane	N.D.	400	430.06	400	448	108	112	65-123	4	30
1,2-Dibromoethane	N.D.	400	392.99	400	409.04	98	102	80-120	4	30
1,2-Dichloroethane	N.D.	400	416.37	400	433.3	104	108	72-127	4	30
Ethylbenzene	N.D.	400	425.89	400	444.21	106	111	78-120	4	30
n-Hexane	N.D.	400	431.13	400	449.28	108	112	57-131	4	30
Isopropylbenzene	N.D.	400	421.31	400	441.38	105	110	80-120	5	30
Methyl Tertiary Butyl Ether	N.D.	400	372.34	400	385.12	93	96	75-120	3	30
Naphthalene	N.D.	400	273.01	400	308.82	68	77	59-120	12	30
Toluene	N.D.	400	424.11	400	438.47	106	110	80-120	3	30
1,2,4-Trimethylbenzene	N.D.	400	427.34	400	443.49	107	111	75-120	4	30
1,3,5-Trimethylbenzene	N.D.	400	422.36	400	442.52	106	111	75-120	5	30
Xylene (Total)	N.D.	1200	1254.36	1200	1304.84	105	109	80-120	4	30
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 16083SLC026	Sample number(s): 8290954-8290973 UNSPK: 8290954									
Acenaphthene	0.302	1.64	2.50	1.65	2.68	134*	144*	83-116	7	30
Anthracene	0.396	1.64	2.60	1.65	2.79	135*	145*	82-118	7	30
Benzo(a)anthracene	2.17	1.64	6.05	1.65	6.20	237*	244*	76-119	2	30
Benzo(a)pyrene	1.80	1.64	4.94	1.65	5.62	192*	232*	85-117	13	30
Benzo(b)fluoranthene	0.733	1.64	2.74	1.65	3.16	123	147*	78-129	14	30
Benzo(g,h,i)perylene	0.876	1.64	3.30	1.65	3.64	148*	167*	77-118	10	30
Benzo(k)fluoranthene	N.D.	1.64	2.03	1.65	1.96	124*	118	79-120	4	30
1,1'-Biphenyl	N.D.	1.64	1.73	1.65	1.71	105	104	76-111	1	30
Di-n-butylphthalate	N.D.	1.64	1.82	1.65	2.01	111	122*	84-120	10	30
Chrysene	4.22	1.64	9.54	1.65	11.27	324*	427*	80-121	17	30
Dibenz(a,h)anthracene	0.337	1.64	2.67	1.65	2.96	143*	159*	81-123	10	30
Diethylphthalate	N.D.	1.64	1.85	1.65	1.91	113	116	81-118	3	30
2,4-Dimethylphenol	N.D.	1.64	1.81	1.65	1.74	110	106	83-120	4	30

*- 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: 04/19/2016 12:30

Group Number: 1641737

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
2,4-Dinitrophenol	N.D.	3.28	N.D.	3.30	N.D.	0*	0*	16-132	0	30
bis(2-Ethylhexyl)phthalate	N.D.	1.64	1.90	1.65	2.00	116	121	81-121	5	30
Fluoranthene	0.481	1.64	2.44	1.65	2.59	119*	128*	81-117	6	30
Fluorene	0.317	1.64	2.47	1.65	2.54	132*	135*	86-118	3	30
Indeno(1,2,3-cd)pyrene	0.236	1.64	2.77	1.65	2.48	155*	136*	81-118	11	30
2-Methylnaphthalene	0.479	1.64	2.93	1.65	3.63	150*	191*	83-109	21	30
2-Methylphenol	N.D.	1.64	1.70	1.65	1.72	104	104	80-133	1	30
4-Methylphenol	N.D.	1.64	1.62	1.65	1.61	99	97	73-125	0	30
4-Nitrophenol	N.D.	1.64	N.D.	1.65	N.D.	0*	0*	52-133	0	30
Phenanthrene	1.31	1.64	4.20	1.65	4.87	176*	216*	80-114	15	30
Phenol	N.D.	1.64	1.63	1.65	1.67	100	101	73-122	2	30
Pyrene	3.68	1.64	8.47	1.65	9.92	292*	378*	81-114	16	30
Pyridine	N.D.	1.64	N.D.	1.65	N.D.	0*	0*	55-109	0	30
Quinoline	N.D.	1.64	1.78	1.65	1.90	109	115	80-119	6	30
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 160900029A	Sample number(s): 8290954-8290973 UNSPK: 8290954									
Ethylene dibromide	N.D.	0.00445	0.00359	0.00428	0.00357	81	83	60-140	0	20
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 160785708006	Sample number(s): 8290954-8290973 UNSPK: 8290954									
Cobalt	13.83	41.67	70.62	49.02	72.29	136*	119	75-125	2	20
Lead	204.36	12.5	449.22	14.71	257.59	1959 (2)	362 (2)	75-125	54*	20
Nickel	83.36	41.67	219.34	49.02	180.44	326*	198*	75-125	19	20
Vanadium	56.47	41.67	82.78	49.02	106.43	63*	102	75-125	25*	20
Zinc	1189.15	41.67	2591.3	49.02	1513.19	3365 (2)	661 (2)	75-125	53*	20

Laboratory Duplicate

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

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 160785708006	Sample number(s): 8290954-8290973 BKG: 8290954			
Cobalt	13.83	15.43	11	20
Lead	204.36	191.99	6	20
Nickel	83.36	83.6	0	20
Vanadium	56.47	30.62	59*	20
Zinc	1189.15	983.47	19	20
	%	%		
Batch number: 16082820009A	Sample number(s): 8290954-8290955,8290966-8290973 BKG: 8290955			

*- 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: 04/19/2016 12:30

Group Number: 1641737

Laboratory Duplicate (continued)

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

Analysis Name	BKG Conc %	DUP Conc %	DUP RPD	DUP RPD Max
Moisture	11.39	9.84	15*	5
Batch number: 16082820009B	Sample number(s): 8290956-8290965 BKG: 8290956			
Moisture	11.66	12.37	6*	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: 8260 VOCs
Batch number: N160832AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8290974	107	107	98	90
Blank	103	105	99	94
LCS	101	103	101	101
LCSD	101	101	101	101
MS	102	103	101	102
MSD	101	102	101	101
Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs- Solid by 8260B
Batch number: Q160831AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8290962	78	73	62	91
8290963	71	67	50*	64
8290964	73	71	55	70
8290970	75	75	67	75
Blank	103	101	92	94
LCS	101	97	91	95
LCSD	100	97	92	96
MS	88	85	79	84
MSD	89	87	83	85
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- Solid by 8260B
Batch number: Q160832AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8290973	80	78	71	76
Blank	102	94	91	91
LCS	98	96	88	92
LCSD	107	101	97	101
MS	60	58	52	64
MSD	47*	46*	39*	61

*- 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: 04/19/2016 12:30

Group Number: 1641737

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: 50-141 54-135 52-141 50-131

Analysis Name: VOCs- Solid by 8260B
Batch number: Q160841AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8290961	74	69	67	76
8290965	85	83	76	80
8290969	79	76	72	76
Blank	98	97	92	91
LCS	96	97	89	93
LCSD	99	94	90	93
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- Solid by 8260B
Batch number: R160831AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8290971	81	78	67	69
8290972	84	81	68	81
Blank	101	99	85	82
LCS	107	103	88	92
LCSD	102	100	83	87
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- Solid by 8260B
Batch number: X160822AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8290954	118	124	95	75
8290956	102	107	101	85
8290957	104	109	96	93
8290958	104	108	97	94
8290966	98	104	96	94
8290967	98	103	96	96
8290968	105	110	111	75
Blank	101	99	100	96
LCS	101	100	100	99
LCSD	100	98	100	98
Limits:	50-141	54-135	52-141	50-131

Analysis Name: VOCs- Solid by 8260B
Batch number: X160831AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8290955	108	113	108	74
8290959	102	106	103	90
8290960	103	103	97	95
Blank	99	90	101	94
LCS	100	98	100	98

*- 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: 04/19/2016 12:30

Group Number: 1641737

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.

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
LCSD	100	98	100	98
Limits:	50-141	54-135	52-141	50-131

Analysis Name: Skinner 8270 (microwave)
Batch number: 16083SLC026

	Phenol-d6	2-Fluorophenol	2,4,6-Tribromophenol	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8290954	103	102	87	113	114	107
8290955	95	94	82	103	105	95
8290956	97	96	86	102	110	99
8290957	97	97	87	100	103	98
8290958	91	89	82	97	102	92
8290959	92	90	81	99	102	95
8290960	93	94	85	98	103	96
8290961	92	94	80	100	104	94
8290962	91	91	84	100	103	96
8290963	93	94	81	102	105	97
8290964	96	94	88	104	108	102
8290965	92	92	84	101	107	97
8290966	93	94	81	100	105	97
8290967	93	93	80	100	106	97
8290968	71	71	63	81	84	79
8290969	85	86	74	94	101	91
8290970	81	81	76	103	92	87
8290971	87	88	76	94	97	91
8290972	91	88	79	112	100	94
8290973	82	80	74	92	94	84
Blank	84	86	91	92	94	93
LCS	98	98	99	102	104	102
MS	98	97	88	117	111	107
MSD	99	98	86	120	117	110
Limits:	58-122	57-126	35-136	54-123	63-117	59-129

Analysis Name: 8011 Soil Master
Batch number: 160900029A

	1,1,2,2-Tetrachloroethane
8290954	104
8290955	105
8290956	105
8290957	108
8290958	113
8290959	107
8290960	105
8290961	111
8290962	561*
8290963	0*
8290964	0*
8290965	108

*- 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: 04/19/2016 12:30

Group Number: 1641737

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.

	1,1,2,2-Tetrachloroethane
8290966	98
8290967	95
8290968	106
8290969	109
8290970	104
8290971	107
8290972	107
8290973	103
Blank	104
LCS	82
LCSD	77
MS	101
MSD	108
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 # 164737 Sample # 8290954-74

COC # 1 OF 2 390130

Client Information

Client: STANTEC
Acct. #:
Project Name/#: MHC AST BOTTOM SAMPLING
PWSID #:
Project Manager: MARK SCHAEFFER
P.O. #:
Sampler: S. REILLY
Quote #:
State where samples were collected: PA
For Compliance: Yes ☐ No ☐

For Lab Use Only
FSC:
SCR#:

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

Remarks
* PLEASE ANALYZE USING THE ATTACHED COMPREHENSIVE COC FOR EVERGREEN CHARACTERIZATION*

Sample Identification	Collected Date	Collected Time	Grab	Composite	Sediment	Soil ☒	Water: Ground	Water: Potable	Water: Surface	Water: NPDES	Other:	Total # of Containers	TPH 8011	VOCs 8260	sVOCs 8270	Moisture	Cobalt	Lead	Nickel	Vanadium	Zinc
AOI5-BH-15-MH07-11-03/16/16	3/16/16	0950	X			X						6	X	X	X	X	X	X	X	X	X
AOI5-BH-15-MH07-12-03/16/16	3/16/16	1040	X			X															
AOI5-BH-15-MH07-13-03/16/16	3/16/16	1055	X			X															
AOI5-BH-15-MH07-14-03/16/16	3/16/16	1110	X			X															
AOI5-BH15-MH07-17-03/16/16	3/16/16	1155	X			X															
AOI5-BH15-MH07-16-03/16/16	3/16/16	1210	X			X															
AOI5-BH15-MH07-15-03/16/16	3/16/16	1230	X			X															
AOI5-BH15-MH07-18-03/16/16	3/16/16	1300	X			X															
AOI5-BH15-MH10-13-03/16/16	3/16/16	1320	X			X															
AOI5-BH15-MH10-12-03/16/16	3/16/16	1400	X			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: mark.schaeffer@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) TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	3/17/16	1215	[signature]	3/17/16	12:16
[signature]	3/17/16	16:00			
			[signature]	3/17/16	1600

EDD Required? Yes No
If yes, format:

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 1.0-4.2°C

Environmental Analysis Request/Chain of Custody

eurofins

Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 16657 Group # 1641737 Sample # 8290954-74

COC # 2 OF 2 493276

Client Information

Client: STANTEC

Acct. #:

Project Name/#: MHC AST BOTTOM SAMPLING

PWSID #:

Project Manager: MARK SCHAEFFER

P.O. #:

Sampler: S. Reilly

Quote #:

State where samples were collected: PA

For Compliance: Yes ☐ No ☐

For Lab Use Only

FSC:

SCR#: 185826

Preservation Codes

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

Remarks

* PLEASE ANALYZE USING THE ATTACHED COMPREHENSIVE COC FOR EVERGREEN CHARACTERIZATION *

Sample Identification	Collected Date	Collected Time	Grab	Composite	Sediment	Soil	Ground Water	Potable	NPDES	Surface	Other:	Total # of Containers	EDB 8011	VOCs 8260	SVOCs 8270	Moisture	Coliform	Lead	Nickel	Vanadium	Zinc		Remarks
AOI5-BH15-MH10-11-031616	3/16/16	1430	X			X						6	X	X	X	X	X	X	X	X	X		TRIP BLANK
AOI5-BH15-MH11-02-031716	3/17/16	0830	X			X						6	X	X	X	X	X	X	X	X	X		INCLUDED.
AOI5-BH15-MH11-01-031716	3/17/16	0845	X			X						6	X	X	X	X	X	X	X	X	X		ANALYSIS FOR
AOI5-BH15-MH11-03-031716	3/17/16	0855	X			X						6	X	X	X	X	X	X	X	X	X		VOCs. TIME
AOI5-BH15-MH11-04-031716	3/17/16	0900	X			X						6	X	X	X	X	X	X	X	X	X		TALLY @ 0830.
AOI5-BH15-MH11-05-031716	3/17/16	0940	X			X						6	X	X	X	X	X	X	X	X	X		
AOI5-BH15-MH11-06-031716	3/17/16	0910	X			X						6	X	X	X	X	X	X	X	X	X		
AOI5-BH15-MH11-07-031716	3/17/16	1040	X			X						6	X	X	X	X	X	X	X	X	X		
AOI5-BH15-MH11-08-031716	3/17/16	1100	X			X						6	X	X	X	X	X	X	X	X	X		
AOI5-BH15-MH11-09-031716	3/17/16	1125	X			X						6	X	X	X	X	X	X	X	X	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: mark.schaeffer@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
Bob Storage	3/16/16	9:15	Harry Wenger	3/16/16	9:15
Harry Wenger	3/16/16	11:16			
[illegible]	3/17/16	1215	Harry Wenger	3/17/16	12:16
Harry Wenger	3/17/16	16:00			
			[illegible]	3/17/16	(cont)

EDD Required? Yes No

If yes, format: _____

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 1.0 - 4.2 °C

16657/1641737/8290954-74

Comprehensive COC List for Evergreen Characterizations (June 2015)

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 should be analyzed by EPA Method 8011 instead of 8260 for tank investigations.
**Naphthalene should be analyzed by EPA Method 8260 instead of 8270 for tank investigations.

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: 139791

Group Number(s): 1641737

Client: Stantec

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	03/17/2016 16:00
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:	No
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:	Yes		

Unpacked by Jordan Woods (6698) at 19:04 on 03/17/2016

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	DT121	4.2	DT	Wet	Y	Bagged	N
2	DT121	1.0	DT	Wet	Y	Bagged	N

Container Quantity Discrepancy Details

Sample ID on COC	Container Qty. Received	Container Qty. on COC	Comments
MW07-11	5	6	Missing moisture vial

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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