



**NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION**



Request to Import/Reuse Fill or Soil

This form is based on the information required by DER-10, Section 5.4(e). Use of this form is not a substitute for reading the applicable Technical Guidance document.

SECTION 1 – SITE BACKGROUND

The allowable site use is:

Have Ecological Resources been identified?

Is this soil originating from the site?

How many cubic yards of soil will be imported/reused?

If greater than 1000 cubic yards will be imported, enter volume to be imported:

SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone?

Does it contain less than 10%, by weight, material that would pass a size 80 sieve?

Is this virgin material from a permitted mine or quarry?

Is this material recycled concrete or brick from a DEC registered processing facility?

SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

Piles 105 and 106 are soils categorized for potential reuse that overlay TSCA soils and were staged within the excavation.

From Pile 105 (~190 CY), 4 discrete sample were collected and analyzed for VOCs and 1 composite samples was collected and analyzed for PCBs, SVOCs and inorganics.

From Pile 106 (~122 CY), 4 discrete sample were collected and analyzed for VOCs and 1 composite samples was collected and analyzed for PCBs, SVOCs and inorganics.

Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.

If the material meets requirements of DER-10 section 5.5 (other material), no chemical testing needed.

SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

Total PCBs were detected above the allowable level of 1 ppm in soils from Piles 105 and 106 but below 10 ppm. See attached summary table.

Sample FH was collected from the pile that came from the excavation north of K-wing to close the loop of the water line. Results are reported with those for Pile 106. Total PCBs detected were above 10 ppm. Those soils have been staged separately from Pile 106 and will be disposed of at an appropriate facility.

Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.

If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Unisys Corporation, Responsible Party

Location where fill was obtained:

Former Sperry Remington Site - North Portion, 777 S Main St, Elmira, NY

Identification of any state or local approvals as a fill source:

If no approvals are available, provide a brief history of the use of the property that is the fill source:

The Former Sperry Remington Site - North Portion (the Site) is a former manufacturing facility. Soils have been excavated at the Site as part of an approved Interim Remedial Measure to address PCB-impacted soils.

Provide a list of supporting documentation included with this request:

Analytical Reports 180-79862-1 and 180-79862-2 (Pile 105) and 180-80015-1 and 180-80015-2 (Pile 106)
Data Validation Reports

The information provided on this form is accurate and complete.

1 Aug 2018

Date _____

Signature

Aron Krasnopoler

Print Name

Beech and Bonaparte Engineering,P.C.

Firm

TABLE 1

Request for Reuse - Summary of Analytical Results
Former Sperry Remington Site - North Portion
Elmira, New York

				Field_ID	PILE 105	PILE 105A	PILE 105B	PILE 105C	PILE 105D	PILE 106	PILE 106A	PILE 106B	PILE 106C	PILE 106D
				Sample Date	7/17/2018	7/17/2018	7/17/2018	7/17/2018	7/17/2018	7/19/2018	7/19/2018	7/19/2018	7/19/2018	7/19/2018
				Lab Report Number	180-79862-2	180-79862-1	180-79862-1	180-79862-1	180-79862-1	180-80015-2	180-80015-1	180-80015-1	180-80015-1	180-80015-1
				NYSDEC DER10 App 5 Constituent Levels for Imported Fill or Soil Restricted Residential Use May 2010										
Group	Constituent	Units	EQL											
PCBs	Arochlor 1016	mg/kg	0.0057		<0.0057U	-	-	-	-	<0.0059U	-	-	-	-
	Arochlor 1221	mg/kg	0.011		<0.011U	-	-	-	-	<0.012U	-	-	-	-
	Arochlor 1232	mg/kg	0.01		<0.01U	-	-	-	-	<0.011U	-	-	-	-
	Arochlor 1242	mg/kg	0.011		<0.011U	-	-	-	-	<0.011U	-	-	-	-
	Arochlor 1248	mg/kg	0.018		3.3J	-	-	-	-	2.3J	-	-	-	-
	Arochlor 1254	mg/kg	0.018		1.4J	-	-	-	-	0.77J	-	-	-	-
	Arochlor 1260	mg/kg	0.018		0.16J	-	-	-	-	0.1J	-	-	-	-
	Arochlor 1268	mg/kg	0.0086		<0.0086U	-	-	-	-	<0.0088U	-	-	-	-
	Arochlor 1262	mg/kg	0.012		<0.012U	-	-	-	-	<0.013U	-	-	-	-
	Total PCBs	mg/kg		1	4.889	-	-	-	-	3.201	-	-	-	-
SVOCs	1,4-Dioxane	mg/kg	0.11	0.1	<0.11U	-	-	-	-	<0.28U	-	-	-	-
	2,4,5-trichlorophenol	mg/kg	0.025		<0.025U	-	-	-	-	<0.065U	-	-	-	-
	2,4,6-trichlorophenol	mg/kg	0.019		<0.019U	-	-	-	-	<0.05U	-	-	-	-
	2,4-Dinitrotoluene	mg/kg	0.018		<0.018U	-	-	-	-	<0.045U	-	-	-	-
	2-methylphenol	mg/kg	0.1	0.33	<0.1U	-	-	-	-	<0.26U	-	-	-	-
	4-methylphenol	mg/kg	0.1	0.33	<0.1U	-	-	-	-	<0.27U	-	-	-	-
	Acenaphthene	mg/kg	0.052	98	0.029J	-	-	-	-	<0.052U	-	-	-	-
	Acenaphthylene	mg/kg	0.071	100	0.13	-	-	-	-	0.096J	-	-	-	-
	Anthracene	mg/kg	0.071	100	0.11	-	-	-	-	0.13J	-	-	-	-
	Benz(a)anthracene	mg/kg	0.071	1	0.29	-	-	-	-	0.41	-	-	-	-
	Benzo(a) pyrene	mg/kg	0.071	1	0.34	-	-	-	-	0.45	-	-	-	-
	Benzo(b)fluoranthene	mg/kg	0.071	1	0.41	-	-	-	-	0.6	-	-	-	-
	Benzo(g,h,i)perylene	mg/kg	0.071	100	0.28	-	-	-	-	0.39	-	-	-	-
	Benzo(k)fluoranthene	mg/kg	0.071	1.7	0.19	-	-	-	-	0.22	-	-	-	-
	Chrysene	mg/kg	0.071	1	0.35	-	-	-	-	0.5	-	-	-	-
	Dibenz(a,h)anthracene	mg/kg	0.071	0.33	0.055J	-	-	-	-	0.094J	-	-	-	-
	Dibenzofuran	mg/kg	0.04	59	0.015J	-	-	-	-	<0.04U	-	-	-	-
	Fluoranthene	mg/kg	0.071	100	0.52	-	-	-	-	0.9	-	-	-	-
	Fluorene	mg/kg	0.071	100	0.026J	-	-	-	-	0.045J	-	-	-	-
	Hexachlorobenzene	mg/kg	0.025	1.2	<0.025U	-	-	-	-	<0.065U	-	-	-	-
	Hexachlorobutadiene	mg/kg	0.021		<0.021U	-	-	-	-	<0.053U	-	-	-	-
	Hexachloroethane	mg/kg	0.018		<0.018U	-	-	-	-	<0.047U	-	-	-	-
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.071	0.5	0.22	-	-	-	-	0.32	-	-	-	-
	Naphthalene	mg/kg	0.035	12	0.021J	-	-	-	-	<0.035U	-	-	-	-
	Nitrobenzene	mg/kg	0.13		<0.13U	-	-	-	-	<0.33U	-	-	-	-
	Pentachlorophenol	mg/kg	0.57	0.8	<0.57U	-	-	-	-	<1.5U	-	-	-	-
	Phenanthrene	mg/kg	0.071	100	0.23	-	-	-	-	0.57	-	-	-	-
	Phenol	mg/kg	0.11	0.33	<0.11U	-	-	-	-	<0.28U	-	-	-	-
	Pyrene	mg/kg	0.071	100	0.47	-	-	-	-	0.74	-	-	-	-
	Pyridine	mg/kg	0.19		<0.19U	-	-	-	-	<0.49U	-	-	-	-
Inorganics	Cyanide Total	mg/kg	0.28	27	<0.28U	-	-	-	-	<0.29U	-	-	-	-
	Arsenic	mg/kg	1.1	16	5.7	-	-	-	-	3.5	-	-	-	-
	Barium	mg/kg	22	400	48	-	-	-	-	39	-	-	-	-
	Beryllium	mg/kg	0.44	47	0.25J	-	-	-	-	0.25J	-	-	-	-
	Cadmium	mg/kg	0.55	4.3	0.16J	-	-	-	-	0.21J	-	-	-	-
	Chromium (III+VI)	mg/kg	0.55	19	8.2J	-	-	-	-	8.2	-	-	-	-
	Copper	mg/kg	2.7	270	47J	-	-	-	-	27J+	-	-	-	-
	Lead	mg/kg	1.1	400	30	-	-	-	-	16	-	-	-	-
	Manganese	mg/kg	1.6	2000	300	-	-	-	-	420	-	-	-	-
	Nickel	mg/kg	4.4	130	20	-	-	-	-	15	-	-	-	-
	Selenium	mg/kg	0.56	4	<0.57U	-	-	-	-	<0.56U	-	-	-	-
	Silver	mg/kg	0.12	8.3	<0.12U	-	-	-	-	<0.12U	-	-	-	-
	Zinc	mg/kg	2.2	2480	70J-	-	-	-	-	110J	-	-	-	-
	Mercury	mg/kg	0.03	0.73	0.034	-	-	-	-	0.044	-	-	-	-

TABLE 1

Request for Reuse - Summary of Analytical Results
Former Sperry Remington Site - North Portion
Elmira, New York

				Field_ID	PILE 105	PILE 105A	PILE 105B	PILE 105C	PILE 105D	PILE 106	PILE 106A	PILE 106B	PILE 106C	PILE 106D
				Sample Date	7/17/2018	7/17/2018	7/17/2018	7/17/2018	7/17/2018	7/19/2018	7/19/2018	7/19/2018	7/19/2018	7/19/2018
				Lab Report Number	180-79862-2	180-79862-1	180-79862-1	180-79862-1	180-79862-1	180-80015-2	180-80015-1	180-80015-1	180-80015-1	180-80015-1
				NYSDEC DER10 App 5 Constituent Levels for Imported Fill or Soil Restricted Residential Use May 2010										
Group	Constituent	Units	EQL											
VOCs	1,1,1-trichloroethane	mg/kg	0.0026	0.68	-	<0.0026U	<0.0027U	<0.0027U	<0.0029U	-	<0.0026U	<0.0026U	<0.0027U	<0.0026U
	1,1-dichloroethane	mg/kg	0.0019	0.27	-	<0.0019U	<0.0019U	<0.0019U	<0.0021U	-	<0.0019U	<0.0019U	<0.0019U	<0.0019U
	1,1-dichloroethene	mg/kg	0.0029	0.33	-	<0.0029U	<0.0031U	<0.0031U	<0.0033U	-	<0.003U	<0.0029U	<0.003U	<0.0029U
	1,2,4-trimethylbenzene	mg/kg	0.0014	3.6	-	<0.0014U	<0.0015U	<0.0015U	<0.0016U	-	<0.0014U	<0.0014U	<0.0014U	<0.0014U
	1,2-dichlorobenzene	mg/kg	0.0041	1.1	-	<0.0041U	<0.0043U	<0.0043U	<0.0047U	-	<0.0042U	<0.0041U	<0.0043U	<0.0041U
	1,2-dichloroethane	mg/kg	0.0015	0.02	-	<0.0015U	<0.0016U	<0.0016U	<0.0017U	-	<0.0015U	<0.0015U	<0.0015U	<0.0015U
	1,3,5-trimethylbenzene	mg/kg	0.0018	8.4	-	<0.0018U	<0.0019U	<0.0019U	<0.002U	-	<0.0018U	<0.0018U	<0.0018U	<0.0018U
	1,3-dichlorobenzene	mg/kg	0.0016	2.4	-	<0.0016U	<0.0017U	<0.0017U	<0.0019U	-	<0.0017U	<0.0016U	<0.0017U	<0.0016U
	1,4-dichlorobenzene	mg/kg	0.001	1.8	-	<0.001U	<0.0011U	<0.0011U	<0.0012U	-	<0.0011U	<0.001U	<0.0011U	<0.001U
	1,4-Dioxane	mg/kg	0.037	0.1	-	<0.037U	<0.039U	<0.039U	<0.043U	-	<0.039U	<0.038U	<0.039U	<0.038U
	Methyl Ethyl Ketone	mg/kg	0.003	0.12	-	<0.003U	<0.0031U	<0.0031U	<0.0034U	-	<0.0031U	<0.003U	<0.0031U	<0.003U
	Acetone	mg/kg	0.0032	0.05	-	<0.0032U	0.0035J	<0.0034U	<0.0037U	-	<0.0033U	<0.0032U	<0.0034U	0.0054J
	Benzene	mg/kg	0.002	0.06	-	<0.002U	<0.0021U	<0.0021U	<0.0023U	-	<0.0021U	<0.002U	<0.0021U	<0.002U
	Carbon tetrachloride	mg/kg	0.0034	0.76	-	<0.0034U	<0.0036U	<0.0036U	<0.0039U	-	<0.0035U	<0.0034U	<0.0035U	<0.0034U
	Chlorobenzene	mg/kg	0.0016	1.1	-	<0.0016U	<0.0017U	<0.0017U	<0.0018U	-	<0.0017U	<0.0016U	<0.0017U	<0.0016U
	Chloroform	mg/kg	0.0022	0.37	-	<0.0022U	<0.0023U	<0.0023U	<0.0025U	-	<0.0022U	<0.0022U	<0.0023U	<0.0022U
	cis-1,2-dichloroethene	mg/kg	0.0016	0.25	-	<0.0016U	<0.0017U	<0.0017U	<0.0018U	-	<0.0017U	<0.0016U	<0.0017U	<0.0016U
	Dichloromethane	mg/kg	0.0024	0.05	-	<0.0024U	<0.0025U	<0.0025U	<0.0027U	-	<0.0025U	<0.0024U	<0.0025U	<0.0024U
	Ethylbenzene	mg/kg	0.0022	1	-	<0.0022U	<0.0023U	<0.0023U	<0.0025U	-	<0.0023U	<0.0022U	<0.0023U	<0.0022U
	Methyl-tert-butyl ether	mg/kg	0.0038	0.93	-	<0.0038U	<0.004U	<0.004U	<0.0043U	-	<0.0039U	<0.0038U	<0.0039U	<0.0038U
	n-butylbenzene	mg/kg	0.0039	12	-	<0.0039U	<0.0041U	<0.0041U	<0.0044U	-	<0.004U	<0.0039U	<0.004U	<0.0039U
	n-propylbenzene	mg/kg	0.0022	3.9	-	<0.0022U	<0.0023U	<0.0023U	<0.0025U	-	<0.0022U	<0.0022U	<0.0022U	<0.0022U
	sec-butylbenzene	mg/kg	0.0025	11	-	<0.0025U	<0.0026U	<0.0026U	<0.0028U	-	<0.0026U	<0.0025U	<0.0026U	<0.0025U
	Trichloroethene	mg/kg	0.0015	0.47	-	<0.0015U	<0.0016U	<0.0016U	<0.0017U	-	<0.0016U	<0.0015U	<0.0016U	<0.0015U
	tert-butylbenzene	mg/kg	0.0019	5.9	-	<0.0019U	<0.002U	<0.002U	<0.0021U	-	<0.0019U	<0.0019U	<0.0019U	<0.0019U
	Tetrachloroethene	mg/kg	0.002	1.3	-	<0.002U	<0.0022U	<0.0022U	<0.0023U	-	<0.0021U	<0.0021U	<0.0021U	<0.0021U
	Toluene	mg/kg	0.0017	0.7	-	<0.0017U	<0.0018U	<0.0018U	<0.002U	-	<0.0018U	<0.0017U	<0.0018U	<0.0017U
	trans-1,2-dichloroethene	mg/kg	0.0026	0.19	-	<0.0026U	<0.0027U	<0.0027U	<0.0029U	-	<0.0027U	<0.0026U	<0.0027U	<0.0026U
	Vinyl chloride	mg/kg	0.0038	0.02	-	<0.0038U	<0.0039U	<0.0039U	<0.0043U	-	<0.0039U	<0.0038U	<0.0039U	<0.0038U
	Xylene Total	mg/kg	0.0044	1.6	-	<0.0044U	<0.0046U	<0.0046U	<0.005U	-	<0.0045U	<0.0044U	<0.0046U	<0.0044U

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher that the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower that the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pittsburgh

301 Alpha Drive

RIDC Park

Pittsburgh, PA 15238

Tel: (412)963-7058

TestAmerica Job ID: 180-79862-1

Client Project/Site: Former Sperry Remington Site-North

For:

Geosyntec Consultants, Inc.

10211 Wincopin Circle

4th Floor

Columbia, Maryland 21044

Attn: Mr. Aron Krasnopoler



Authorized for release by:

7/27/2018 2:08:52 PM

David Dunlap, Senior Project Manager

(412)963-2432

david.dunlap@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	11
QC Sample Results	17
QC Association Summary	26
Chain of Custody	28
Receipt Checklists	29



Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Job ID: 180-79862-1

Laboratory: TestAmerica Pittsburgh

Narrative

Job Narrative 180-79862-1

Receipt

The samples were received on 7/18/2018 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2° C.

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) analyzed in batch 180-250975 was below criteria for the following analyte: 2-butanone. A CCV standard at or below the reporting limit (RL) was analyzed with the affected sample and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D LL: The following sample was diluted due to the nature of the sample matrix: PILE 105 (180-79862-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method(s) 6010C: The matrix spike/matrix spike duplicate (MS/MSD) of sample PILE 105 (180-79862-1) had several recoveries and RPDs between the spikes outside of the control limits. The recoveries of the laboratory control sample were within the control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Laboratory: TestAmerica Pittsburgh

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11182	03-31-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
2540G		Solid	Percent Moisture
2540G		Solid	Percent Solids
EPA 8270D LL	3541	Solid	1,4-Dioxane

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-79862-1	PILE 105	Solid	07/17/18 14:00	07/18/18 08:50
180-79862-2	PILE 105A	Solid	07/17/18 14:05	07/18/18 08:50
180-79862-3	PILE 105B	Solid	07/17/18 14:10	07/18/18 08:50
180-79862-4	PILE 105C	Solid	07/17/18 14:15	07/18/18 08:50
180-79862-5	PILE 105D	Solid	07/17/18 14:20	07/18/18 08:50
180-79862-6	TRIP BLANK-01	Water	07/17/18 15:00	07/18/18 08:50

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Method	Method Description	Protocol	Laboratory
EPA 8260C	Volatile Organic Compounds (GC/MS)	SW846	TAL PIT
EPA 8260C	Volatile Organic Compounds by GC/MS	SW846	TAL PIT
EPA 8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PIT
EPA 6010C	Metals (ICP)	SW846	TAL PIT
EPA 7471B	Mercury (CVAA)	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
EPA 9014	Cyanide	SW846	TAL PIT
3050B	Preparation, Metals	SW846	TAL PIT
3541	Automated Soxhlet Extraction (Low Level)	SW846	TAL PIT
5030C	Purge and Trap	SW846	TAL PIT
5035	Closed System Purge and Trap	SW846	TAL PIT
7471B	Preparation, Mercury	SW846	TAL PIT
9010C	Cyanide, Distillation	SW846	TAL PIT

Protocol References:

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Client Sample ID: PILE 105

Date Collected: 07/17/18 14:00

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			251038	07/19/18 12:07	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: PILE 105

Date Collected: 07/17/18 14:00

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-1

Matrix: Solid

Percent Solids: 93.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.2 g	0.5 mL	250922	07/19/18 05:16	SAC	TAL PIT
Total/NA	Analysis	EPA 8270D LL		10	1 mL	1 mL	251245	07/21/18 17:03	DLF	TAL PIT
Instrument ID: CH71										
Total/NA	Prep	3050B			0.97 g	100 mL	251078	07/19/18 14:57	KA	TAL PIT
Total/NA	Analysis	EPA 6010C		1			251271	07/20/18 17:08	RJG	TAL PIT
Instrument ID: C										
Total/NA	Prep	7471B			0.67 g	100 mL	251322	07/23/18 11:05	RJR	TAL PIT
Total/NA	Analysis	EPA 7471B		1			251468	07/24/18 12:24	RJR	TAL PIT
Instrument ID: HGZ										
Total/NA	Prep	9010C			1.04 g	50 mL	251441	07/24/18 12:16	JAS	TAL PIT
Total/NA	Analysis	EPA 9014		1			251566	07/24/18 18:00	JAS	TAL PIT
Instrument ID: SEAL2										

Client Sample ID: PILE 105A

Date Collected: 07/17/18 14:05

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			251038	07/19/18 12:07	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: PILE 105A

Date Collected: 07/17/18 14:05

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-2

Matrix: Solid

Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.2063 g	5 mL	250987	07/19/18 06:00	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	250975	07/19/18 10:43	KLG	TAL PIT
Instrument ID: CHHP3										

TestAmerica Pittsburgh

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Client Sample ID: PILE 105B

Date Collected: 07/17/18 14:10

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			251038	07/19/18 12:07	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: PILE 105B

Date Collected: 07/17/18 14:10

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-3

Matrix: Solid

Percent Solids: 91.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.0739 g	5 mL	250987	07/19/18 06:00	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	250975	07/19/18 09:32	KLG	TAL PIT
Instrument ID: CHHP3										

Client Sample ID: PILE 105C

Date Collected: 07/17/18 14:15

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			251038	07/19/18 12:07	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: PILE 105C

Date Collected: 07/17/18 14:15

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-4

Matrix: Solid

Percent Solids: 91.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.0598 g	5 mL	250987	07/19/18 06:00	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	250975	07/19/18 09:56	KLG	TAL PIT
Instrument ID: CHHP3										

Client Sample ID: PILE 105D

Date Collected: 07/17/18 14:20

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			251038	07/19/18 12:07	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: PILE 105D

Date Collected: 07/17/18 14:20

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-5

Matrix: Solid

Percent Solids: 88.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.8509 g	5 mL	250987	07/19/18 06:00	KLG	TAL PIT

TestAmerica Pittsburgh

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Client Sample ID: PILE 105D

Date Collected: 07/17/18 14:20

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-5

Matrix: Solid

Percent Solids: 88.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	250975	07/19/18 10:19	KLG	TAL PIT
Instrument ID: CHHP3										

Client Sample ID: TRIP BLANK-01

Date Collected: 07/17/18 15:00

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	251609	07/25/18 18:50	HRB	TAL PIT
Instrument ID: CHHP6										

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT

Batch Type: Prep

JAS = Joshua Schmidt

KA = Kayla Kalamasz

KLK = Kathy Gordon

RJR = Ron Rosenbaum

SAC = Shawn Clemente

Batch Type: Analysis

AVS = Abbey Smith

DLF = Donald Ferguson

HRB = Hannah Bowie

JAS = Joshua Schmidt

KLK = Kathy Gordon

RJG = Rob Good

RJR = Ron Rosenbaum

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Client Sample ID: PILE 105

Date Collected: 07/17/18 14:00

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-1

Matrix: Solid

Percent Solids: 93.4

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.029	J	0.071	0.020	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Acenaphthylene	0.13		0.071	0.015	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Anthracene	0.11		0.071	0.018	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Benzo[a]anthracene	0.29		0.071	0.013	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Benzo[a]pyrene	0.34		0.071	0.015	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Benzo[b]fluoranthene	0.41		0.071	0.017	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Benzo[g,h,i]perylene	0.28		0.071	0.015	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Benzo[k]fluoranthene	0.19		0.071	0.021	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Chrysene	0.35		0.071	0.014	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Dibenz(a,h)anthracene	0.055	J	0.071	0.016	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Dibenzofuran	0.015	J	0.35	0.015	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
2,4-Dinitrotoluene	ND		0.35	0.018	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
1,4-Dioxane	ND		0.71	0.11	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Fluoranthene	0.52		0.071	0.019	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Fluorene	0.026	J	0.071	0.014	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Hexachlorobenzene	ND		0.071	0.025	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Hexachlorobutadiene	ND		0.071	0.021	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Hexachloroethane	ND		0.35	0.018	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Indeno[1,2,3-cd]pyrene	0.22		0.071	0.014	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
2-Methylphenol	ND		0.35	0.10	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Methylphenol, 3 & 4	ND		0.35	0.10	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Naphthalene	0.021	J	0.071	0.014	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Nitrobenzene	ND		0.71	0.13	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Pentachlorophenol	ND		1.8	0.57	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Phenanthrene	0.23		0.071	0.019	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Phenol	ND		0.35	0.11	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Pyrene	0.47		0.071	0.017	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
Pyridine	ND		0.71	0.19	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
2,4,5-Trichlorophenol	ND		0.35	0.025	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10
2,4,6-Trichlorophenol	ND		0.35	0.019	mg/Kg	☼	07/19/18 05:16	07/21/18 17:03	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	84		39 - 105	07/19/18 05:16	07/21/18 17:03	10
2-Fluorophenol (Surr)	72		35 - 105	07/19/18 05:16	07/21/18 17:03	10
Nitrobenzene-d5 (Surr)	73		39 - 105	07/19/18 05:16	07/21/18 17:03	10
Phenol-d5 (Surr)	78		42 - 105	07/19/18 05:16	07/21/18 17:03	10
Terphenyl-d14 (Surr)	96		28 - 148	07/19/18 05:16	07/21/18 17:03	10
2,4,6-Tribromophenol (Surr)	75		44 - 105	07/19/18 05:16	07/21/18 17:03	10

Method: EPA 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.7		1.1	0.31	mg/Kg	☼	07/19/18 14:57	07/20/18 17:08	1
Barium	48		22	1.2	mg/Kg	☼	07/19/18 14:57	07/20/18 17:08	1
Beryllium	0.25	J	0.44	0.025	mg/Kg	☼	07/19/18 14:57	07/20/18 17:08	1
Cadmium	0.16	J	0.55	0.040	mg/Kg	☼	07/19/18 14:57	07/20/18 17:08	1
Chromium	8.2	F1 F2	0.55	0.14	mg/Kg	☼	07/19/18 14:57	07/20/18 17:08	1
Copper	47	F1 F2	2.8	0.18	mg/Kg	☼	07/19/18 14:57	07/20/18 17:08	1
Lead	30		1.1	0.27	mg/Kg	☼	07/19/18 14:57	07/20/18 17:08	1
Manganese	300		1.7	0.18	mg/Kg	☼	07/19/18 14:57	07/20/18 17:08	1
Nickel	20		4.4	0.27	mg/Kg	☼	07/19/18 14:57	07/20/18 17:08	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Client Sample ID: PILE 105

Date Collected: 07/17/18 14:00

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-1

Matrix: Solid

Percent Solids: 93.4

Method: EPA 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		1.1	0.57	mg/Kg	☼	07/19/18 14:57	07/20/18 17:08	1
Silver	ND		0.55	0.12	mg/Kg	☼	07/19/18 14:57	07/20/18 17:08	1
Zinc	70	F1	2.2	1.2	mg/Kg	☼	07/19/18 14:57	07/20/18 17:08	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.034		0.032	0.0071	mg/Kg	☼	07/23/18 11:05	07/24/18 12:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.6		0.1	0.1	%			07/19/18 12:07	1
Percent Solids	93.4		0.1	0.1	%			07/19/18 12:07	1
Cyanide, Total	ND		0.51	0.28	mg/Kg	☼	07/24/18 12:16	07/24/18 18:00	1

Client Sample ID: PILE 105A

Date Collected: 07/17/18 14:05

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-2

Matrix: Solid

Percent Solids: 93.8

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.020	0.0032	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
Benzene	ND		0.0051	0.0020	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
2-Butanone (MEK)	ND		0.0051	0.0030	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
Carbon tetrachloride	ND		0.0051	0.0034	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
Chlorobenzene	ND		0.0051	0.0016	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
Chloroform	ND		0.0051	0.0022	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
cis-1,2-Dichloroethene	ND		0.0051	0.0016	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
1,2-Dichlorobenzene	ND		0.0051	0.0041	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
1,3-Dichlorobenzene	ND		0.0051	0.0016	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
1,4-Dichlorobenzene	ND		0.0051	0.0010	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
1,1-Dichloroethane	ND		0.0051	0.0019	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
1,2-Dichloroethane	ND		0.0051	0.0015	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
1,1-Dichloroethene	ND		0.0051	0.0029	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
1,4-Dioxane	ND		1000	37	ug/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
Ethylbenzene	ND		0.0051	0.0022	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
Methylene Chloride	ND		0.0051	0.0024	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
Methyl tert-butyl ether	ND		0.0051	0.0038	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
n-Butylbenzene	ND		0.0051	0.0039	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
N-Propylbenzene	ND		0.0051	0.0022	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
sec-Butylbenzene	ND		0.0051	0.0025	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
tert-Butylbenzene	ND		0.0051	0.0019	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
Tetrachloroethene	ND		0.0051	0.0020	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
Toluene	ND		0.0051	0.0017	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
trans-1,2-Dichloroethene	ND		0.0051	0.0026	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
1,1,1-Trichloroethane	ND		0.0051	0.0026	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
Trichloroethene	ND		0.0051	0.0015	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
1,2,4-Trimethylbenzene	ND		0.0051	0.0014	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
1,3,5-Trimethylbenzene	ND		0.0051	0.0018	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
Vinyl chloride	ND		0.0051	0.0038	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1
Xylenes, Total	ND		0.010	0.0044	mg/Kg	☼	07/19/18 06:00	07/19/18 10:43	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Client Sample ID: PILE 105A

Date Collected: 07/17/18 14:05

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-2

Matrix: Solid

Percent Solids: 93.8

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		76 - 111	07/19/18 06:00	07/19/18 10:43	1
Dibromofluoromethane (Surr)	84		72 - 116	07/19/18 06:00	07/19/18 10:43	1
1,2-Dichloroethane-d4 (Surr)	83		62 - 118	07/19/18 06:00	07/19/18 10:43	1
Toluene-d8 (Surr)	89		80 - 129	07/19/18 06:00	07/19/18 10:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.2		0.1	0.1	%			07/19/18 12:07	1
Percent Solids	93.8		0.1	0.1	%			07/19/18 12:07	1

Client Sample ID: PILE 105B

Date Collected: 07/17/18 14:10

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-3

Matrix: Solid

Percent Solids: 91.6

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.0035	J	0.022	0.0034	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
Benzene	ND		0.0054	0.0021	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
2-Butanone (MEK)	ND		0.0054	0.0031	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
Carbon tetrachloride	ND		0.0054	0.0036	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
Chlorobenzene	ND		0.0054	0.0017	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
Chloroform	ND		0.0054	0.0023	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
cis-1,2-Dichloroethene	ND		0.0054	0.0017	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
1,2-Dichlorobenzene	ND		0.0054	0.0043	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
1,3-Dichlorobenzene	ND		0.0054	0.0017	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
1,4-Dichlorobenzene	ND		0.0054	0.0011	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
1,1-Dichloroethane	ND		0.0054	0.0019	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
1,2-Dichloroethane	ND		0.0054	0.0016	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
1,1-Dichloroethene	ND		0.0054	0.0031	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
1,4-Dioxane	ND		1100	39	ug/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
Ethylbenzene	ND		0.0054	0.0023	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
Methylene Chloride	ND		0.0054	0.0025	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
Methyl tert-butyl ether	ND		0.0054	0.0040	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
n-Butylbenzene	ND		0.0054	0.0041	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
N-Propylbenzene	ND		0.0054	0.0023	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
sec-Butylbenzene	ND		0.0054	0.0026	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
tert-Butylbenzene	ND		0.0054	0.0020	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
Tetrachloroethene	ND		0.0054	0.0022	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
Toluene	ND		0.0054	0.0018	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
trans-1,2-Dichloroethene	ND		0.0054	0.0027	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
1,1,1-Trichloroethane	ND		0.0054	0.0027	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
Trichloroethene	ND		0.0054	0.0016	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
1,2,4-Trimethylbenzene	ND		0.0054	0.0015	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
1,3,5-Trimethylbenzene	ND		0.0054	0.0019	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
Vinyl chloride	ND		0.0054	0.0039	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1
Xylenes, Total	ND		0.011	0.0046	mg/Kg	☼	07/19/18 06:00	07/19/18 09:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		76 - 111	07/19/18 06:00	07/19/18 09:32	1
Dibromofluoromethane (Surr)	88		72 - 116	07/19/18 06:00	07/19/18 09:32	1
1,2-Dichloroethane-d4 (Surr)	80		62 - 118	07/19/18 06:00	07/19/18 09:32	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Client Sample ID: PILE 105B

Date Collected: 07/17/18 14:10

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-3

Matrix: Solid

Percent Solids: 91.6

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		80 - 129	07/19/18 06:00	07/19/18 09:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.4		0.1	0.1	%			07/19/18 12:07	1
Percent Solids	91.6		0.1	0.1	%			07/19/18 12:07	1

Client Sample ID: PILE 105C

Date Collected: 07/17/18 14:15

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-4

Matrix: Solid

Percent Solids: 91.9

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.022	0.0034	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
Benzene	ND		0.0054	0.0021	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
2-Butanone (MEK)	ND		0.0054	0.0031	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
Carbon tetrachloride	ND		0.0054	0.0036	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
Chlorobenzene	ND		0.0054	0.0017	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
Chloroform	ND		0.0054	0.0023	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
cis-1,2-Dichloroethene	ND		0.0054	0.0017	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
1,2-Dichlorobenzene	ND		0.0054	0.0043	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
1,3-Dichlorobenzene	ND		0.0054	0.0017	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
1,4-Dichlorobenzene	ND		0.0054	0.0011	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
1,1-Dichloroethane	ND		0.0054	0.0019	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
1,2-Dichloroethane	ND		0.0054	0.0016	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
1,1-Dichloroethene	ND		0.0054	0.0031	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
1,4-Dioxane	ND		1100	39	ug/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
Ethylbenzene	ND		0.0054	0.0023	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
Methylene Chloride	ND		0.0054	0.0025	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
Methyl tert-butyl ether	ND		0.0054	0.0040	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
n-Butylbenzene	ND		0.0054	0.0041	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
N-Propylbenzene	ND		0.0054	0.0023	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
sec-Butylbenzene	ND		0.0054	0.0026	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
tert-Butylbenzene	ND		0.0054	0.0020	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
Tetrachloroethene	ND		0.0054	0.0022	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
Toluene	ND		0.0054	0.0018	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
trans-1,2-Dichloroethene	ND		0.0054	0.0027	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
1,1,1-Trichloroethane	ND		0.0054	0.0027	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
Trichloroethene	ND		0.0054	0.0016	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
1,2,4-Trimethylbenzene	ND		0.0054	0.0015	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
1,3,5-Trimethylbenzene	ND		0.0054	0.0019	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
Vinyl chloride	ND		0.0054	0.0039	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1
Xylenes, Total	ND		0.011	0.0046	mg/Kg	☼	07/19/18 06:00	07/19/18 09:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		76 - 111	07/19/18 06:00	07/19/18 09:56	1
Dibromofluoromethane (Surr)	87		72 - 116	07/19/18 06:00	07/19/18 09:56	1
1,2-Dichloroethane-d4 (Surr)	81		62 - 118	07/19/18 06:00	07/19/18 09:56	1
Toluene-d8 (Surr)	92		80 - 129	07/19/18 06:00	07/19/18 09:56	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Client Sample ID: PILE 105C

Date Collected: 07/17/18 14:15

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-4

Matrix: Solid

Percent Solids: 91.9

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.1		0.1	0.1	%			07/19/18 12:07	1
Percent Solids	91.9		0.1	0.1	%			07/19/18 12:07	1

Client Sample ID: PILE 105D

Date Collected: 07/17/18 14:20

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-5

Matrix: Solid

Percent Solids: 88.6

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.023	0.0037	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
Benzene	ND		0.0058	0.0023	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
2-Butanone (MEK)	ND		0.0058	0.0034	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
Carbon tetrachloride	ND		0.0058	0.0039	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
Chlorobenzene	ND		0.0058	0.0018	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
Chloroform	ND		0.0058	0.0025	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
cis-1,2-Dichloroethene	ND		0.0058	0.0018	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
1,2-Dichlorobenzene	ND		0.0058	0.0047	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
1,3-Dichlorobenzene	ND		0.0058	0.0019	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
1,4-Dichlorobenzene	ND		0.0058	0.0012	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
1,1-Dichloroethane	ND		0.0058	0.0021	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
1,2-Dichloroethane	ND		0.0058	0.0017	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
1,1-Dichloroethene	ND		0.0058	0.0033	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
1,4-Dioxane	ND		1200	43	ug/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
Ethylbenzene	ND		0.0058	0.0025	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
Methylene Chloride	ND		0.0058	0.0027	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
Methyl tert-butyl ether	ND		0.0058	0.0043	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
n-Butylbenzene	ND		0.0058	0.0044	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
N-Propylbenzene	ND		0.0058	0.0025	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
sec-Butylbenzene	ND		0.0058	0.0028	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
tert-Butylbenzene	ND		0.0058	0.0021	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
Tetrachloroethene	ND		0.0058	0.0023	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
Toluene	ND		0.0058	0.0020	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
trans-1,2-Dichloroethene	ND		0.0058	0.0029	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
1,1,1-Trichloroethane	ND		0.0058	0.0029	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
Trichloroethene	ND		0.0058	0.0017	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
1,2,4-Trimethylbenzene	ND		0.0058	0.0016	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
1,3,5-Trimethylbenzene	ND		0.0058	0.0020	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
Vinyl chloride	ND		0.0058	0.0043	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1
Xylenes, Total	ND		0.012	0.0050	mg/Kg	☼	07/19/18 06:00	07/19/18 10:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		76 - 111	07/19/18 06:00	07/19/18 10:19	1
Dibromofluoromethane (Surr)	86		72 - 116	07/19/18 06:00	07/19/18 10:19	1
1,2-Dichloroethane-d4 (Surr)	80		62 - 118	07/19/18 06:00	07/19/18 10:19	1
Toluene-d8 (Surr)	92		80 - 129	07/19/18 06:00	07/19/18 10:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	11.4		0.1	0.1	%			07/19/18 12:07	1
Percent Solids	88.6		0.1	0.1	%			07/19/18 12:07	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Client Sample ID: TRIP BLANK-01

Lab Sample ID: 180-79862-6

Date Collected: 07/17/18 15:00

Matrix: Water

Date Received: 07/18/18 08:50

Method: EPA 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5.0	3.4	ug/L			07/25/18 18:50	1
Benzene	ND		1.0	0.60	ug/L			07/25/18 18:50	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			07/25/18 18:50	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			07/25/18 18:50	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/25/18 18:50	1
Chloroform	ND		1.0	0.60	ug/L			07/25/18 18:50	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			07/25/18 18:50	1
1,2-Dichlorobenzene	ND		1.0	0.36	ug/L			07/25/18 18:50	1
1,3-Dichlorobenzene	ND		1.0	0.50	ug/L			07/25/18 18:50	1
1,4-Dichlorobenzene	ND		1.0	0.54	ug/L			07/25/18 18:50	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			07/25/18 18:50	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			07/25/18 18:50	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			07/25/18 18:50	1
Ethylbenzene	ND		1.0	0.51	ug/L			07/25/18 18:50	1
Methylene Chloride	ND		1.0	0.36	ug/L			07/25/18 18:50	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			07/25/18 18:50	1
n-Butylbenzene	ND		1.0	0.61	ug/L			07/25/18 18:50	1
N-Propylbenzene	ND		1.0	0.47	ug/L			07/25/18 18:50	1
sec-Butylbenzene	ND		1.0	0.52	ug/L			07/25/18 18:50	1
tert-Butylbenzene	ND		1.0	0.48	ug/L			07/25/18 18:50	1
Tetrachloroethene	ND		1.0	0.47	ug/L			07/25/18 18:50	1
Toluene	ND		1.0	0.46	ug/L			07/25/18 18:50	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			07/25/18 18:50	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			07/25/18 18:50	1
Trichloroethene	ND		1.0	0.69	ug/L			07/25/18 18:50	1
1,2,4-Trimethylbenzene	ND		1.0	0.48	ug/L			07/25/18 18:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.47	ug/L			07/25/18 18:50	1
Vinyl chloride	ND		1.0	0.88	ug/L			07/25/18 18:50	1
Xylenes, Total	ND		2.0	0.89	ug/L			07/25/18 18:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	79		58 - 124					07/25/18 18:50	1
Dibromofluoromethane (Surr)	95		64 - 125					07/25/18 18:50	1
1,2-Dichloroethane-d4 (Surr)	79		65 - 127					07/25/18 18:50	1
Toluene-d8 (Surr)	88		69 - 115					07/25/18 18:50	1

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Method: EPA 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 180-251609/7

Matrix: Water

Analysis Batch: 251609

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5.0	3.4	ug/L			07/25/18 16:16	1
Benzene	ND		1.0	0.60	ug/L			07/25/18 16:16	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			07/25/18 16:16	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			07/25/18 16:16	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/25/18 16:16	1
Chloroform	ND		1.0	0.60	ug/L			07/25/18 16:16	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			07/25/18 16:16	1
1,2-Dichlorobenzene	ND		1.0	0.36	ug/L			07/25/18 16:16	1
1,3-Dichlorobenzene	ND		1.0	0.50	ug/L			07/25/18 16:16	1
1,4-Dichlorobenzene	ND		1.0	0.54	ug/L			07/25/18 16:16	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			07/25/18 16:16	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			07/25/18 16:16	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			07/25/18 16:16	1
Ethylbenzene	ND		1.0	0.51	ug/L			07/25/18 16:16	1
Methylene Chloride	ND		1.0	0.36	ug/L			07/25/18 16:16	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			07/25/18 16:16	1
n-Butylbenzene	ND		1.0	0.61	ug/L			07/25/18 16:16	1
N-Propylbenzene	ND		1.0	0.47	ug/L			07/25/18 16:16	1
sec-Butylbenzene	ND		1.0	0.52	ug/L			07/25/18 16:16	1
tert-Butylbenzene	ND		1.0	0.48	ug/L			07/25/18 16:16	1
Tetrachloroethene	ND		1.0	0.47	ug/L			07/25/18 16:16	1
Toluene	ND		1.0	0.46	ug/L			07/25/18 16:16	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			07/25/18 16:16	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			07/25/18 16:16	1
Trichloroethene	ND		1.0	0.69	ug/L			07/25/18 16:16	1
1,2,4-Trimethylbenzene	ND		1.0	0.48	ug/L			07/25/18 16:16	1
1,3,5-Trimethylbenzene	ND		1.0	0.47	ug/L			07/25/18 16:16	1
Vinyl chloride	ND		1.0	0.88	ug/L			07/25/18 16:16	1
Xylenes, Total	ND		2.0	0.89	ug/L			07/25/18 16:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	71		58 - 124		07/25/18 16:16	1
Dibromofluoromethane (Surr)	75		64 - 125		07/25/18 16:16	1
1,2-Dichloroethane-d4 (Surr)	70		65 - 127		07/25/18 16:16	1
Toluene-d8 (Surr)	86		69 - 115		07/25/18 16:16	1

Lab Sample ID: LCS 180-251609/5

Matrix: Water

Analysis Batch: 251609

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	21.9		ug/L		109	24 - 150
Benzene	10.0	10.1		ug/L		101	75 - 123
2-Butanone (MEK)	20.0	19.3		ug/L		97	37 - 150
Carbon tetrachloride	10.0	8.02		ug/L		80	58 - 145
Chlorobenzene	10.0	10.1		ug/L		101	79 - 124
Chloroform	10.0	9.21		ug/L		92	72 - 123
cis-1,2-Dichloroethene	10.0	9.66		ug/L		97	73 - 120

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Method: EPA 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 180-251609/5

Matrix: Water

Analysis Batch: 251609

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	10.0	10.0		ug/L		100	74 - 121
1,3-Dichlorobenzene	10.0	10.1		ug/L		101	77 - 119
1,4-Dichlorobenzene	10.0	10.1		ug/L		101	76 - 118
1,1-Dichloroethane	10.0	9.46		ug/L		95	66 - 122
1,2-Dichloroethane	10.0	8.08		ug/L		81	63 - 130
1,1-Dichloroethene	10.0	10.6		ug/L		106	64 - 131
Ethylbenzene	10.0	10.0		ug/L		100	77 - 124
Methylene Chloride	10.0	9.12		ug/L		91	66 - 123
Methyl tert-butyl ether	10.0	8.36		ug/L		84	66 - 130
n-Butylbenzene	10.0	9.75		ug/L		97	66 - 133
N-Propylbenzene	10.0	10.2		ug/L		102	71 - 124
sec-Butylbenzene	10.0	10.3		ug/L		103	69 - 130
tert-Butylbenzene	10.0	10.0		ug/L		100	71 - 125
Tetrachloroethene	10.0	10.6		ug/L		106	76 - 128
Toluene	10.0	10.2		ug/L		102	76 - 129
trans-1,2-Dichloroethene	10.0	10.4		ug/L		104	70 - 123
1,1,1-Trichloroethane	10.0	8.34		ug/L		83	66 - 129
Trichloroethene	10.0	9.90		ug/L		99	74 - 121
1,2,4-Trimethylbenzene	10.0	9.94		ug/L		99	75 - 124
1,3,5-Trimethylbenzene	10.0	10.0		ug/L		100	73 - 126
Vinyl chloride	10.0	9.28		ug/L		93	52 - 136
Xylenes, Total	20.0	19.8		ug/L		99	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		58 - 124
Dibromofluoromethane (Surr)	91		64 - 125
1,2-Dichloroethane-d4 (Surr)	81		65 - 127
Toluene-d8 (Surr)	100		69 - 115

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 180-250975/6

Matrix: Solid

Analysis Batch: 250975

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.020	0.0032	mg/Kg			07/19/18 08:46	1
Benzene	ND		0.0050	0.0020	mg/Kg			07/19/18 08:46	1
2-Butanone (MEK)	ND		0.0050	0.0029	mg/Kg			07/19/18 08:46	1
Carbon tetrachloride	ND		0.0050	0.0033	mg/Kg			07/19/18 08:46	1
Chlorobenzene	ND		0.0050	0.0016	mg/Kg			07/19/18 08:46	1
Chloroform	ND		0.0050	0.0021	mg/Kg			07/19/18 08:46	1
cis-1,2-Dichloroethene	ND		0.0050	0.0016	mg/Kg			07/19/18 08:46	1
1,2-Dichlorobenzene	ND		0.0050	0.0040	mg/Kg			07/19/18 08:46	1
1,3-Dichlorobenzene	ND		0.0050	0.0016	mg/Kg			07/19/18 08:46	1
1,4-Dichlorobenzene	ND		0.0050	0.0010	mg/Kg			07/19/18 08:46	1
1,1-Dichloroethane	ND		0.0050	0.0018	mg/Kg			07/19/18 08:46	1
1,2-Dichloroethane	ND		0.0050	0.0015	mg/Kg			07/19/18 08:46	1

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 180-250975/6

Matrix: Solid

Analysis Batch: 250975

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.0050	0.0029	mg/Kg			07/19/18 08:46	1
1,4-Dioxane	ND		1000	37	ug/Kg			07/19/18 08:46	1
Ethylbenzene	ND		0.0050	0.0022	mg/Kg			07/19/18 08:46	1
Methylene Chloride	ND		0.0050	0.0024	mg/Kg			07/19/18 08:46	1
Methyl tert-butyl ether	ND		0.0050	0.0037	mg/Kg			07/19/18 08:46	1
n-Butylbenzene	ND		0.0050	0.0038	mg/Kg			07/19/18 08:46	1
N-Propylbenzene	ND		0.0050	0.0021	mg/Kg			07/19/18 08:46	1
sec-Butylbenzene	ND		0.0050	0.0024	mg/Kg			07/19/18 08:46	1
tert-Butylbenzene	ND		0.0050	0.0018	mg/Kg			07/19/18 08:46	1
Tetrachloroethene	ND		0.0050	0.0020	mg/Kg			07/19/18 08:46	1
Toluene	ND		0.0050	0.0017	mg/Kg			07/19/18 08:46	1
trans-1,2-Dichloroethene	ND		0.0050	0.0025	mg/Kg			07/19/18 08:46	1
1,1,1-Trichloroethane	ND		0.0050	0.0025	mg/Kg			07/19/18 08:46	1
Trichloroethene	ND		0.0050	0.0015	mg/Kg			07/19/18 08:46	1
1,2,4-Trimethylbenzene	ND		0.0050	0.0013	mg/Kg			07/19/18 08:46	1
1,3,5-Trimethylbenzene	ND		0.0050	0.0017	mg/Kg			07/19/18 08:46	1
Vinyl chloride	ND		0.0050	0.0037	mg/Kg			07/19/18 08:46	1
Xylenes, Total	ND		0.010	0.0043	mg/Kg			07/19/18 08:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		76 - 111		07/19/18 08:46	1
Dibromofluoromethane (Surr)	87		72 - 116		07/19/18 08:46	1
1,2-Dichloroethane-d4 (Surr)	85		62 - 118		07/19/18 08:46	1
Toluene-d8 (Surr)	90		80 - 129		07/19/18 08:46	1

Lab Sample ID: LCS 180-250975/3

Matrix: Solid

Analysis Batch: 250975

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0400	0.0327		mg/Kg		82	36 - 150
Benzene	0.0400	0.0366		mg/Kg		92	78 - 118
2-Butanone (MEK)	0.0400	0.0321		mg/Kg		80	30 - 150
Carbon tetrachloride	0.0400	0.0371		mg/Kg		93	60 - 137
Chlorobenzene	0.0400	0.0371		mg/Kg		93	78 - 118
Chloroform	0.0400	0.0365		mg/Kg		91	68 - 124
cis-1,2-Dichloroethene	0.0400	0.0363		mg/Kg		91	71 - 120
1,2-Dichlorobenzene	0.0400	0.0366		mg/Kg		91	78 - 118
1,3-Dichlorobenzene	0.0400	0.0379		mg/Kg		95	78 - 118
1,4-Dichlorobenzene	0.0400	0.0375		mg/Kg		94	78 - 118
1,1-Dichloroethane	0.0400	0.0369		mg/Kg		92	67 - 129
1,2-Dichloroethane	0.0400	0.0336		mg/Kg		84	67 - 123
1,1-Dichloroethene	0.0400	0.0389		mg/Kg		97	59 - 128
Ethylbenzene	0.0400	0.0370		mg/Kg		92	78 - 118
Methylene Chloride	0.0400	0.0337		mg/Kg		84	68 - 120
Methyl tert-butyl ether	0.0400	0.0328		mg/Kg		82	73 - 121
n-Butylbenzene	0.0400	0.0376		mg/Kg		94	71 - 132
N-Propylbenzene	0.0400	0.0382		mg/Kg		95	72 - 126

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 180-250975/3

Matrix: Solid

Analysis Batch: 250975

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
sec-Butylbenzene	0.0400	0.0379		mg/Kg		95	80 - 126
tert-Butylbenzene	0.0400	0.0386		mg/Kg		97	80 - 122
Tetrachloroethene	0.0400	0.0389		mg/Kg		97	78 - 118
Toluene	0.0400	0.0379		mg/Kg		95	79 - 121
trans-1,2-Dichloroethene	0.0400	0.0387		mg/Kg		97	71 - 123
1,1,1-Trichloroethane	0.0400	0.0379		mg/Kg		95	69 - 135
Trichloroethene	0.0400	0.0383		mg/Kg		96	76 - 120
1,2,4-Trimethylbenzene	0.0400	0.0386		mg/Kg		97	77 - 122
1,3,5-Trimethylbenzene	0.0400	0.0382		mg/Kg		96	78 - 122
Vinyl chloride	0.0400	0.0350		mg/Kg		88	53 - 148
Xylenes, Total	0.0800	0.0746		mg/Kg		93	78 - 118

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	86		76 - 111
Dibromofluoromethane (Surr)	89		72 - 116
1,2-Dichloroethane-d4 (Surr)	80		62 - 118
Toluene-d8 (Surr)	88		80 - 129

Lab Sample ID: LCSD 180-250975/4

Matrix: Solid

Analysis Batch: 250975

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	0.0400	0.0365		mg/Kg		91	36 - 150	11	35
Benzene	0.0400	0.0388		mg/Kg		97	78 - 118	6	15
2-Butanone (MEK)	0.0400	0.0342		mg/Kg		85	30 - 150	6	35
Carbon tetrachloride	0.0400	0.0391		mg/Kg		98	60 - 137	5	21
Chlorobenzene	0.0400	0.0393		mg/Kg		98	78 - 118	6	15
Chloroform	0.0400	0.0377		mg/Kg		94	68 - 124	3	15
cis-1,2-Dichloroethene	0.0400	0.0384		mg/Kg		96	71 - 120	6	15
1,2-Dichlorobenzene	0.0400	0.0392		mg/Kg		98	78 - 118	7	15
1,3-Dichlorobenzene	0.0400	0.0395		mg/Kg		99	78 - 118	4	15
1,4-Dichlorobenzene	0.0400	0.0392		mg/Kg		98	78 - 118	5	15
1,1-Dichloroethane	0.0400	0.0388		mg/Kg		97	67 - 129	5	15
1,2-Dichloroethane	0.0400	0.0365		mg/Kg		91	67 - 123	8	15
1,1-Dichloroethene	0.0400	0.0409		mg/Kg		102	59 - 128	5	17
Ethylbenzene	0.0400	0.0394		mg/Kg		99	78 - 118	6	15
Methylene Chloride	0.0400	0.0366		mg/Kg		92	68 - 120	8	19
Methyl tert-butyl ether	0.0400	0.0362		mg/Kg		90	73 - 121	10	24
n-Butylbenzene	0.0400	0.0408		mg/Kg		102	71 - 132	8	16
N-Propylbenzene	0.0400	0.0398		mg/Kg		99	72 - 126	4	24
sec-Butylbenzene	0.0400	0.0401		mg/Kg		100	80 - 126	5	18
tert-Butylbenzene	0.0400	0.0402		mg/Kg		101	80 - 122	4	19
Tetrachloroethene	0.0400	0.0409		mg/Kg		102	78 - 118	5	20
Toluene	0.0400	0.0403		mg/Kg		101	79 - 121	6	18
trans-1,2-Dichloroethene	0.0400	0.0410		mg/Kg		103	71 - 123	6	15
1,1,1-Trichloroethane	0.0400	0.0406		mg/Kg		102	69 - 135	7	22
Trichloroethene	0.0400	0.0401		mg/Kg		100	76 - 120	5	15

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 180-250975/4

Matrix: Solid

Analysis Batch: 250975

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trimethylbenzene	0.0400	0.0401		mg/Kg		100	77 - 122	4	16
1,3,5-Trimethylbenzene	0.0400	0.0398		mg/Kg		100	78 - 122	4	17
Vinyl chloride	0.0400	0.0381		mg/Kg		95	53 - 148	9	35
Xylenes, Total	0.0800	0.0791		mg/Kg		99	78 - 118	6	15

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		76 - 111
Dibromofluoromethane (Surr)	92		72 - 116
1,2-Dichloroethane-d4 (Surr)	84		62 - 118
Toluene-d8 (Surr)	92		80 - 129

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-250922/1-A

Matrix: Solid

Analysis Batch: 251152

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 250922

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0034	0.00096	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Acenaphthylene	ND		0.0034	0.00073	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Anthracene	ND		0.0034	0.00087	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Benzo[a]anthracene	ND		0.0034	0.00063	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Benzo[a]pyrene	ND		0.0034	0.00073	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Benzo[b]fluoranthene	ND		0.0034	0.00082	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Benzo[g,h,i]perylene	ND		0.0034	0.00072	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Benzo[k]fluoranthene	ND		0.0034	0.0010	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Chrysene	ND		0.0034	0.00066	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Dibenz(a,h)anthracene	ND		0.0034	0.00075	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Dibenzofuran	ND		0.017	0.00073	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
2,4-Dinitrotoluene	ND		0.017	0.00083	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
1,4-Dioxane	ND		0.033	0.0052	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Fluoranthene	ND		0.0034	0.00088	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Fluorene	ND		0.0034	0.00066	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Hexachlorobenzene	ND		0.0034	0.0012	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Hexachlorobutadiene	ND		0.0034	0.00098	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Hexachloroethane	ND		0.017	0.00086	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Indeno[1,2,3-cd]pyrene	ND		0.0034	0.00068	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
2-Methylphenol	ND		0.017	0.0048	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Methylphenol, 3 & 4	ND		0.017	0.0049	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Naphthalene	ND		0.0034	0.00065	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Nitrobenzene	ND		0.033	0.0061	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Pentachlorophenol	ND		0.085	0.027	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Phenanthrene	ND		0.0034	0.00090	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Phenol	ND		0.017	0.0051	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Pyrene	ND		0.0034	0.00079	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
Pyridine	ND		0.034	0.0090	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
2,4,5-Trichlorophenol	ND		0.017	0.0012	mg/Kg		07/18/18 13:26	07/20/18 13:55	1
2,4,6-Trichlorophenol	ND		0.017	0.00092	mg/Kg		07/18/18 13:26	07/20/18 13:55	1

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		39 - 105	07/18/18 13:26	07/20/18 13:55	1
2-Fluorophenol (Surr)	66		35 - 105	07/18/18 13:26	07/20/18 13:55	1
Nitrobenzene-d5 (Surr)	65		39 - 105	07/18/18 13:26	07/20/18 13:55	1
Phenol-d5 (Surr)	68		42 - 105	07/18/18 13:26	07/20/18 13:55	1
Terphenyl-d14 (Surr)	83		28 - 148	07/18/18 13:26	07/20/18 13:55	1
2,4,6-Tribromophenol (Surr)	60		44 - 105	07/18/18 13:26	07/20/18 13:55	1

Lab Sample ID: LCS 180-250922/2-A

Matrix: Solid

Analysis Batch: 251152

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250922

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.333	0.276		mg/Kg		83	46 - 100
Acenaphthylene	0.333	0.272		mg/Kg		81	44 - 100
Anthracene	0.333	0.299		mg/Kg		90	46 - 102
Benzo[a]anthracene	0.333	0.270		mg/Kg		81	47 - 100
Benzo[a]pyrene	0.333	0.300		mg/Kg		90	47 - 100
Benzo[b]fluoranthene	0.333	0.255		mg/Kg		76	41 - 100
Benzo[g,h,i]perylene	0.333	0.289		mg/Kg		87	43 - 101
Benzo[k]fluoranthene	0.333	0.301		mg/Kg		90	44 - 100
Chrysene	0.333	0.273		mg/Kg		82	45 - 100
Dibenz(a,h)anthracene	0.333	0.283		mg/Kg		85	45 - 102
Dibenzofuran	0.333	0.264		mg/Kg		79	46 - 100
2,4-Dinitrotoluene	0.333	0.286		mg/Kg		86	52 - 100
1,4-Dioxane	0.333	0.245		mg/Kg		74	27 - 112
Fluoranthene	0.333	0.258		mg/Kg		78	47 - 101
Fluorene	0.333	0.267		mg/Kg		80	47 - 100
Hexachlorobenzene	0.333	0.236		mg/Kg		71	43 - 105
Hexachlorobutadiene	0.333	0.182		mg/Kg		55	45 - 100
Hexachloroethane	0.333	0.238		mg/Kg		71	37 - 100
Indeno[1,2,3-cd]pyrene	0.333	0.279		mg/Kg		84	45 - 102
2-Methylphenol	0.333	0.254		mg/Kg		76	39 - 100
Methylphenol, 3 & 4	0.333	0.259		mg/Kg		78	39 - 100
Naphthalene	0.333	0.237		mg/Kg		71	45 - 100
Nitrobenzene	0.333	0.231		mg/Kg		69	36 - 100
Pentachlorophenol	0.667	0.457		mg/Kg		69	35 - 105
Phenanthrene	0.333	0.287		mg/Kg		86	45 - 100
Phenol	0.333	0.247		mg/Kg		74	32 - 100
Pyrene	0.333	0.269		mg/Kg		81	40 - 105
Pyridine	0.667	0.500		mg/Kg		75	29 - 117
2,4,5-Trichlorophenol	0.333	0.230		mg/Kg		69	49 - 100
2,4,6-Trichlorophenol	0.333	0.231		mg/Kg		69	50 - 100

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	68		39 - 105
2-Fluorophenol (Surr)	72		35 - 105
Nitrobenzene-d5 (Surr)	69		39 - 105
Phenol-d5 (Surr)	74		42 - 105
Terphenyl-d14 (Surr)	83		28 - 148
2,4,6-Tribromophenol (Surr)	66		44 - 105

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Method: EPA 6010C - Metals (ICP)

Lab Sample ID: MB 180-251078/1-A

Matrix: Solid

Analysis Batch: 251271

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 251078

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.28	mg/Kg		07/19/18 14:57	07/20/18 16:38	1
Barium	ND		20	1.1	mg/Kg		07/19/18 14:57	07/20/18 16:38	1
Beryllium	ND		0.40	0.023	mg/Kg		07/19/18 14:57	07/20/18 16:38	1
Cadmium	ND		0.50	0.036	mg/Kg		07/19/18 14:57	07/20/18 16:38	1
Chromium	ND		0.50	0.12	mg/Kg		07/19/18 14:57	07/20/18 16:38	1
Copper	ND		2.5	0.17	mg/Kg		07/19/18 14:57	07/20/18 16:38	1
Lead	ND		1.0	0.25	mg/Kg		07/19/18 14:57	07/20/18 16:38	1
Manganese	ND		1.5	0.16	mg/Kg		07/19/18 14:57	07/20/18 16:38	1
Nickel	ND		4.0	0.25	mg/Kg		07/19/18 14:57	07/20/18 16:38	1
Selenium	ND		1.0	0.52	mg/Kg		07/19/18 14:57	07/20/18 16:38	1
Silver	ND		0.50	0.11	mg/Kg		07/19/18 14:57	07/20/18 16:38	1
Zinc	ND		2.0	1.1	mg/Kg		07/19/18 14:57	07/20/18 16:38	1

Lab Sample ID: LCS 180-251078/2-A

Matrix: Solid

Analysis Batch: 251271

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 251078

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	50.0	51.2		mg/Kg		102	80 - 120
Barium	200	203		mg/Kg		101	80 - 120
Beryllium	5.00	5.25		mg/Kg		105	80 - 120
Cadmium	5.00	5.10		mg/Kg		102	80 - 120
Chromium	20.0	20.5		mg/Kg		102	80 - 120
Copper	25.0	25.1		mg/Kg		100	80 - 120
Lead	50.0	50.2		mg/Kg		100	80 - 120
Manganese	50.0	50.8		mg/Kg		102	80 - 120
Nickel	50.0	51.0		mg/Kg		102	80 - 120
Selenium	50.0	49.9		mg/Kg		100	80 - 120
Silver	5.00	4.97		mg/Kg		99	80 - 120
Zinc	50.0	51.0		mg/Kg		102	80 - 120

Lab Sample ID: 180-79862-1 MS

Matrix: Solid

Analysis Batch: 251271

Client Sample ID: PILE 105

Prep Type: Total/NA

Prep Batch: 251078

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Arsenic	5.7		51.0	53.6		mg/Kg	☼	94	75 - 125
Barium	48		204	252		mg/Kg	☼	100	75 - 125
Beryllium	0.25	J	5.10	5.09		mg/Kg	☼	95	75 - 125
Cadmium	0.16	J	5.10	5.09		mg/Kg	☼	96	75 - 125
Chromium	8.2	F1 F2	20.4	59.9	F1	mg/Kg	☼	253	75 - 125
Copper	47	F1 F2	25.5	89.0	F1	mg/Kg	☼	166	75 - 125
Lead	30		51.0	90.1		mg/Kg	☼	119	75 - 125
Manganese	300		51.0	410	4	mg/Kg	☼	225	75 - 125
Nickel	20		51.0	77.2		mg/Kg	☼	113	75 - 125
Selenium	ND		51.0	47.2		mg/Kg	☼	93	75 - 125
Silver	ND		5.10	4.77		mg/Kg	☼	94	75 - 125
Zinc	70	F1	51.0	125		mg/Kg	☼	107	75 - 125

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Method: EPA 6010C - Metals (ICP) (Continued)

Lab Sample ID: 180-79862-1 MSD

Matrix: Solid

Analysis Batch: 251271

Client Sample ID: PILE 105

Prep Type: Total/NA

Prep Batch: 251078

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	5.7		55.8	57.0		mg/Kg	☼	92	75 - 125	6	20
Barium	48		223	264		mg/Kg	☼	96	75 - 125	5	20
Beryllium	0.25	J	5.58	5.50		mg/Kg	☼	94	75 - 125	8	20
Cadmium	0.16	J	5.58	5.40		mg/Kg	☼	94	75 - 125	6	20
Chromium	8.2	F1 F2	22.3	31.4	F2	mg/Kg	☼	104	75 - 125	62	20
Copper	47	F1 F2	27.9	61.3	F1 F2	mg/Kg	☼	52	75 - 125	37	20
Lead	30		55.8	80.5		mg/Kg	☼	91	75 - 125	11	20
Manganese	300		55.8	408	4	mg/Kg	☼	203	75 - 125	0	20
Nickel	20		55.8	74.7		mg/Kg	☼	99	75 - 125	3	20
Selenium	ND		55.8	50.6		mg/Kg	☼	91	75 - 125	7	20
Silver	ND		5.58	5.22		mg/Kg	☼	94	75 - 125	9	20
Zinc	70	F1	55.8	109	F1	mg/Kg	☼	69	75 - 125	14	20

Method: EPA 7471B - Mercury (CVAA)

Lab Sample ID: MB 180-251322/1-A

Matrix: Solid

Analysis Batch: 251468

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 251322

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.0074	mg/Kg		07/23/18 11:05	07/24/18 12:16	1

Lab Sample ID: LCS 180-251322/2-A

Matrix: Solid

Analysis Batch: 251468

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 251322

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.410	0.389		mg/Kg		95	80 - 120

Method: 2540G - SM 2540G

Lab Sample ID: 180-79862-1 DU

Matrix: Solid

Analysis Batch: 251038

Client Sample ID: PILE 105

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Moisture	6.6		7.3		%		10	20
Percent Solids	93.4		92.7		%		0.7	20

Method: EPA 9014 - Cyanide

Lab Sample ID: MB 180-251441/4-A

Matrix: Solid

Analysis Batch: 251566

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 251441

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.50	0.27	mg/Kg		07/24/18 12:16	07/24/18 17:53	1

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Method: EPA 9014 - Cyanide (Continued)

Lab Sample ID: HLCS 180-251441/2-A
Matrix: Solid
Analysis Batch: 251566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251441

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.256		mg/Kg		102	90 - 110

Lab Sample ID: LCS 180-251441/3-A
Matrix: Solid
Analysis Batch: 251566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251441

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	42.1	34.7		mg/Kg		82	38 - 162

Lab Sample ID: LLCS 180-251441/1-A
Matrix: Solid
Analysis Batch: 251566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 251441

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0500	0.0467		mg/Kg		93	90 - 110

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

GC/MS VOA

Analysis Batch: 250975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-2	PILE 105A	Total/NA	Solid	EPA 8260C	250987
180-79862-3	PILE 105B	Total/NA	Solid	EPA 8260C	250987
180-79862-4	PILE 105C	Total/NA	Solid	EPA 8260C	250987
180-79862-5	PILE 105D	Total/NA	Solid	EPA 8260C	250987
MB 180-250975/6	Method Blank	Total/NA	Solid	EPA 8260C	
LCS 180-250975/3	Lab Control Sample	Total/NA	Solid	EPA 8260C	
LCSD 180-250975/4	Lab Control Sample Dup	Total/NA	Solid	EPA 8260C	

Prep Batch: 250987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-2	PILE 105A	Total/NA	Solid	5035	
180-79862-3	PILE 105B	Total/NA	Solid	5035	
180-79862-4	PILE 105C	Total/NA	Solid	5035	
180-79862-5	PILE 105D	Total/NA	Solid	5035	

Analysis Batch: 251609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-6	TRIP BLANK-01	Total/NA	Water	EPA 8260C	
MB 180-251609/7	Method Blank	Total/NA	Water	EPA 8260C	
LCS 180-251609/5	Lab Control Sample	Total/NA	Water	EPA 8260C	

GC/MS Semi VOA

Prep Batch: 250922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-1	PILE 105	Total/NA	Solid	3541	
MB 180-250922/1-A	Method Blank	Total/NA	Solid	3541	
LCS 180-250922/2-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 251152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-250922/1-A	Method Blank	Total/NA	Solid	EPA 8270D LL	250922
LCS 180-250922/2-A	Lab Control Sample	Total/NA	Solid	EPA 8270D LL	250922

Analysis Batch: 251245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-1	PILE 105	Total/NA	Solid	EPA 8270D LL	250922

Metals

Prep Batch: 251078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-1	PILE 105	Total/NA	Solid	3050B	
MB 180-251078/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 180-251078/2-A	Lab Control Sample	Total/NA	Solid	3050B	
180-79862-1 MS	PILE 105	Total/NA	Solid	3050B	
180-79862-1 MSD	PILE 105	Total/NA	Solid	3050B	

TestAmerica Pittsburgh

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-1

Metals (Continued)

Analysis Batch: 251271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-1	PILE 105	Total/NA	Solid	EPA 6010C	251078
MB 180-251078/1-A	Method Blank	Total/NA	Solid	EPA 6010C	251078
LCS 180-251078/2-A	Lab Control Sample	Total/NA	Solid	EPA 6010C	251078
180-79862-1 MS	PILE 105	Total/NA	Solid	EPA 6010C	251078
180-79862-1 MSD	PILE 105	Total/NA	Solid	EPA 6010C	251078

Prep Batch: 251322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-1	PILE 105	Total/NA	Solid	7471B	
MB 180-251322/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 180-251322/2-A	Lab Control Sample	Total/NA	Solid	7471B	

Analysis Batch: 251468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-1	PILE 105	Total/NA	Solid	EPA 7471B	251322
MB 180-251322/1-A	Method Blank	Total/NA	Solid	EPA 7471B	251322
LCS 180-251322/2-A	Lab Control Sample	Total/NA	Solid	EPA 7471B	251322

General Chemistry

Analysis Batch: 251038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-1	PILE 105	Total/NA	Solid	2540G	
180-79862-2	PILE 105A	Total/NA	Solid	2540G	
180-79862-3	PILE 105B	Total/NA	Solid	2540G	
180-79862-4	PILE 105C	Total/NA	Solid	2540G	
180-79862-5	PILE 105D	Total/NA	Solid	2540G	
180-79862-1 DU	PILE 105	Total/NA	Solid	2540G	

Prep Batch: 251441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-1	PILE 105	Total/NA	Solid	9010C	
MB 180-251441/4-A	Method Blank	Total/NA	Solid	9010C	
HLCS 180-251441/2-A	Lab Control Sample	Total/NA	Solid	9010C	
LCS 180-251441/3-A	Lab Control Sample	Total/NA	Solid	9010C	
LLCS 180-251441/1-A	Lab Control Sample	Total/NA	Solid	9010C	

Analysis Batch: 251566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-1	PILE 105	Total/NA	Solid	EPA 9014	251441
MB 180-251441/4-A	Method Blank	Total/NA	Solid	EPA 9014	251441
HLCS 180-251441/2-A	Lab Control Sample	Total/NA	Solid	EPA 9014	251441
LCS 180-251441/3-A	Lab Control Sample	Total/NA	Solid	EPA 9014	251441
LLCS 180-251441/1-A	Lab Control Sample	Total/NA	Solid	EPA 9014	251441

TestAmerica Pittsburgh

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 180-79862-1

Login Number: 79862

List Number: 1

Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pittsburgh

301 Alpha Drive

RIDC Park

Pittsburgh, PA 15238

Tel: (412)963-7058

TestAmerica Job ID: 180-79862-2

Client Project/Site: Former Sperry Remington Site-North

For:

Geosyntec Consultants, Inc.

10211 Wincopin Circle

4th Floor

Columbia, Maryland 21044

Attn: Mr. Aron Krasnopoler



Authorized for release by:

7/23/2018 1:55:17 PM

David Dunlap, Senior Project Manager

(412)963-2432

david.dunlap@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	9
QC Sample Results	10
QC Association Summary	12
Chain of Custody	13
Receipt Checklists	14



Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-2

Job ID: 180-79862-2

Laboratory: TestAmerica Pittsburgh

Narrative

Job Narrative 180-79862-2

Receipt

The samples were received on 7/18/2018 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2° C.

GC Semi VOA

Method(s) 8082A: The continuing calibration verification (CCV) analyzed in batch 180-251199 (CCV 180-251199/1) was above criteria for 1 peak for aroclor 1254 on column RTX-CLP1. The associated sample results for aroclor 1254 were reported from column RTX-CLP2 which met criteria. The % difference between the sample results on both columns was <40%.

Method(s) 8082A: The continuing calibration verification (CCV) analyzed in batch 180-251199 (CCV 180-251199/2) was above criteria for aroclor 1232. As the CVV was high and aroclor 1232 was not detected in the associated samples, the results were reported.

Method(s) 8082A: The matrix spike/matrix spike duplicate (MS/MSD) recoveries of sample PILE 105 (180-79862-1) were above the control limits for aroclor 1016. The RPD between the spikes and the recoveries of the laboratory control sample (LCS) were within the control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-2

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-2

Laboratory: TestAmerica Pittsburgh

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11182	03-31-19

Analysis Method	Prep Method	Matrix	Analyte
-----------------	-------------	--------	---------

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-79862-1	PILE 105	Solid	07/17/18 14:00	07/18/18 08:50

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-2

Method	Method Description	Protocol	Laboratory
EPA 8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL PIT
3541	Automated Soxhlet Extraction	SW846	TAL PIT
3660B	Sulfur Cleanup	SW846	TAL PIT
3665A	Sulfuric Acid/Permanganate Cleanup	SW846	TAL PIT

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-2

Client Sample ID: PILE 105

Date Collected: 07/17/18 14:00

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-1

Matrix: Solid

Percent Solids: 93.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.2 g	20.0 mL	250948	07/18/18 15:38	SAC	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	251114	07/19/18 07:03	JMO	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	251115	07/19/18 07:04	JMO	TAL PIT
Total/NA	Analysis	EPA 8082A		1			251199	07/21/18 11:50	CMR	TAL PIT
Instrument ID: CHGC8										

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT

Batch Type: Cleanup

JMO = John Oravec

Batch Type: Prep

SAC = Shawn Clemente

Batch Type: Analysis

CMR = Carl Reagle

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-2

Client Sample ID: PILE 105

Date Collected: 07/17/18 14:00

Date Received: 07/18/18 08:50

Lab Sample ID: 180-79862-1

Matrix: Solid

Percent Solids: 93.4

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	F1	0.018	0.0057	mg/Kg	☼	07/18/18 15:38	07/21/18 11:50	1
PCB-1221	ND		0.018	0.011	mg/Kg	☼	07/18/18 15:38	07/21/18 11:50	1
PCB-1232	ND		0.018	0.010	mg/Kg	☼	07/18/18 15:38	07/21/18 11:50	1
PCB-1242	ND		0.018	0.011	mg/Kg	☼	07/18/18 15:38	07/21/18 11:50	1
PCB-1248	3.3		0.018	0.014	mg/Kg	☼	07/18/18 15:38	07/21/18 11:50	1
PCB-1254	1.4		0.018	0.012	mg/Kg	☼	07/18/18 15:38	07/21/18 11:50	1
PCB-1260	0.16		0.018	0.0050	mg/Kg	☼	07/18/18 15:38	07/21/18 11:50	1
PCB-1262	ND		0.018	0.012	mg/Kg	☼	07/18/18 15:38	07/21/18 11:50	1
PCB-1268	ND		0.018	0.0086	mg/Kg	☼	07/18/18 15:38	07/21/18 11:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	85		33 - 137				07/18/18 15:38	07/21/18 11:50	1
DCB Decachlorobiphenyl (Surr)	80		33 - 137				07/18/18 15:38	07/21/18 11:50	1
Tetrachloro-m-xylene (Surr)	85		44 - 114				07/18/18 15:38	07/21/18 11:50	1
Tetrachloro-m-xylene (Surr)	78		44 - 114				07/18/18 15:38	07/21/18 11:50	1

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-2

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 180-250948/1-A

Matrix: Solid

Analysis Batch: 251199

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 250948

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.017	0.0054	mg/Kg		07/18/18 15:38	07/21/18 11:11	1
PCB-1221	ND		0.017	0.011	mg/Kg		07/18/18 15:38	07/21/18 11:11	1
PCB-1232	ND		0.017	0.0099	mg/Kg		07/18/18 15:38	07/21/18 11:11	1
PCB-1242	ND		0.017	0.010	mg/Kg		07/18/18 15:38	07/21/18 11:11	1
PCB-1248	ND		0.017	0.013	mg/Kg		07/18/18 15:38	07/21/18 11:11	1
PCB-1254	ND		0.017	0.011	mg/Kg		07/18/18 15:38	07/21/18 11:11	1
PCB-1260	ND		0.017	0.0047	mg/Kg		07/18/18 15:38	07/21/18 11:11	1
PCB-1262	ND		0.017	0.012	mg/Kg		07/18/18 15:38	07/21/18 11:11	1
PCB-1268	ND		0.017	0.0081	mg/Kg		07/18/18 15:38	07/21/18 11:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	88		33 - 137	07/18/18 15:38	07/21/18 11:11	1
DCB Decachlorobiphenyl (Surr)	85		33 - 137	07/18/18 15:38	07/21/18 11:11	1
Tetrachloro-m-xylene (Surr)	95		44 - 114	07/18/18 15:38	07/21/18 11:11	1
Tetrachloro-m-xylene (Surr)	91		44 - 114	07/18/18 15:38	07/21/18 11:11	1

Lab Sample ID: LCS 180-250948/2-A

Matrix: Solid

Analysis Batch: 251199

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250948

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016	1.33	1.29		mg/Kg		96	46 - 122
PCB-1260	1.33	1.08		mg/Kg		81	51 - 119

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	89		33 - 137
DCB Decachlorobiphenyl (Surr)	85		33 - 137
Tetrachloro-m-xylene (Surr)	95		44 - 114
Tetrachloro-m-xylene (Surr)	91		44 - 114

Lab Sample ID: 180-79862-1 MS

Matrix: Solid

Analysis Batch: 251199

Client Sample ID: PILE 105

Prep Type: Total/NA

Prep Batch: 250948

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
PCB-1016	ND	F1	1.42	1.94	F1	mg/Kg	☼	137	46 - 122
PCB-1260	0.16		1.42	1.11		mg/Kg	☼	67	51 - 119

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	83		33 - 137
DCB Decachlorobiphenyl (Surr)	79		33 - 137
Tetrachloro-m-xylene (Surr)	86		44 - 114
Tetrachloro-m-xylene (Surr)	80		44 - 114

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-2

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 180-79862-1 MSD

Matrix: Solid

Analysis Batch: 251199

Client Sample ID: PILE 105

Prep Type: Total/NA

Prep Batch: 250948

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	ND	F1	1.39	2.33	F1	mg/Kg	✖	167	46 - 122	18	23
PCB-1260	0.16		1.39	1.14		mg/Kg	✖	70	51 - 119	2	17

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	82		33 - 137
DCB Decachlorobiphenyl (Surr)	76		33 - 137
Tetrachloro-m-xylene (Surr)	79		44 - 114
Tetrachloro-m-xylene (Surr)	72		44 - 114

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79862-2

GC Semi VOA

Prep Batch: 250948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-1	PILE 105	Total/NA	Solid	3541	
MB 180-250948/1-A	Method Blank	Total/NA	Solid	3541	
LCS 180-250948/2-A	Lab Control Sample	Total/NA	Solid	3541	
180-79862-1 MS	PILE 105	Total/NA	Solid	3541	
180-79862-1 MSD	PILE 105	Total/NA	Solid	3541	

Cleanup Batch: 251114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-1	PILE 105	Total/NA	Solid	3665A	250948
180-79862-1 MS	PILE 105	Total/NA	Solid	3665A	250948
180-79862-1 MSD	PILE 105	Total/NA	Solid	3665A	250948

Cleanup Batch: 251115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-1	PILE 105	Total/NA	Solid	3660B	251114
180-79862-1 MS	PILE 105	Total/NA	Solid	3660B	251114
180-79862-1 MSD	PILE 105	Total/NA	Solid	3660B	251114

Analysis Batch: 251199

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79862-1	PILE 105	Total/NA	Solid	EPA 8082A	251115
MB 180-250948/1-A	Method Blank	Total/NA	Solid	EPA 8082A	250948
LCS 180-250948/2-A	Lab Control Sample	Total/NA	Solid	EPA 8082A	250948
180-79862-1 MS	PILE 105	Total/NA	Solid	EPA 8082A	251115
180-79862-1 MSD	PILE 105	Total/NA	Solid	EPA 8082A	251115

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 180-79862-2

Login Number: 79862

List Number: 1

Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pittsburgh

301 Alpha Drive

RIDC Park

Pittsburgh, PA 15238

Tel: (412)963-7058

TestAmerica Job ID: 180-80015-1

Client Project/Site: Former Sperry Remington Site-North

For:

Geosyntec Consultants, Inc.

10211 Wincopin Circle

4th Floor

Columbia, Maryland 21044

Attn: Mr. Aron Krasnopoler



Authorized for release by:

7/27/2018 3:43:40 PM

David Dunlap, Senior Project Manager

(412)963-2432

david.dunlap@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	12
QC Sample Results	21
QC Association Summary	29
Chain of Custody	32
Receipt Checklists	33



Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Job ID: 180-80015-1

Laboratory: TestAmerica Pittsburgh

Narrative

Job Narrative 180-80015-1

Receipt

The samples were received on 7/20/2018 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) analyzed in batch 180-251682 was below criteria for the following analyte: acetone. A CCV standard at or below the reporting limit (RL) was analyzed with the affected sample and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D LL: The following sample was diluted due to the nature of the sample matrix (extract was black and viscous): PILE 106 (180-80015-1). The surrogates were diluted out. Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: The following sample was diluted due to the nature of the sample matrix: FH (180-80015-6). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method(s) 6010C: The matrix spike/matrix spike duplicate (MS/MSD) of sample PILE 106 (180-80015-1) had the recoveries of copper and/or zinc outside of the control limits. The RPD between the spikes was above the control limits for zinc. The recoveries of the laboratory control sample were within the control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Laboratory: TestAmerica Pittsburgh

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11182	03-31-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
2540G		Solid	Percent Moisture
2540G		Solid	Percent Solids
EPA 8270D LL	3541	Solid	1,4-Dioxane

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-80015-1	PILE 106	Solid	07/19/18 14:55	07/20/18 09:15
180-80015-2	PILE 106A	Solid	07/19/18 15:00	07/20/18 09:15
180-80015-3	PILE 106B	Solid	07/19/18 15:05	07/20/18 09:15
180-80015-4	PILE 106C	Solid	07/19/18 15:10	07/20/18 09:15
180-80015-5	PILE 106D	Solid	07/19/18 15:15	07/20/18 09:15
180-80015-6	FH	Solid	07/19/18 14:40	07/20/18 09:15
180-80015-7	FHA	Solid	07/19/18 14:45	07/20/18 09:15
180-80015-8	FHB	Solid	07/19/18 14:45	07/20/18 09:15

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Method	Method Description	Protocol	Laboratory
EPA 8260C	Volatile Organic Compounds by GC/MS	SW846	TAL PIT
EPA 8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PIT
EPA 6010C	Metals (ICP)	SW846	TAL PIT
EPA 7471B	Mercury (CVAA)	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
EPA 9014	Cyanide	SW846	TAL PIT
3050B	Preparation, Metals	SW846	TAL PIT
3541	Automated Soxhlet Extraction (Low Level)	SW846	TAL PIT
5035	Closed System Purge and Trap	SW846	TAL PIT
7471B	Preparation, Mercury	SW846	TAL PIT
9010C	Cyanide, Distillation	SW846	TAL PIT

Protocol References:

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Client Sample ID: PILE 106

Date Collected: 07/19/18 14:55

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-1

Matrix: Solid

Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.2 g	0.5 mL	251364	07/23/18 13:59	SAC	TAL PIT
Total/NA	Analysis	EPA 8270D LL		25	1 mL	1 mL	251435	07/24/18 20:09	DLF	TAL PIT
		Instrument ID: CH71								
Total/NA	Prep	3050B			1.01 g	100 mL	251361	07/23/18 13:31	KA	TAL PIT
Total/NA	Analysis	EPA 6010C		1			251879	07/27/18 07:41	RJG	TAL PIT
		Instrument ID: C								
Total/NA	Prep	7471B			0.73 g	100 mL	251322	07/23/18 11:05	RJR	TAL PIT
Total/NA	Analysis	EPA 7471B		1			251468	07/24/18 12:22	RJR	TAL PIT
		Instrument ID: HGZ								
Total/NA	Prep	9010C			1.05 g	50 mL	251441	07/24/18 12:16	JAS	TAL PIT
Total/NA	Analysis	EPA 9014		1			251566	07/24/18 18:01	JAS	TAL PIT
		Instrument ID: SEAL2								

Client Sample ID: PILE 106A

Date Collected: 07/19/18 15:00

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			251287	07/23/18 08:19	AVS	TAL PIT
		Instrument ID: NOEQUIP								

Client Sample ID: PILE 106A

Date Collected: 07/19/18 15:00

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-2

Matrix: Solid

Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.1228 g	5 mL	251277	07/23/18 06:00	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	251272	07/23/18 17:33	KLG	TAL PIT
		Instrument ID: CHHP3								

Client Sample ID: PILE 106B

Date Collected: 07/19/18 15:05

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			251287	07/23/18 08:19	AVS	TAL PIT
		Instrument ID: NOEQUIP								

TestAmerica Pittsburgh

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Client Sample ID: PILE 106B

Date Collected: 07/19/18 15:05

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-3

Matrix: Solid

Percent Solids: 90.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.3916 g	5 mL	251277	07/23/18 06:00	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	251272	07/23/18 17:57	KLG	TAL PIT
Instrument ID: CHHP3										

Client Sample ID: PILE 106C

Date Collected: 07/19/18 15:10

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			251287	07/23/18 08:19	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: PILE 106C

Date Collected: 07/19/18 15:10

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-4

Matrix: Solid

Percent Solids: 91.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.1499 g	5 mL	251277	07/23/18 06:00	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	251272	07/23/18 18:20	KLG	TAL PIT
Instrument ID: CHHP3										

Client Sample ID: PILE 106D

Date Collected: 07/19/18 15:15

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			251287	07/23/18 08:19	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: PILE 106D

Date Collected: 07/19/18 15:15

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-5

Matrix: Solid

Percent Solids: 90.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.3651 g	5 mL	251277	07/23/18 06:00	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	251272	07/23/18 18:44	KLG	TAL PIT
Instrument ID: CHHP3										

TestAmerica Pittsburgh

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Client Sample ID: FH

Date Collected: 07/19/18 14:40

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-6

Matrix: Solid

Percent Solids: 93.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.2 g	0.5 mL	251364	07/23/18 13:59	SAC	TAL PIT
Total/NA	Analysis	EPA 8270D LL		5	1 mL	1 mL	251435	07/24/18 20:36	DLF	TAL PIT
		Instrument ID: CH71								
Total/NA	Prep	3050B			1.01 g	100 mL	251361	07/23/18 13:31	KA	TAL PIT
Total/NA	Analysis	EPA 6010C		1			251879	07/27/18 08:06	RJG	TAL PIT
		Instrument ID: C								
Total/NA	Prep	7471B			0.65 g	100 mL	251322	07/23/18 11:05	RJR	TAL PIT
Total/NA	Analysis	EPA 7471B		1			251468	07/24/18 12:23	RJR	TAL PIT
		Instrument ID: HGZ								
Total/NA	Prep	9010C			1.01 g	50 mL	251441	07/24/18 12:16	JAS	TAL PIT
Total/NA	Analysis	EPA 9014		1			251566	07/24/18 18:03	JAS	TAL PIT
		Instrument ID: SEAL2								

Client Sample ID: FHA

Date Collected: 07/19/18 14:45

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			251287	07/23/18 08:19	AVS	TAL PIT
		Instrument ID: NOEQUIP								

Client Sample ID: FHA

Date Collected: 07/19/18 14:45

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-7

Matrix: Solid

Percent Solids: 93.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.081 g	5 mL	251277	07/23/18 06:00	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	251272	07/23/18 19:07	KLG	TAL PIT
		Instrument ID: CHHP3								

Client Sample ID: FHB

Date Collected: 07/19/18 14:45

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			251287	07/23/18 08:19	AVS	TAL PIT
		Instrument ID: NOEQUIP								

TestAmerica Pittsburgh

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Client Sample ID: FHB

Date Collected: 07/19/18 14:45

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-8

Matrix: Solid

Percent Solids: 90.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.1664 g	5 mL	251691	07/26/18 05:50	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	251682	07/26/18 10:22	KLG	TAL PIT
Instrument ID: CHHP3										

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT

Batch Type: Prep

JAS = Joshua Schmidt

KA = Kayla Kalamasz

KLK = Kathy Gordon

RJR = Ron Rosenbaum

SAC = Shawn Clemente

Batch Type: Analysis

AVS = Abbey Smith

DLF = Donald Ferguson

JAS = Joshua Schmidt

KLK = Kathy Gordon

RJG = Rob Good

RJR = Ron Rosenbaum

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Client Sample ID: PILE 106

Date Collected: 07/19/18 14:55

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-1

Matrix: Solid

Percent Solids: 90.5

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.18	0.052	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Acenaphthylene	0.096	J	0.18	0.040	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Anthracene	0.13	J	0.18	0.047	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Benzo[a]anthracene	0.41		0.18	0.034	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Benzo[a]pyrene	0.45		0.18	0.040	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Benzo[b]fluoranthene	0.60		0.18	0.045	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Benzo[g,h,i]perylene	0.39		0.18	0.039	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Benzo[k]fluoranthene	0.22		0.18	0.055	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Chrysene	0.50		0.18	0.036	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Dibenz(a,h)anthracene	0.094	J	0.18	0.041	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Dibenzofuran	ND		0.90	0.040	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
2,4-Dinitrotoluene	ND		0.90	0.045	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
1,4-Dioxane	ND		1.8	0.28	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Fluoranthene	0.90		0.18	0.048	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Fluorene	0.045	J	0.18	0.036	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Hexachlorobenzene	ND		0.18	0.065	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Hexachlorobutadiene	ND		0.18	0.053	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Hexachloroethane	ND		0.90	0.047	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Indeno[1,2,3-cd]pyrene	0.32		0.18	0.037	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
2-Methylphenol	ND		0.90	0.26	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Methylphenol, 3 & 4	ND		0.90	0.27	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Naphthalene	ND		0.18	0.035	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Nitrobenzene	ND		1.8	0.33	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Pentachlorophenol	ND		4.6	1.5	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Phenanthrene	0.57		0.18	0.049	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Phenol	ND		0.90	0.28	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Pyrene	0.74		0.18	0.043	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
Pyridine	ND		1.8	0.49	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
2,4,5-Trichlorophenol	ND		0.90	0.065	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25
2,4,6-Trichlorophenol	ND		0.90	0.050	mg/Kg	☼	07/23/18 13:59	07/24/18 20:09	25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	0	D X	39 - 105	07/23/18 13:59	07/24/18 20:09	25
2-Fluorophenol (Surr)	0	D X	35 - 105	07/23/18 13:59	07/24/18 20:09	25
Nitrobenzene-d5 (Surr)	0	D X	39 - 105	07/23/18 13:59	07/24/18 20:09	25
Phenol-d5 (Surr)	0	D X	42 - 105	07/23/18 13:59	07/24/18 20:09	25
Terphenyl-d14 (Surr)	0	D X	28 - 148	07/23/18 13:59	07/24/18 20:09	25
2,4,6-Tribromophenol (Surr)	0	D X	44 - 105	07/23/18 13:59	07/24/18 20:09	25

Method: EPA 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.5		1.1	0.30	mg/Kg	☼	07/23/18 13:31	07/27/18 07:41	1
Barium	39		22	1.2	mg/Kg	☼	07/23/18 13:31	07/27/18 07:41	1
Beryllium	0.25	J	0.44	0.025	mg/Kg	☼	07/23/18 13:31	07/27/18 07:41	1
Cadmium	0.21	J	0.55	0.040	mg/Kg	☼	07/23/18 13:31	07/27/18 07:41	1
Chromium	8.2		0.55	0.13	mg/Kg	☼	07/23/18 13:31	07/27/18 07:41	1
Copper	27	F1	2.7	0.18	mg/Kg	☼	07/23/18 13:31	07/27/18 07:41	1
Lead	16		1.1	0.27	mg/Kg	☼	07/23/18 13:31	07/27/18 07:41	1
Manganese	420		1.6	0.18	mg/Kg	☼	07/23/18 13:31	07/27/18 07:41	1
Nickel	15		4.4	0.27	mg/Kg	☼	07/23/18 13:31	07/27/18 07:41	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Client Sample ID: PILE 106

Date Collected: 07/19/18 14:55

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-1

Matrix: Solid

Percent Solids: 90.5

Method: EPA 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND		1.1	0.56	mg/Kg	☼	07/23/18 13:31	07/27/18 07:41	1
Silver	ND		0.55	0.12	mg/Kg	☼	07/23/18 13:31	07/27/18 07:41	1
Zinc	110	F2 F1	2.2	1.2	mg/Kg	☼	07/23/18 13:31	07/27/18 07:41	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.044		0.030	0.0067	mg/Kg	☼	07/23/18 11:05	07/24/18 12:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.53	0.29	mg/Kg	☼	07/24/18 12:16	07/24/18 18:01	1

Client Sample ID: PILE 106A

Date Collected: 07/19/18 15:00

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-2

Matrix: Solid

Percent Solids: 92.6

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.021	0.0033	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
Benzene	ND		0.0053	0.0021	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
2-Butanone (MEK)	ND		0.0053	0.0031	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
Carbon tetrachloride	ND		0.0053	0.0035	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
Chlorobenzene	ND		0.0053	0.0017	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
Chloroform	ND		0.0053	0.0022	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
cis-1,2-Dichloroethene	ND		0.0053	0.0017	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
1,2-Dichlorobenzene	ND		0.0053	0.0042	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
1,3-Dichlorobenzene	ND		0.0053	0.0017	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
1,4-Dichlorobenzene	ND		0.0053	0.0011	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
1,1-Dichloroethane	ND		0.0053	0.0019	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
1,2-Dichloroethane	ND		0.0053	0.0015	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
1,1-Dichloroethene	ND		0.0053	0.0030	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
1,4-Dioxane	ND		1100	39	ug/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
Ethylbenzene	ND		0.0053	0.0023	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
Methylene Chloride	ND		0.0053	0.0025	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
Methyl tert-butyl ether	ND		0.0053	0.0039	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
n-Butylbenzene	ND		0.0053	0.0040	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
N-Propylbenzene	ND		0.0053	0.0022	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
sec-Butylbenzene	ND		0.0053	0.0026	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
tert-Butylbenzene	ND		0.0053	0.0019	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
Tetrachloroethene	ND		0.0053	0.0021	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
Toluene	ND		0.0053	0.0018	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
trans-1,2-Dichloroethene	ND		0.0053	0.0027	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
1,1,1-Trichloroethane	ND		0.0053	0.0026	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
Trichloroethene	ND		0.0053	0.0016	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
1,2,4-Trimethylbenzene	ND		0.0053	0.0014	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
1,3,5-Trimethylbenzene	ND		0.0053	0.0018	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
Vinyl chloride	ND		0.0053	0.0039	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1
Xylenes, Total	ND		0.011	0.0045	mg/Kg	☼	07/23/18 06:00	07/23/18 17:33	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Client Sample ID: PILE 106A

Date Collected: 07/19/18 15:00

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-2

Matrix: Solid

Percent Solids: 92.6

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		76 - 111	07/23/18 06:00	07/23/18 17:33	1
Dibromofluoromethane (Surr)	90		72 - 116	07/23/18 06:00	07/23/18 17:33	1
1,2-Dichloroethane-d4 (Surr)	89		62 - 118	07/23/18 06:00	07/23/18 17:33	1
Toluene-d8 (Surr)	98		80 - 129	07/23/18 06:00	07/23/18 17:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.4		0.1	0.1	%			07/23/18 08:19	1
Percent Solids	92.6		0.1	0.1	%			07/23/18 08:19	1

Client Sample ID: PILE 106B

Date Collected: 07/19/18 15:05

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-3

Matrix: Solid

Percent Solids: 90.3

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.021	0.0032	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
Benzene	ND		0.0051	0.0020	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
2-Butanone (MEK)	ND		0.0051	0.0030	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
Carbon tetrachloride	ND		0.0051	0.0034	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
Chlorobenzene	ND		0.0051	0.0016	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
Chloroform	ND		0.0051	0.0022	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
cis-1,2-Dichloroethene	ND		0.0051	0.0016	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
1,2-Dichlorobenzene	ND		0.0051	0.0041	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
1,3-Dichlorobenzene	ND		0.0051	0.0016	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
1,4-Dichlorobenzene	ND		0.0051	0.0010	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
1,1-Dichloroethane	ND		0.0051	0.0019	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
1,2-Dichloroethane	ND		0.0051	0.0015	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
1,1-Dichloroethene	ND		0.0051	0.0029	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
1,4-Dioxane	ND		1000	38	ug/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
Ethylbenzene	ND		0.0051	0.0022	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
Methylene Chloride	ND		0.0051	0.0024	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
Methyl tert-butyl ether	ND		0.0051	0.0038	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
n-Butylbenzene	ND		0.0051	0.0039	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
N-Propylbenzene	ND		0.0051	0.0022	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
sec-Butylbenzene	ND		0.0051	0.0025	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
tert-Butylbenzene	ND		0.0051	0.0019	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
Tetrachloroethene	ND		0.0051	0.0021	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
Toluene	ND		0.0051	0.0017	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
trans-1,2-Dichloroethene	ND		0.0051	0.0026	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
1,1,1-Trichloroethane	ND		0.0051	0.0026	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
Trichloroethene	ND		0.0051	0.0015	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
1,2,4-Trimethylbenzene	ND		0.0051	0.0014	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
1,3,5-Trimethylbenzene	ND		0.0051	0.0018	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
Vinyl chloride	ND		0.0051	0.0038	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1
Xylenes, Total	ND		0.010	0.0044	mg/Kg	☼	07/23/18 06:00	07/23/18 17:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		76 - 111	07/23/18 06:00	07/23/18 17:57	1
Dibromofluoromethane (Surr)	99		72 - 116	07/23/18 06:00	07/23/18 17:57	1
1,2-Dichloroethane-d4 (Surr)	93		62 - 118	07/23/18 06:00	07/23/18 17:57	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Client Sample ID: PILE 106B

Date Collected: 07/19/18 15:05

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-3

Matrix: Solid

Percent Solids: 90.3

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	94		80 - 129	07/23/18 06:00	07/23/18 17:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.7		0.1	0.1	%			07/23/18 08:19	1
Percent Solids	90.3		0.1	0.1	%			07/23/18 08:19	1

Client Sample ID: PILE 106C

Date Collected: 07/19/18 15:10

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-4

Matrix: Solid

Percent Solids: 91.1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.021	0.0034	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
Benzene	ND		0.0053	0.0021	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
2-Butanone (MEK)	ND		0.0053	0.0031	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
Carbon tetrachloride	ND		0.0053	0.0035	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
Chlorobenzene	ND		0.0053	0.0017	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
Chloroform	ND		0.0053	0.0023	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
cis-1,2-Dichloroethene	ND		0.0053	0.0017	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
1,2-Dichlorobenzene	ND		0.0053	0.0043	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
1,3-Dichlorobenzene	ND		0.0053	0.0017	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
1,4-Dichlorobenzene	ND		0.0053	0.0011	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
1,1-Dichloroethane	ND		0.0053	0.0019	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
1,2-Dichloroethane	ND		0.0053	0.0015	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
1,1-Dichloroethene	ND		0.0053	0.0030	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
1,4-Dioxane	ND		1100	39	ug/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
Ethylbenzene	ND		0.0053	0.0023	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
Methylene Chloride	ND		0.0053	0.0025	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
Methyl tert-butyl ether	ND		0.0053	0.0039	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
n-Butylbenzene	ND		0.0053	0.0040	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
N-Propylbenzene	ND		0.0053	0.0022	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
sec-Butylbenzene	ND		0.0053	0.0026	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
tert-Butylbenzene	ND		0.0053	0.0019	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
Tetrachloroethene	ND		0.0053	0.0021	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
Toluene	ND		0.0053	0.0018	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
trans-1,2-Dichloroethene	ND		0.0053	0.0027	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
1,1,1-Trichloroethane	ND		0.0053	0.0027	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
Trichloroethene	ND		0.0053	0.0016	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
1,2,4-Trimethylbenzene	ND		0.0053	0.0014	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
1,3,5-Trimethylbenzene	ND		0.0053	0.0018	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
Vinyl chloride	ND		0.0053	0.0039	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1
Xylenes, Total	ND		0.011	0.0046	mg/Kg	☼	07/23/18 06:00	07/23/18 18:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		76 - 111	07/23/18 06:00	07/23/18 18:20	1
Dibromofluoromethane (Surr)	92		72 - 116	07/23/18 06:00	07/23/18 18:20	1
1,2-Dichloroethane-d4 (Surr)	87		62 - 118	07/23/18 06:00	07/23/18 18:20	1
Toluene-d8 (Surr)	95		80 - 129	07/23/18 06:00	07/23/18 18:20	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Client Sample ID: PILE 106C

Date Collected: 07/19/18 15:10

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-4

Matrix: Solid

Percent Solids: 91.1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.9		0.1	0.1	%			07/23/18 08:19	1
Percent Solids	91.1		0.1	0.1	%			07/23/18 08:19	1

Client Sample ID: PILE 106D

Date Collected: 07/19/18 15:15

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-5

Matrix: Solid

Percent Solids: 90.7

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.0054	J	0.021	0.0032	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
Benzene	ND		0.0051	0.0020	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
2-Butanone (MEK)	ND		0.0051	0.0030	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
Carbon tetrachloride	ND		0.0051	0.0034	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
Chlorobenzene	ND		0.0051	0.0016	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
Chloroform	ND		0.0051	0.0022	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
cis-1,2-Dichloroethene	ND		0.0051	0.0016	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
1,2-Dichlorobenzene	ND		0.0051	0.0041	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
1,3-Dichlorobenzene	ND		0.0051	0.0016	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
1,4-Dichlorobenzene	ND		0.0051	0.0010	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
1,1-Dichloroethane	ND		0.0051	0.0019	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
1,2-Dichloroethane	ND		0.0051	0.0015	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
1,1-Dichloroethene	ND		0.0051	0.0029	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
1,4-Dioxane	ND		1000	38	ug/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
Ethylbenzene	ND		0.0051	0.0022	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
Methylene Chloride	ND		0.0051	0.0024	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
Methyl tert-butyl ether	ND		0.0051	0.0038	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
n-Butylbenzene	ND		0.0051	0.0039	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
N-Propylbenzene	ND		0.0051	0.0022	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
sec-Butylbenzene	ND		0.0051	0.0025	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
tert-Butylbenzene	ND		0.0051	0.0019	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
Tetrachloroethene	ND		0.0051	0.0021	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
Toluene	ND		0.0051	0.0017	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
trans-1,2-Dichloroethene	ND		0.0051	0.0026	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
1,1,1-Trichloroethane	ND		0.0051	0.0026	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
Trichloroethene	ND		0.0051	0.0015	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
1,2,4-Trimethylbenzene	ND		0.0051	0.0014	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
1,3,5-Trimethylbenzene	ND		0.0051	0.0018	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
Vinyl chloride	ND		0.0051	0.0038	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1
Xylenes, Total	ND		0.010	0.0044	mg/Kg	☼	07/23/18 06:00	07/23/18 18:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		76 - 111	07/23/18 06:00	07/23/18 18:44	1
Dibromofluoromethane (Surr)	95		72 - 116	07/23/18 06:00	07/23/18 18:44	1
1,2-Dichloroethane-d4 (Surr)	91		62 - 118	07/23/18 06:00	07/23/18 18:44	1
Toluene-d8 (Surr)	99		80 - 129	07/23/18 06:00	07/23/18 18:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.3		0.1	0.1	%			07/23/18 08:19	1
Percent Solids	90.7		0.1	0.1	%			07/23/18 08:19	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Client Sample ID: FH

Date Collected: 07/19/18 14:40

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-6

Matrix: Solid

Percent Solids: 93.2

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.016	J	0.035	0.010	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Acenaphthylene	0.15		0.035	0.0077	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Anthracene	0.13		0.035	0.0092	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Benzo[a]anthracene	0.97		0.035	0.0067	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Benzo[a]pyrene	0.85		0.035	0.0077	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Benzo[b]fluoranthene	1.0		0.035	0.0087	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Benzo[g,h,i]perylene	0.71		0.035	0.0076	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Benzo[k]fluoranthene	0.62		0.035	0.011	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Chrysene	0.95		0.035	0.0069	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Dibenz(a,h)anthracene	0.16		0.035	0.0079	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Dibenzofuran	0.019	J	0.17	0.0077	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
2,4-Dinitrotoluene	ND		0.17	0.0088	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
1,4-Dioxane	ND		0.35	0.055	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Fluoranthene	1.2		0.035	0.0093	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Fluorene	0.025	J	0.035	0.0069	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Hexachlorobenzene	ND		0.035	0.013	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Hexachlorobutadiene	ND		0.035	0.010	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Hexachloroethane	ND		0.17	0.0091	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Indeno[1,2,3-cd]pyrene	0.60		0.035	0.0071	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
2-Methylphenol	ND		0.17	0.051	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Methylphenol, 3 & 4	ND		0.17	0.052	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Naphthalene	0.030	J	0.035	0.0069	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Nitrobenzene	ND		0.35	0.065	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Pentachlorophenol	ND		0.90	0.28	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Phenanthrene	0.23		0.035	0.0095	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Phenol	ND		0.17	0.053	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Pyrene	1.2		0.035	0.0084	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
Pyridine	ND		0.35	0.095	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
2,4,5-Trichlorophenol	ND		0.17	0.013	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5
2,4,6-Trichlorophenol	ND		0.17	0.0097	mg/Kg	☼	07/23/18 13:59	07/24/18 20:36	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	72		39 - 105	07/23/18 13:59	07/24/18 20:36	5
2-Fluorophenol (Surr)	70		35 - 105	07/23/18 13:59	07/24/18 20:36	5
Nitrobenzene-d5 (Surr)	71		39 - 105	07/23/18 13:59	07/24/18 20:36	5
Phenol-d5 (Surr)	75		42 - 105	07/23/18 13:59	07/24/18 20:36	5
Terphenyl-d14 (Surr)	63		28 - 148	07/23/18 13:59	07/24/18 20:36	5
2,4,6-Tribromophenol (Surr)	62		44 - 105	07/23/18 13:59	07/24/18 20:36	5

Method: EPA 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.3		1.1	0.29	mg/Kg	☼	07/23/18 13:31	07/27/18 08:06	1
Barium	71		21	1.1	mg/Kg	☼	07/23/18 13:31	07/27/18 08:06	1
Beryllium	0.28	J	0.43	0.024	mg/Kg	☼	07/23/18 13:31	07/27/18 08:06	1
Cadmium	0.19	J	0.53	0.039	mg/Kg	☼	07/23/18 13:31	07/27/18 08:06	1
Chromium	13		0.53	0.13	mg/Kg	☼	07/23/18 13:31	07/27/18 08:06	1
Copper	85		2.7	0.18	mg/Kg	☼	07/23/18 13:31	07/27/18 08:06	1
Lead	64		1.1	0.26	mg/Kg	☼	07/23/18 13:31	07/27/18 08:06	1
Manganese	610		1.6	0.17	mg/Kg	☼	07/23/18 13:31	07/27/18 08:06	1
Nickel	150		4.3	0.26	mg/Kg	☼	07/23/18 13:31	07/27/18 08:06	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Client Sample ID: FH

Date Collected: 07/19/18 14:40

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-6

Matrix: Solid

Percent Solids: 93.2

Method: EPA 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.62	J	1.1	0.55	mg/Kg	☼	07/23/18 13:31	07/27/18 08:06	1
Silver	ND		0.53	0.11	mg/Kg	☼	07/23/18 13:31	07/27/18 08:06	1
Zinc	97		2.1	1.1	mg/Kg	☼	07/23/18 13:31	07/27/18 08:06	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.073		0.033	0.0073	mg/Kg	☼	07/23/18 11:05	07/24/18 12:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	5.2		0.53	0.29	mg/Kg	☼	07/24/18 12:16	07/24/18 18:03	1

Client Sample ID: FHA

Date Collected: 07/19/18 14:45

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-7

Matrix: Solid

Percent Solids: 93.1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.0050	J	0.021	0.0033	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
Benzene	ND		0.0053	0.0021	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
2-Butanone (MEK)	ND		0.0053	0.0031	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
Carbon tetrachloride	ND		0.0053	0.0035	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
Chlorobenzene	ND		0.0053	0.0017	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
Chloroform	ND		0.0053	0.0022	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
cis-1,2-Dichloroethene	ND		0.0053	0.0017	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
1,2-Dichlorobenzene	ND		0.0053	0.0043	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
1,3-Dichlorobenzene	ND		0.0053	0.0017	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
1,4-Dichlorobenzene	ND		0.0053	0.0011	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
1,1-Dichloroethane	ND		0.0053	0.0019	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
1,2-Dichloroethane	ND		0.0053	0.0015	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
1,1-Dichloroethene	ND		0.0053	0.0030	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
1,4-Dioxane	ND		1100	39	ug/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
Ethylbenzene	ND		0.0053	0.0023	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
Methylene Chloride	ND		0.0053	0.0025	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
Methyl tert-butyl ether	ND		0.0053	0.0039	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
n-Butylbenzene	ND		0.0053	0.0040	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
N-Propylbenzene	ND		0.0053	0.0022	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
sec-Butylbenzene	ND		0.0053	0.0026	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
tert-Butylbenzene	ND		0.0053	0.0019	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
Tetrachloroethene	ND		0.0053	0.0021	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
Toluene	ND		0.0053	0.0018	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
trans-1,2-Dichloroethene	ND		0.0053	0.0027	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
1,1,1-Trichloroethane	ND		0.0053	0.0027	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
Trichloroethene	0.0039	J	0.0053	0.0016	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
1,2,4-Trimethylbenzene	ND		0.0053	0.0014	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
1,3,5-Trimethylbenzene	ND		0.0053	0.0018	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
Vinyl chloride	ND		0.0053	0.0039	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1
Xylenes, Total	ND		0.011	0.0046	mg/Kg	☼	07/23/18 06:00	07/23/18 19:07	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Client Sample ID: FHA

Date Collected: 07/19/18 14:45

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-7

Matrix: Solid

Percent Solids: 93.1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	88		76 - 111	07/23/18 06:00	07/23/18 19:07	1
Dibromofluoromethane (Surr)	92		72 - 116	07/23/18 06:00	07/23/18 19:07	1
1,2-Dichloroethane-d4 (Surr)	89		62 - 118	07/23/18 06:00	07/23/18 19:07	1
Toluene-d8 (Surr)	97		80 - 129	07/23/18 06:00	07/23/18 19:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.9		0.1	0.1	%			07/23/18 08:19	1
Percent Solids	93.1		0.1	0.1	%			07/23/18 08:19	1

Client Sample ID: FHB

Date Collected: 07/19/18 14:45

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-8

Matrix: Solid

Percent Solids: 90.4

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.021	0.0034	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
Benzene	ND		0.0054	0.0021	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
2-Butanone (MEK)	ND		0.0054	0.0031	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
Carbon tetrachloride	ND		0.0054	0.0035	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
Chlorobenzene	ND		0.0054	0.0017	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
Chloroform	ND		0.0054	0.0023	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
cis-1,2-Dichloroethene	ND		0.0054	0.0017	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
1,2-Dichlorobenzene	ND		0.0054	0.0043	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
1,3-Dichlorobenzene	ND		0.0054	0.0017	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
1,4-Dichlorobenzene	ND		0.0054	0.0011	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
1,1-Dichloroethane	ND		0.0054	0.0019	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
1,2-Dichloroethane	ND		0.0054	0.0016	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
1,1-Dichloroethene	ND		0.0054	0.0030	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
1,4-Dioxane	ND		1100	39	ug/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
Ethylbenzene	ND		0.0054	0.0023	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
Methylene Chloride	ND		0.0054	0.0025	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
Methyl tert-butyl ether	ND		0.0054	0.0039	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
n-Butylbenzene	ND		0.0054	0.0041	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
N-Propylbenzene	ND		0.0054	0.0023	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
sec-Butylbenzene	ND		0.0054	0.0026	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
tert-Butylbenzene	ND		0.0054	0.0020	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
Tetrachloroethene	ND		0.0054	0.0021	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
Toluene	ND		0.0054	0.0018	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
trans-1,2-Dichloroethene	ND		0.0054	0.0027	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
1,1,1-Trichloroethane	ND		0.0054	0.0027	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
Trichloroethene	0.0035	J	0.0054	0.0016	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
1,2,4-Trimethylbenzene	ND		0.0054	0.0014	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
1,3,5-Trimethylbenzene	ND		0.0054	0.0018	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
Vinyl chloride	ND		0.0054	0.0039	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1
Xylenes, Total	ND		0.011	0.0046	mg/Kg	☆	07/26/18 05:50	07/26/18 10:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		76 - 111	07/26/18 05:50	07/26/18 10:22	1
Dibromofluoromethane (Surr)	94		72 - 116	07/26/18 05:50	07/26/18 10:22	1
1,2-Dichloroethane-d4 (Surr)	91		62 - 118	07/26/18 05:50	07/26/18 10:22	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Client Sample ID: FHB

Date Collected: 07/19/18 14:45

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-8

Matrix: Solid

Percent Solids: 90.4

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	95		80 - 129	07/26/18 05:50	07/26/18 10:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.6		0.1	0.1	%			07/23/18 08:19	1
Percent Solids	90.4		0.1	0.1	%			07/23/18 08:19	1

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 180-251272/5

Matrix: Solid

Analysis Batch: 251272

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.020	0.0032	mg/Kg			07/23/18 10:09	1
Benzene	ND		0.0050	0.0020	mg/Kg			07/23/18 10:09	1
2-Butanone (MEK)	ND		0.0050	0.0029	mg/Kg			07/23/18 10:09	1
Carbon tetrachloride	ND		0.0050	0.0033	mg/Kg			07/23/18 10:09	1
Chlorobenzene	ND		0.0050	0.0016	mg/Kg			07/23/18 10:09	1
Chloroform	ND		0.0050	0.0021	mg/Kg			07/23/18 10:09	1
cis-1,2-Dichloroethene	ND		0.0050	0.0016	mg/Kg			07/23/18 10:09	1
1,2-Dichlorobenzene	ND		0.0050	0.0040	mg/Kg			07/23/18 10:09	1
1,3-Dichlorobenzene	ND		0.0050	0.0016	mg/Kg			07/23/18 10:09	1
1,4-Dichlorobenzene	ND		0.0050	0.0010	mg/Kg			07/23/18 10:09	1
1,1-Dichloroethane	ND		0.0050	0.0018	mg/Kg			07/23/18 10:09	1
1,2-Dichloroethane	ND		0.0050	0.0015	mg/Kg			07/23/18 10:09	1
1,1-Dichloroethene	ND		0.0050	0.0029	mg/Kg			07/23/18 10:09	1
1,4-Dioxane	ND		1000	37	ug/Kg			07/23/18 10:09	1
Ethylbenzene	ND		0.0050	0.0022	mg/Kg			07/23/18 10:09	1
Methylene Chloride	ND		0.0050	0.0024	mg/Kg			07/23/18 10:09	1
Methyl tert-butyl ether	ND		0.0050	0.0037	mg/Kg			07/23/18 10:09	1
n-Butylbenzene	ND		0.0050	0.0038	mg/Kg			07/23/18 10:09	1
N-Propylbenzene	ND		0.0050	0.0021	mg/Kg			07/23/18 10:09	1
sec-Butylbenzene	ND		0.0050	0.0024	mg/Kg			07/23/18 10:09	1
tert-Butylbenzene	ND		0.0050	0.0018	mg/Kg			07/23/18 10:09	1
Tetrachloroethene	ND		0.0050	0.0020	mg/Kg			07/23/18 10:09	1
Toluene	ND		0.0050	0.0017	mg/Kg			07/23/18 10:09	1
trans-1,2-Dichloroethene	ND		0.0050	0.0025	mg/Kg			07/23/18 10:09	1
1,1,1-Trichloroethane	ND		0.0050	0.0025	mg/Kg			07/23/18 10:09	1
Trichloroethene	ND		0.0050	0.0015	mg/Kg			07/23/18 10:09	1
1,2,4-Trimethylbenzene	ND		0.0050	0.0013	mg/Kg			07/23/18 10:09	1
1,3,5-Trimethylbenzene	ND		0.0050	0.0017	mg/Kg			07/23/18 10:09	1
Vinyl chloride	ND		0.0050	0.0037	mg/Kg			07/23/18 10:09	1
Xylenes, Total	ND		0.010	0.0043	mg/Kg			07/23/18 10:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		76 - 111		07/23/18 10:09	1
Dibromofluoromethane (Surr)	91		72 - 116		07/23/18 10:09	1
1,2-Dichloroethane-d4 (Surr)	91		62 - 118		07/23/18 10:09	1
Toluene-d8 (Surr)	91		80 - 129		07/23/18 10:09	1

Lab Sample ID: LCS 180-251272/3

Matrix: Solid

Analysis Batch: 251272

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0400	0.0311		mg/Kg		78	36 - 150
Benzene	0.0400	0.0380		mg/Kg		95	78 - 118
2-Butanone (MEK)	0.0400	0.0340		mg/Kg		85	30 - 150
Carbon tetrachloride	0.0400	0.0401		mg/Kg		100	60 - 137
Chlorobenzene	0.0400	0.0371		mg/Kg		93	78 - 118
Chloroform	0.0400	0.0377		mg/Kg		94	68 - 124

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 180-251272/3

Matrix: Solid

Analysis Batch: 251272

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	0.0400	0.0385		mg/Kg		96	71 - 120
1,2-Dichlorobenzene	0.0400	0.0373		mg/Kg		93	78 - 118
1,3-Dichlorobenzene	0.0400	0.0373		mg/Kg		93	78 - 118
1,4-Dichlorobenzene	0.0400	0.0367		mg/Kg		92	78 - 118
1,1-Dichloroethane	0.0400	0.0378		mg/Kg		94	67 - 129
1,2-Dichloroethane	0.0400	0.0373		mg/Kg		93	67 - 123
1,1-Dichloroethene	0.0400	0.0389		mg/Kg		97	59 - 128
Ethylbenzene	0.0400	0.0371		mg/Kg		93	78 - 118
Methylene Chloride	0.0400	0.0383		mg/Kg		96	68 - 120
Methyl tert-butyl ether	0.0400	0.0368		mg/Kg		92	73 - 121
n-Butylbenzene	0.0400	0.0377		mg/Kg		94	71 - 132
N-Propylbenzene	0.0400	0.0358		mg/Kg		90	72 - 126
sec-Butylbenzene	0.0400	0.0372		mg/Kg		93	80 - 126
tert-Butylbenzene	0.0400	0.0374		mg/Kg		93	80 - 122
Tetrachloroethene	0.0400	0.0391		mg/Kg		98	78 - 118
Toluene	0.0400	0.0371		mg/Kg		93	79 - 121
trans-1,2-Dichloroethene	0.0400	0.0393		mg/Kg		98	71 - 123
1,1,1-Trichloroethane	0.0400	0.0401		mg/Kg		100	69 - 135
Trichloroethene	0.0400	0.0397		mg/Kg		99	76 - 120
1,2,4-Trimethylbenzene	0.0400	0.0363		mg/Kg		91	77 - 122
1,3,5-Trimethylbenzene	0.0400	0.0356		mg/Kg		89	78 - 122
Vinyl chloride	0.0400	0.0337		mg/Kg		84	53 - 148
Xylenes, Total	0.0800	0.0742		mg/Kg		93	78 - 118

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		76 - 111
Dibromofluoromethane (Surr)	91		72 - 116
1,2-Dichloroethane-d4 (Surr)	87		62 - 118
Toluene-d8 (Surr)	87		80 - 129

Lab Sample ID: MB 180-251682/5

Matrix: Solid

Analysis Batch: 251682

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.020	0.0032	mg/Kg			07/26/18 08:02	1
Benzene	ND		0.0050	0.0020	mg/Kg			07/26/18 08:02	1
2-Butanone (MEK)	ND		0.0050	0.0029	mg/Kg			07/26/18 08:02	1
Carbon tetrachloride	ND		0.0050	0.0033	mg/Kg			07/26/18 08:02	1
Chlorobenzene	ND		0.0050	0.0016	mg/Kg			07/26/18 08:02	1
Chloroform	ND		0.0050	0.0021	mg/Kg			07/26/18 08:02	1
cis-1,2-Dichloroethene	ND		0.0050	0.0016	mg/Kg			07/26/18 08:02	1
1,2-Dichlorobenzene	ND		0.0050	0.0040	mg/Kg			07/26/18 08:02	1
1,3-Dichlorobenzene	ND		0.0050	0.0016	mg/Kg			07/26/18 08:02	1
1,4-Dichlorobenzene	ND		0.0050	0.0010	mg/Kg			07/26/18 08:02	1
1,1-Dichloroethane	ND		0.0050	0.0018	mg/Kg			07/26/18 08:02	1
1,2-Dichloroethane	ND		0.0050	0.0015	mg/Kg			07/26/18 08:02	1
1,1-Dichloroethene	ND		0.0050	0.0029	mg/Kg			07/26/18 08:02	1

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 180-251682/5

Matrix: Solid

Analysis Batch: 251682

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		1000	37	ug/Kg			07/26/18 08:02	1
Ethylbenzene	ND		0.0050	0.0022	mg/Kg			07/26/18 08:02	1
Methylene Chloride	ND		0.0050	0.0024	mg/Kg			07/26/18 08:02	1
Methyl tert-butyl ether	ND		0.0050	0.0037	mg/Kg			07/26/18 08:02	1
n-Butylbenzene	ND		0.0050	0.0038	mg/Kg			07/26/18 08:02	1
N-Propylbenzene	ND		0.0050	0.0021	mg/Kg			07/26/18 08:02	1
sec-Butylbenzene	ND		0.0050	0.0024	mg/Kg			07/26/18 08:02	1
tert-Butylbenzene	ND		0.0050	0.0018	mg/Kg			07/26/18 08:02	1
Tetrachloroethene	ND		0.0050	0.0020	mg/Kg			07/26/18 08:02	1
Toluene	ND		0.0050	0.0017	mg/Kg			07/26/18 08:02	1
trans-1,2-Dichloroethene	ND		0.0050	0.0025	mg/Kg			07/26/18 08:02	1
1,1,1-Trichloroethane	ND		0.0050	0.0025	mg/Kg			07/26/18 08:02	1
Trichloroethene	ND		0.0050	0.0015	mg/Kg			07/26/18 08:02	1
1,2,4-Trimethylbenzene	ND		0.0050	0.0013	mg/Kg			07/26/18 08:02	1
1,3,5-Trimethylbenzene	ND		0.0050	0.0017	mg/Kg			07/26/18 08:02	1
Vinyl chloride	ND		0.0050	0.0037	mg/Kg			07/26/18 08:02	1
Xylenes, Total	ND		0.010	0.0043	mg/Kg			07/26/18 08:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		76 - 111		07/26/18 08:02	1
Dibromofluoromethane (Surr)	86		72 - 116		07/26/18 08:02	1
1,2-Dichloroethane-d4 (Surr)	86		62 - 118		07/26/18 08:02	1
Toluene-d8 (Surr)	87		80 - 129		07/26/18 08:02	1

Lab Sample ID: LCS 180-251682/3

Matrix: Solid

Analysis Batch: 251682

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0400	0.0288		mg/Kg		72	36 - 150
Benzene	0.0400	0.0374		mg/Kg		94	78 - 118
2-Butanone (MEK)	0.0400	0.0308		mg/Kg		77	30 - 150
Carbon tetrachloride	0.0400	0.0439		mg/Kg		110	60 - 137
Chlorobenzene	0.0400	0.0380		mg/Kg		95	78 - 118
Chloroform	0.0400	0.0381		mg/Kg		95	68 - 124
cis-1,2-Dichloroethene	0.0400	0.0381		mg/Kg		95	71 - 120
1,2-Dichlorobenzene	0.0400	0.0372		mg/Kg		93	78 - 118
1,3-Dichlorobenzene	0.0400	0.0384		mg/Kg		96	78 - 118
1,4-Dichlorobenzene	0.0400	0.0380		mg/Kg		95	78 - 118
1,1-Dichloroethane	0.0400	0.0390		mg/Kg		98	67 - 129
1,2-Dichloroethane	0.0400	0.0357		mg/Kg		89	67 - 123
1,1-Dichloroethene	0.0400	0.0405		mg/Kg		101	59 - 128
Ethylbenzene	0.0400	0.0376		mg/Kg		94	78 - 118
Methylene Chloride	0.0400	0.0364		mg/Kg		91	68 - 120
Methyl tert-butyl ether	0.0400	0.0352		mg/Kg		88	73 - 121
n-Butylbenzene	0.0400	0.0390		mg/Kg		97	71 - 132
N-Propylbenzene	0.0400	0.0383		mg/Kg		96	72 - 126
sec-Butylbenzene	0.0400	0.0386		mg/Kg		96	80 - 126

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 180-251682/3

Matrix: Solid

Analysis Batch: 251682

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
tert-Butylbenzene	0.0400	0.0389		mg/Kg		97	80 - 122
Tetrachloroethene	0.0400	0.0402		mg/Kg		101	78 - 118
Toluene	0.0400	0.0374		mg/Kg		94	79 - 121
trans-1,2-Dichloroethene	0.0400	0.0395		mg/Kg		99	71 - 123
1,1,1-Trichloroethane	0.0400	0.0441		mg/Kg		110	69 - 135
Trichloroethene	0.0400	0.0386		mg/Kg		97	76 - 120
1,2,4-Trimethylbenzene	0.0400	0.0382		mg/Kg		96	77 - 122
1,3,5-Trimethylbenzene	0.0400	0.0380		mg/Kg		95	78 - 122
Vinyl chloride	0.0400	0.0343		mg/Kg		86	53 - 148
Xylenes, Total	0.0800	0.0760		mg/Kg		95	78 - 118

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		76 - 111
Dibromofluoromethane (Surr)	92		72 - 116
1,2-Dichloroethane-d4 (Surr)	85		62 - 118
Toluene-d8 (Surr)	89		80 - 129

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-251364/1-A

Matrix: Solid

Analysis Batch: 251435

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 251364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0034	0.00096	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Acenaphthylene	ND		0.0034	0.00073	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Anthracene	ND		0.0034	0.00087	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Benzo[a]anthracene	ND		0.0034	0.00063	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Benzo[a]pyrene	ND		0.0034	0.00073	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Benzo[b]fluoranthene	ND		0.0034	0.00082	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Benzo[g,h,i]perylene	ND		0.0034	0.00072	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Benzo[k]fluoranthene	ND		0.0034	0.0010	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Chrysene	ND		0.0034	0.00066	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Dibenz(a,h)anthracene	ND		0.0034	0.00075	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Dibenzofuran	ND		0.017	0.00073	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
2,4-Dinitrotoluene	ND		0.017	0.00083	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
1,4-Dioxane	ND		0.033	0.0052	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Fluoranthene	ND		0.0034	0.00088	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Fluorene	ND		0.0034	0.00066	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Hexachlorobenzene	ND		0.0034	0.0012	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Hexachlorobutadiene	ND		0.0034	0.00098	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Hexachloroethane	ND		0.017	0.00086	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Indeno[1,2,3-cd]pyrene	ND		0.0034	0.00068	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
2-Methylphenol	ND		0.017	0.0048	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Methylphenol, 3 & 4	ND		0.017	0.0049	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Naphthalene	ND		0.0034	0.00065	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Nitrobenzene	ND		0.033	0.0061	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Pentachlorophenol	ND		0.085	0.027	mg/Kg		07/23/18 13:59	07/24/18 17:23	1

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-251364/1-A

Matrix: Solid

Analysis Batch: 251435

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 251364

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.0034	0.00090	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Phenol	ND		0.017	0.0051	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Pyrene	ND		0.0034	0.00079	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
Pyridine	ND		0.034	0.0090	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
2,4,5-Trichlorophenol	ND		0.017	0.0012	mg/Kg		07/23/18 13:59	07/24/18 17:23	1
2,4,6-Trichlorophenol	ND		0.017	0.00092	mg/Kg		07/23/18 13:59	07/24/18 17:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		39 - 105	07/23/18 13:59	07/24/18 17:23	1
2-Fluorophenol (Surr)	72		35 - 105	07/23/18 13:59	07/24/18 17:23	1
Nitrobenzene-d5 (Surr)	69		39 - 105	07/23/18 13:59	07/24/18 17:23	1
Phenol-d5 (Surr)	77		42 - 105	07/23/18 13:59	07/24/18 17:23	1
Terphenyl-d14 (Surr)	63		28 - 148	07/23/18 13:59	07/24/18 17:23	1
2,4,6-Tribromophenol (Surr)	62		44 - 105	07/23/18 13:59	07/24/18 17:23	1

Lab Sample ID: LCS 180-251364/2-A

Matrix: Solid

Analysis Batch: 251435

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 251364

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	0.333	0.257		mg/Kg		77	46 - 100
Acenaphthylene	0.333	0.255		mg/Kg		77	44 - 100
Anthracene	0.333	0.283		mg/Kg		85	46 - 102
Benzo[a]anthracene	0.333	0.239		mg/Kg		72	47 - 100
Benzo[a]pyrene	0.333	0.271		mg/Kg		81	47 - 100
Benzo[b]fluoranthene	0.333	0.250		mg/Kg		75	41 - 100
Benzo[g,h,i]perylene	0.333	0.263		mg/Kg		79	43 - 101
Benzo[k]fluoranthene	0.333	0.260		mg/Kg		78	44 - 100
Chrysene	0.333	0.247		mg/Kg		74	45 - 100
Dibenz(a,h)anthracene	0.333	0.256		mg/Kg		77	45 - 102
Dibenzofuran	0.333	0.254		mg/Kg		76	46 - 100
2,4-Dinitrotoluene	0.333	0.269		mg/Kg		81	52 - 100
1,4-Dioxane	0.333	0.225		mg/Kg		68	27 - 112
Fluoranthene	0.333	0.253		mg/Kg		76	47 - 101
Fluorene	0.333	0.254		mg/Kg		76	47 - 100
Hexachlorobenzene	0.333	0.217		mg/Kg		65	43 - 105
Hexachlorobutadiene	0.333	0.168		mg/Kg		50	45 - 100
Hexachloroethane	0.333	0.215		mg/Kg		65	37 - 100
Indeno[1,2,3-cd]pyrene	0.333	0.257		mg/Kg		77	45 - 102
2-Methylphenol	0.333	0.245		mg/Kg		73	39 - 100
Methylphenol, 3 & 4	0.333	0.255		mg/Kg		77	39 - 100
Naphthalene	0.333	0.225		mg/Kg		67	45 - 100
Nitrobenzene	0.333	0.219		mg/Kg		66	36 - 100
Pentachlorophenol	0.667	0.428		mg/Kg		64	35 - 105
Phenanthrene	0.333	0.274		mg/Kg		82	45 - 100
Phenol	0.333	0.238		mg/Kg		71	32 - 100
Pyrene	0.333	0.234		mg/Kg		70	40 - 105
Pyridine	0.667	0.472		mg/Kg		71	29 - 117

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 180-251364/2-A

Matrix: Solid

Analysis Batch: 251435

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 251364

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4,5-Trichlorophenol	0.333	0.215		mg/Kg		65	49 - 100
2,4,6-Trichlorophenol	0.333	0.218		mg/Kg		66	50 - 100

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	67		39 - 105
2-Fluorophenol (Surr)	71		35 - 105
Nitrobenzene-d5 (Surr)	70		39 - 105
Phenol-d5 (Surr)	75		42 - 105
Terphenyl-d14 (Surr)	60		28 - 148
2,4,6-Tribromophenol (Surr)	69		44 - 105

Method: EPA 6010C - Metals (ICP)

Lab Sample ID: MB 180-251361/1-A

Matrix: Solid

Analysis Batch: 251879

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 251361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.28	mg/Kg		07/23/18 13:31	07/27/18 07:31	1
Barium	ND		20	1.1	mg/Kg		07/23/18 13:31	07/27/18 07:31	1
Beryllium	ND		0.40	0.023	mg/Kg		07/23/18 13:31	07/27/18 07:31	1
Cadmium	ND		0.50	0.036	mg/Kg		07/23/18 13:31	07/27/18 07:31	1
Chromium	ND		0.50	0.12	mg/Kg		07/23/18 13:31	07/27/18 07:31	1
Copper	ND		2.5	0.17	mg/Kg		07/23/18 13:31	07/27/18 07:31	1
Lead	ND		1.0	0.25	mg/Kg		07/23/18 13:31	07/27/18 07:31	1
Manganese	ND		1.5	0.16	mg/Kg		07/23/18 13:31	07/27/18 07:31	1
Nickel	ND		4.0	0.25	mg/Kg		07/23/18 13:31	07/27/18 07:31	1
Selenium	ND		1.0	0.52	mg/Kg		07/23/18 13:31	07/27/18 07:31	1
Silver	ND		0.50	0.11	mg/Kg		07/23/18 13:31	07/27/18 07:31	1
Zinc	ND		2.0	1.1	mg/Kg		07/23/18 13:31	07/27/18 07:31	1

Lab Sample ID: LCS 180-251361/2-A

Matrix: Solid

Analysis Batch: 251879

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 251361

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	46.5		mg/Kg		93	80 - 120
Barium	200	188		mg/Kg		94	80 - 120
Beryllium	5.00	4.78		mg/Kg		96	80 - 120
Cadmium	5.00	4.80		mg/Kg		96	80 - 120
Chromium	20.0	18.6		mg/Kg		93	80 - 120
Copper	25.0	23.7		mg/Kg		95	80 - 120
Lead	50.0	45.3		mg/Kg		91	80 - 120
Manganese	50.0	46.8		mg/Kg		94	80 - 120
Nickel	50.0	46.8		mg/Kg		94	80 - 120
Selenium	50.0	47.1		mg/Kg		94	80 - 120
Silver	5.00	4.69		mg/Kg		94	80 - 120
Zinc	50.0	46.4		mg/Kg		93	80 - 120

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Lab Sample ID: 180-80015-1 MS

Matrix: Solid

Analysis Batch: 251879

Client Sample ID: PILE 106

Prep Type: Total/NA

Prep Batch: 251361

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	3.5		56.4	53.3		mg/Kg	☼	88	75 - 125
Barium	39		226	244		mg/Kg	☼	91	75 - 125
Beryllium	0.25	J	5.64	5.09		mg/Kg	☼	86	75 - 125
Cadmium	0.21	J	5.64	5.20		mg/Kg	☼	88	75 - 125
Chromium	8.2		22.6	33.6		mg/Kg	☼	112	75 - 125
Copper	27	F1	28.2	67.2	F1	mg/Kg	☼	141	75 - 125
Lead	16		56.4	74.1		mg/Kg	☼	103	75 - 125
Manganese	420		56.4	313	4	mg/Kg	☼	-182	75 - 125
Nickel	15		56.4	74.8		mg/Kg	☼	105	75 - 125
Selenium	ND		56.4	50.4		mg/Kg	☼	89	75 - 125
Silver	ND		5.64	4.99		mg/Kg	☼	88	75 - 125
Zinc	110	F2 F1	56.4	121	F1	mg/Kg	☼	20	75 - 125

Lab Sample ID: 180-80015-1 MSD

Matrix: Solid

Analysis Batch: 251879

Client Sample ID: PILE 106

Prep Type: Total/NA

Prep Batch: 251361

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	3.5		55.8	53.3		mg/Kg	☼	89	75 - 125	0	20
Barium	39		223	239		mg/Kg	☼	89	75 - 125	2	20
Beryllium	0.25	J	5.58	5.02		mg/Kg	☼	85	75 - 125	1	20
Cadmium	0.21	J	5.58	5.13		mg/Kg	☼	88	75 - 125	1	20
Chromium	8.2		22.3	28.5		mg/Kg	☼	91	75 - 125	16	20
Copper	27	F1	27.9	56.5		mg/Kg	☼	104	75 - 125	17	20
Lead	16		55.8	69.2		mg/Kg	☼	95	75 - 125	7	20
Manganese	420		55.8	361	4	mg/Kg	☼	-98	75 - 125	14	20
Nickel	15		55.8	70.8		mg/Kg	☼	99	75 - 125	5	20
Selenium	ND		55.8	49.6		mg/Kg	☼	89	75 - 125	2	20
Silver	ND		5.58	5.03		mg/Kg	☼	90	75 - 125	1	20
Zinc	110	F2 F1	55.8	98.1	F2 F1	mg/Kg	☼	-21	75 - 125	21	20

Method: EPA 7471B - Mercury (CVAA)

Lab Sample ID: MB 180-251322/1-A

Matrix: Solid

Analysis Batch: 251468

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 251322

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.0074	mg/Kg		07/23/18 11:05	07/24/18 12:16	1

Lab Sample ID: LCS 180-251322/2-A

Matrix: Solid

Analysis Batch: 251468

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 251322

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.410	0.389		mg/Kg		95	80 - 120

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Method: EPA 9014 - Cyanide

Lab Sample ID: MB 180-251441/4-A

Matrix: Solid

Analysis Batch: 251566

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 251441

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.50	0.27	mg/Kg		07/24/18 12:16	07/24/18 17:53	1

Lab Sample ID: HLCS 180-251441/2-A

Matrix: Solid

Analysis Batch: 251566

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 251441

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.256		mg/Kg		102	90 - 110

Lab Sample ID: LCS 180-251441/3-A

Matrix: Solid

Analysis Batch: 251566

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 251441

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	42.1	34.7		mg/Kg		82	38 - 162

Lab Sample ID: LLCS 180-251441/1-A

Matrix: Solid

Analysis Batch: 251566

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 251441

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0500	0.0467		mg/Kg		93	90 - 110

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

GC/MS VOA

Analysis Batch: 251272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-2	PILE 106A	Total/NA	Solid	EPA 8260C	251277
180-80015-3	PILE 106B	Total/NA	Solid	EPA 8260C	251277
180-80015-4	PILE 106C	Total/NA	Solid	EPA 8260C	251277
180-80015-5	PILE 106D	Total/NA	Solid	EPA 8260C	251277
180-80015-7	FHA	Total/NA	Solid	EPA 8260C	251277
MB 180-251272/5	Method Blank	Total/NA	Solid	EPA 8260C	
LCS 180-251272/3	Lab Control Sample	Total/NA	Solid	EPA 8260C	

Prep Batch: 251277

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-2	PILE 106A	Total/NA	Solid	5035	
180-80015-3	PILE 106B	Total/NA	Solid	5035	
180-80015-4	PILE 106C	Total/NA	Solid	5035	
180-80015-5	PILE 106D	Total/NA	Solid	5035	
180-80015-7	FHA	Total/NA	Solid	5035	

Analysis Batch: 251682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-8	FHB	Total/NA	Solid	EPA 8260C	251691
MB 180-251682/5	Method Blank	Total/NA	Solid	EPA 8260C	
LCS 180-251682/3	Lab Control Sample	Total/NA	Solid	EPA 8260C	

Prep Batch: 251691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-8	FHB	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 251364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-1	PILE 106	Total/NA	Solid	3541	
180-80015-6	FH	Total/NA	Solid	3541	
MB 180-251364/1-A	Method Blank	Total/NA	Solid	3541	
LCS 180-251364/2-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 251435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-1	PILE 106	Total/NA	Solid	EPA 8270D LL	251364
180-80015-6	FH	Total/NA	Solid	EPA 8270D LL	251364
MB 180-251364/1-A	Method Blank	Total/NA	Solid	EPA 8270D LL	251364
LCS 180-251364/2-A	Lab Control Sample	Total/NA	Solid	EPA 8270D LL	251364

Metals

Prep Batch: 251322

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-1	PILE 106	Total/NA	Solid	7471B	
180-80015-6	FH	Total/NA	Solid	7471B	
MB 180-251322/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 180-251322/2-A	Lab Control Sample	Total/NA	Solid	7471B	

TestAmerica Pittsburgh

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-1

Metals (Continued)

Prep Batch: 251361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-1	PILE 106	Total/NA	Solid	3050B	
180-80015-6	FH	Total/NA	Solid	3050B	
MB 180-251361/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 180-251361/2-A	Lab Control Sample	Total/NA	Solid	3050B	
180-80015-1 MS	PILE 106	Total/NA	Solid	3050B	
180-80015-1 MSD	PILE 106	Total/NA	Solid	3050B	

Analysis Batch: 251468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-1	PILE 106	Total/NA	Solid	EPA 7471B	251322
180-80015-6	FH	Total/NA	Solid	EPA 7471B	251322
MB 180-251322/1-A	Method Blank	Total/NA	Solid	EPA 7471B	251322
LCS 180-251322/2-A	Lab Control Sample	Total/NA	Solid	EPA 7471B	251322

Analysis Batch: 251879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-1	PILE 106	Total/NA	Solid	EPA 6010C	251361
180-80015-6	FH	Total/NA	Solid	EPA 6010C	251361
MB 180-251361/1-A	Method Blank	Total/NA	Solid	EPA 6010C	251361
LCS 180-251361/2-A	Lab Control Sample	Total/NA	Solid	EPA 6010C	251361
180-80015-1 MS	PILE 106	Total/NA	Solid	EPA 6010C	251361
180-80015-1 MSD	PILE 106	Total/NA	Solid	EPA 6010C	251361

General Chemistry

Analysis Batch: 251287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-2	PILE 106A	Total/NA	Solid	2540G	
180-80015-3	PILE 106B	Total/NA	Solid	2540G	
180-80015-4	PILE 106C	Total/NA	Solid	2540G	
180-80015-5	PILE 106D	Total/NA	Solid	2540G	
180-80015-7	FHA	Total/NA	Solid	2540G	
180-80015-8	FHB	Total/NA	Solid	2540G	

Prep Batch: 251441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-1	PILE 106	Total/NA	Solid	9010C	
180-80015-6	FH	Total/NA	Solid	9010C	
MB 180-251441/4-A	Method Blank	Total/NA	Solid	9010C	
HLCS 180-251441/2-A	Lab Control Sample	Total/NA	Solid	9010C	
LCS 180-251441/3-A	Lab Control Sample	Total/NA	Solid	9010C	
LLCS 180-251441/1-A	Lab Control Sample	Total/NA	Solid	9010C	

Analysis Batch: 251566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-1	PILE 106	Total/NA	Solid	EPA 9014	251441
180-80015-6	FH	Total/NA	Solid	EPA 9014	251441
MB 180-251441/4-A	Method Blank	Total/NA	Solid	EPA 9014	251441
HLCS 180-251441/2-A	Lab Control Sample	Total/NA	Solid	EPA 9014	251441
LCS 180-251441/3-A	Lab Control Sample	Total/NA	Solid	EPA 9014	251441

TestAmerica Pittsburgh

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

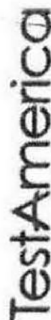
TestAmerica Job ID: 180-80015-1

General Chemistry (Continued)

Analysis Batch: 251566 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LLCS 180-251441/1-A	Lab Control Sample	Total/NA	Solid	EPA 9014	251441

Chain of Custody Record



THE LEADER IN ENVIRONMENTAL TESTING

[illegible]

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 180-80015-1

Login Number: 80015

List Number: 1

Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	notation made to COC, trip blank not received
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pittsburgh

301 Alpha Drive

RIDC Park

Pittsburgh, PA 15238

Tel: (412)963-7058

TestAmerica Job ID: 180-80015-2

Client Project/Site: Former Sperry Remington Site-North

For:

Geosyntec Consultants, Inc.

10211 Wincopin Circle

4th Floor

Columbia, Maryland 21044

Attn: Mr. Aron Krasnopoler



Authorized for release by:

7/27/2018 3:06:16 PM

David Dunlap, Senior Project Manager

(412)963-2432

david.dunlap@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	10
QC Sample Results	11
QC Association Summary	12
Chain of Custody	13
Receipt Checklists	14



Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-2

Job ID: 180-80015-2

Laboratory: TestAmerica Pittsburgh

Narrative

Job Narrative 180-80015-2

Receipt

The samples were received on 7/20/2018 9:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

GC Semi VOA

Method(s) 8082A: The following sample was diluted to bring the concentration of target analytes within the calibration range: FH (180-80015-6). Elevated reporting limits (RLs) are provided.

Method(s) 8082A: The continuing calibration verification (CCV) analyzed in batch 251459 was above criteria for aroclor 1016 on column RTX-CLP1. As the CCV was high and aroclor 1016 was not detected in the associated sample, the results were reported.

Method(s) 8082A: The continuing calibration verification (CCV) analyzed in batch 180-251459 (CCV 180-251459/1) was below criteria for 1 peak for aroclor 1254 on column RTX-CLP1 and 2 peaks on column RTX-CLP2. These peaks were not used in the quantitation of associated sample results.

Method(s) 8082A: The continuing calibration verification (CCV) analyzed in batch 180-251459 (CCV 180-251459/5) was above criteria for 2 peaks for aroclor 1260 on column RTX-CLP1. The associated sample results for aroclor 1260 were reported from column RTX-CLP2 which met criteria. The % difference between the sample results on both columns was <40%.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-2

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-2

Laboratory: TestAmerica Pittsburgh

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11182	03-31-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
2540G		Solid	Percent Moisture
2540G		Solid	Percent Solids

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-80015-1	PILE 106	Solid	07/19/18 14:55	07/20/18 09:15
180-80015-6	FH	Solid	07/19/18 14:40	07/20/18 09:15

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-2

Method	Method Description	Protocol	Laboratory
EPA 8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
3541	Automated Soxhlet Extraction	SW846	TAL PIT
3660B	Sulfur Cleanup	SW846	TAL PIT
3665A	Sulfuric Acid/Permanganate Cleanup	SW846	TAL PIT

Protocol References:

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-2

Client Sample ID: PILE 106

Date Collected: 07/19/18 14:55

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			251287	07/23/18 08:19	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: PILE 106

Date Collected: 07/19/18 14:55

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-1

Matrix: Solid

Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.2 g	20.0 mL	251316	07/23/18 10:52	SAC	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	251455	07/24/18 12:11	JMO	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	251456	07/24/18 12:12	JMO	TAL PIT
Total/NA	Analysis	EPA 8082A		1	1 mL	1.0 mL	251459	07/24/18 14:51	JMO	TAL PIT
Instrument ID: CHGC10										

Client Sample ID: FH

Date Collected: 07/19/18 14:40

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			251287	07/23/18 08:19	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: FH

Date Collected: 07/19/18 14:40

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-6

Matrix: Solid

Percent Solids: 93.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	20.0 mL	251316	07/23/18 10:52	SAC	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	251455	07/24/18 12:11	JMO	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	251456	07/24/18 12:12	JMO	TAL PIT
Total/NA	Analysis	EPA 8082A		10	1 mL	1.0 mL	251537	07/25/18 21:11	JMO	TAL PIT
Instrument ID: CHGC10										

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TestAmerica Pittsburgh

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-2

Analyst References:

- Lab: TAL PIT
 - Batch Type: Cleanup
 - JMO = John Oravec
 - Batch Type: Prep
 - SAC = Shawn Clemente
 - Batch Type: Analysis
 - AVS = Abbey Smith
 - JMO = John Oravec

1
2
3
4
5
6
7
8
9
10
11
12
13

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-2

Client Sample ID: PILE 106

Date Collected: 07/19/18 14:55

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-1

Matrix: Solid

Percent Solids: 90.5

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.018	0.0059	mg/Kg	☼	07/23/18 10:52	07/24/18 14:51	1
PCB-1221	ND		0.018	0.012	mg/Kg	☼	07/23/18 10:52	07/24/18 14:51	1
PCB-1232	ND		0.018	0.011	mg/Kg	☼	07/23/18 10:52	07/24/18 14:51	1
PCB-1242	ND		0.018	0.011	mg/Kg	☼	07/23/18 10:52	07/24/18 14:51	1
PCB-1248	2.3		0.018	0.014	mg/Kg	☼	07/23/18 10:52	07/24/18 14:51	1
PCB-1254	0.77		0.018	0.012	mg/Kg	☼	07/23/18 10:52	07/24/18 14:51	1
PCB-1260	0.10	p	0.018	0.0052	mg/Kg	☼	07/23/18 10:52	07/24/18 14:51	1
PCB-1262	ND		0.018	0.013	mg/Kg	☼	07/23/18 10:52	07/24/18 14:51	1
PCB-1268	ND		0.018	0.0088	mg/Kg	☼	07/23/18 10:52	07/24/18 14:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	88		33 - 137	07/23/18 10:52	07/24/18 14:51	1
DCB Decachlorobiphenyl (Surr)	84		33 - 137	07/23/18 10:52	07/24/18 14:51	1
Tetrachloro-m-xylene (Surr)	83		44 - 114	07/23/18 10:52	07/24/18 14:51	1
Tetrachloro-m-xylene (Surr)	82		44 - 114	07/23/18 10:52	07/24/18 14:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.5		0.1	0.1	%	-		07/23/18 08:19	1
Percent Solids	90.5		0.1	0.1	%	-		07/23/18 08:19	1

Client Sample ID: FH

Date Collected: 07/19/18 14:40

Date Received: 07/20/18 09:15

Lab Sample ID: 180-80015-6

Matrix: Solid

Percent Solids: 93.2

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.18	0.058	mg/Kg	☼	07/23/18 10:52	07/25/18 21:11	10
PCB-1221	ND		0.18	0.12	mg/Kg	☼	07/23/18 10:52	07/25/18 21:11	10
PCB-1232	ND		0.18	0.11	mg/Kg	☼	07/23/18 10:52	07/25/18 21:11	10
PCB-1242	ND		0.18	0.11	mg/Kg	☼	07/23/18 10:52	07/25/18 21:11	10
PCB-1248	17		0.18	0.14	mg/Kg	☼	07/23/18 10:52	07/25/18 21:11	10
PCB-1254	5.9		0.18	0.12	mg/Kg	☼	07/23/18 10:52	07/25/18 21:11	10
PCB-1260	0.96		0.18	0.051	mg/Kg	☼	07/23/18 10:52	07/25/18 21:11	10
PCB-1262	ND		0.18	0.12	mg/Kg	☼	07/23/18 10:52	07/25/18 21:11	10
PCB-1268	ND		0.18	0.086	mg/Kg	☼	07/23/18 10:52	07/25/18 21:11	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	81		33 - 137	07/23/18 10:52	07/25/18 21:11	10
DCB Decachlorobiphenyl (Surr)	111		33 - 137	07/23/18 10:52	07/25/18 21:11	10
Tetrachloro-m-xylene (Surr)	78		44 - 114	07/23/18 10:52	07/25/18 21:11	10
Tetrachloro-m-xylene (Surr)	76		44 - 114	07/23/18 10:52	07/25/18 21:11	10

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.8		0.1	0.1	%	-		07/23/18 08:19	1
Percent Solids	93.2		0.1	0.1	%	-		07/23/18 08:19	1

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-2

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 180-251316/1-A

Matrix: Solid

Analysis Batch: 251459

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 251316

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.017	0.0054	mg/Kg		07/23/18 10:52	07/24/18 14:13	1
PCB-1221	ND		0.017	0.011	mg/Kg		07/23/18 10:52	07/24/18 14:13	1
PCB-1232	ND		0.017	0.0099	mg/Kg		07/23/18 10:52	07/24/18 14:13	1
PCB-1242	ND		0.017	0.010	mg/Kg		07/23/18 10:52	07/24/18 14:13	1
PCB-1248	ND		0.017	0.013	mg/Kg		07/23/18 10:52	07/24/18 14:13	1
PCB-1254	ND		0.017	0.011	mg/Kg		07/23/18 10:52	07/24/18 14:13	1
PCB-1260	ND		0.017	0.0047	mg/Kg		07/23/18 10:52	07/24/18 14:13	1
PCB-1262	ND		0.017	0.012	mg/Kg		07/23/18 10:52	07/24/18 14:13	1
PCB-1268	ND		0.017	0.0081	mg/Kg		07/23/18 10:52	07/24/18 14:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	96		33 - 137	07/23/18 10:52	07/24/18 14:13	1
DCB Decachlorobiphenyl (Surr)	88		33 - 137	07/23/18 10:52	07/24/18 14:13	1
Tetrachloro-m-xylene (Surr)	84		44 - 114	07/23/18 10:52	07/24/18 14:13	1
Tetrachloro-m-xylene (Surr)	92		44 - 114	07/23/18 10:52	07/24/18 14:13	1

Lab Sample ID: LCS 180-251316/2-A

Matrix: Solid

Analysis Batch: 251459

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 251316

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
PCB-1016	1.33	1.15		mg/Kg		86	46 - 122
PCB-1260	1.33	1.15		mg/Kg		86	51 - 119

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	88		33 - 137
DCB Decachlorobiphenyl (Surr)	82		33 - 137
Tetrachloro-m-xylene (Surr)	82		44 - 114
Tetrachloro-m-xylene (Surr)	87		44 - 114

Method: 2540G - SM 2540G

Lab Sample ID: 180-80015-1 DU

Matrix: Solid

Analysis Batch: 251287

Client Sample ID: PILE 106

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	9.5		9.6		%		0.7	20
Percent Solids	90.5		90.4		%		0.07	20

TestAmerica Pittsburgh

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-80015-2

GC Semi VOA

Prep Batch: 251316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-1	PILE 106	Total/NA	Solid	3541	
180-80015-6	FH	Total/NA	Solid	3541	
MB 180-251316/1-A	Method Blank	Total/NA	Solid	3541	
LCS 180-251316/2-A	Lab Control Sample	Total/NA	Solid	3541	

Cleanup Batch: 251455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-1	PILE 106	Total/NA	Solid	3665A	251316
180-80015-6	FH	Total/NA	Solid	3665A	251316

Cleanup Batch: 251456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-1	PILE 106	Total/NA	Solid	3660B	251455
180-80015-6	FH	Total/NA	Solid	3660B	251455

Analysis Batch: 251459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-1	PILE 106	Total/NA	Solid	EPA 8082A	251456
MB 180-251316/1-A	Method Blank	Total/NA	Solid	EPA 8082A	251316
LCS 180-251316/2-A	Lab Control Sample	Total/NA	Solid	EPA 8082A	251316

Analysis Batch: 251537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-6	FH	Total/NA	Solid	EPA 8082A	251456

General Chemistry

Analysis Batch: 251287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-80015-1	PILE 106	Total/NA	Solid	2540G	
180-80015-6	FH	Total/NA	Solid	2540G	
180-80015-1 DU	PILE 106	Total/NA	Solid	2540G	

Chain of Custody Record

Client Information Client Contact: Aron Krasnopoler Company: Geosyntec Consultants, Inc. Address: 10211 Wincopin Cr. 4th Floor City: Columbia State: MD, Zip: 20910 Phone: 202-550-7724 Email: akrasnopoler@geosyntec.com Project Name: Former Sperry Remington Site - North IRM Site: Former Sperry Remington Site - North IRM		Sampler: <i>Sim Bannantine</i> Lab PM: Duniap, David A. Phone: 202-550-7724 E-Mail: david.duniap@testamericainc.com		Carmer Tracking No(s): COC No: Page: Page 1 of 1 Job #:																			
Due Date Requested: TAT Requested (days): PO #: MN0832D WFO #: Project #: SSOW#:		Analysis Requested Preservation Codes: A - HCL M - HAVING 180-80015 Chain of Custody																					
Sample Identification		Sample Date		Sample Time		Sample Type (C=comp, G=grab)		Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		8260C - VOA-Select List		6010C, 7471B, 9014 - Select ICP Metals, Mercury, Cyanide		8082A, 8270D, PCBs, Select BNA		8260C - VOA-Select List (Trip Blanks only)		Special Instructions/Note:	
PILE 106		7/19/2018		1455		C		Solid		N		N		N		N		N		2 Days / PCBs			
PILE 106 A		7/19/2018		1500		G		Solid		N		N		N		N		N		4			
106 B		7/19/2018		1505		G		Solid		N		N		N		N		N		4			
106 C		7/19/2018		1510		G		Solid		N		N		N		N		N		4			
106 D		7/19/2018		1515		G		Solid		N		N		N		N		N		4			
FH		7/19/2018		1440		C		Solid		N		N		N		N		N		2			
FHA		7/19/2018		1445		G		Solid		N		N		N		N		N		4			
FHB		7/19/2018		1445		G		Solid		N		N		N		N		N		4			
Trip Blank		7/19/2018						Solid		N		N		N		N		N		2			
also received								Solid		N		N		N		N		N					
AS722-0182018-10		7/19/18		1630		G		Solid		N		N		N		N		N		for cyanide (sample bottle not in 2/18/18 shipment)			
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Deliverable Requested I, II, III, IV, Other (specify)		Empty Kit Relinquished by:		Time:		Date:		Received by:		Date/Time:		Company:									
Relinquished by: <i>Sim Bannantine</i> Relinquished by: <i>Elizabeth Yee</i> Relinquished by:		Date/Time: 7/19/18 1655 Date/Time: 7/19/2018 1655 Date/Time:		Company: Geosyntec Company: Geosyntec Company:		Date/Time: 7.20-18 Date/Time: 9:15 Date/Time:		Company: TADTL Company:		Received by: <i>Elizabeth Yee</i> Received by:		Date/Time: 7.20-18 Date/Time: 9:15 Date/Time:		Company: TADTL Company:									
Custody Seals Intact: Yes ☐ No ☐		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:																			

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 180-80015-2

Login Number: 80015

List Number: 1

Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	notation made to COC, trip blank not received
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Memorandum

Date: 30 July 2018
To: Aron Krasnopoler
From: Mary Tyler
CC: J. Caprio
Subject: **Stage 2A Data Validation - Level II Data Deliverables, TestAmerica
Job IDs 180-79862-1 and 180-79862-2**

SITE: Former Sperry Remington Site-North

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of five solid samples and one trip blank, collected July 17, 2018, as part of the Former Sperry Remington Site-North project. The analyses were performed at TestAmerica Laboratories, Inc., Pittsburgh, Pennsylvania. The samples were analyzed for the following tests:

- Volatile Organic Compounds (VOCs) by EPA Methods 5035/8260C and 5030C/8260C
- Semivolatile Organic Compounds (SVOCs) by EPA Methods 3541/8270D
- Polychlorinated Biphenyls (PCBs) by EPA Methods 3541/8082A
- Metals by EPA Methods 3050B/6010C
- Mercury by EPA Method 7471B
- Total Cyanide by EPA Methods 9010C/9014
- Total Solids by Standard Method 2540G

EXECUTIVE SUMMARY

The samples were handled, prepared, and measured in the same manner under similar prescribed conditions.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives. Qualified data should be used within the limitations of the qualification.

The data were validated using the Quality Assurance Project Plan (QAPP) for Former Sperry Remington Facility Industrial Outfall Site, Elmira, New York, NYSDEC Site I.D. # 808043,

NY09-2480-04, July 7, 2010, Revised November 11, 2010, USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2017 (EPA 540-R-2017-002), USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review, January 2017 (EPA 540-R-2017-001), the pertinent methods referenced by the laboratory report and professional and technical judgment.

The following samples were analyzed and validated at Stage 2A level in the data sets:

Laboratory ID	Client ID
180-79862-1	PILE 105
180-79862-2	PILE 105A
180-79862-3	PILE 105B

Laboratory ID	Client ID
180-79862-4	PILE 105C
180-79862-5	PILE 105D
180-79862-6	TRIP BLANK-01

The samples were received at the laboratory at 3.2°C, within the criteria of 0-6°C. No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC):

- Incorrect error corrections were observed on the COC, instead of the proper procedure of a single strike through, correction, and initials and date of person making the corrections.
- The sample IDs on the COC for samples PILE 105B, PILE 105C and PILE 105D did not include "PILE".

The solids data, used to report the samples on a dry weight basis, were not validated.

1.0 VOLATILE ORGANIC COMPOUNDS

The samples were analyzed for VOCs by EPA methods 5035/8260C and 5030C/8260C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Trip Blank

- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

1.1 Overall Assessment

The VOC data reported in this package are considered usable for meeting project objectives. The analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for these analyses, for this sample set is 100%.

The narrative indicated that the percent difference (%D) for 2-butanone in the continuing calibration verification (CCV) in batch 250975 was high, outside method specified acceptance criteria in batch 217322 with a low bias; the %D was 23.4%. Since the %D was within the validation guidance acceptance criteria of 40%D, no qualifications were applied to the data, based on professional and technical judgment.

1.2 Holding Times

The holding times for the VOC analysis of a preserved solid sample collected as a terracore are 48 hours until laboratory receipt and 14 days from sample collection to analysis. The holding time for the VOC analysis of a preserved water sample is 14 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported (batches 251609 and 250975). VOCs were not detected in the method blanks above the method detection limits (MDLs).

1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD pairs were not reported.

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS and one LCS/laboratory control sample duplicate (LCSD) pair were reported. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria.

1.6 Surrogates

Acceptable surrogate recoveries were reported.

1.7 Trip Blank

One trip blank accompanied the samples, TRIP BLANK-01. VOCs were not detected in the trip blanks above the MDLs.

1.8 Field Duplicate

A field duplicate was not collected with the sample set.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were not reported.

1.10 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

2.0 SEMIVOLATILE ORGANIC COMPOUNDS

The sample was analyzed for SVOCs by EPA methods 3541/8270D.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

2.1 Overall Assessment

The SVOC data reported in this package are considered usable for meeting project objectives. The analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

2.2 Holding Times

The holding times for SVOC analysis of solid samples are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analysis.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 250922). SVOCs were not detected in the method blank above the MDLs.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery results were within the laboratory specified acceptance criteria.

2.6 Surrogates

Acceptable surrogate recoveries were reported.

2.7 Field Duplicate

A field duplicate was not collected with the sample set.

2.8 Sensitivity

The sample was reported to the MDLs. Elevated non-detect results were reported due to the dilution analyzed.

2.9 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

3.0 POLYCHLORINATED BIPHENYLS

The sample was analyzed for PCBs by EPA Methods 3541/8082A.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ⊗ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

3.1 Overall Assessment

The PCB data reported in this package are considered usable for meeting project objectives. The analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for this sample set is 100%.

The narrative indicated that the %D for one peak in the PCB 1254 CCV in batch 251199 on gas chromatography (GC) column CLP-1 was high, outside method specified acceptance criteria with a high bias. Since the average %D for PCB 1254 in this CCV was within the method specified

acceptance criteria and based on professional and technical judgment, no qualifications were applied to the data. In addition, the %D for the PCB 1232 CCV on GC column CLP-1 in batch 251199 was high and outside method specified acceptance criteria, with a high bias. Since PCB 1232 was not detected in the associated sample, no qualifications were applied to the data.

The sample contained a mixture of PCBs 1248, 1254 and 1260. There are peaks in 1248 and 1254 that are in both of these PCBs and peaks in 1254 and 1260 that are in both of these PCBs; therefore, there is contribution between PCBs when more than one PCB is detected in a sample. Therefore, based on professional and technical judgment, the concentrations of PCBs 1248, 1254 and 1260 in sample PILE 105 were J qualified as estimated.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier*	Reason Code**
PILE 105	PCB-1248	3.3	NA	3.3	J	13
PILE 105	PCB-1254	1.4	NA	1.4	J	13
PILE 105	PCB-1260	0.16	NA	0.16	J	13

mg/kg-milligrams per kilogram

NA-not applicable

* Validation qualifiers are defined in Attachment 1 at the end of this report

**Reason codes are defined in Attachment 2 at the end of this report

3.2 Holding Times

The holding times for the PCB analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

3.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 250948). PCBs were not detected in the method blank above the MDLs.

3.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported, using sample PILE 105. The recovery and RPD results were within the laboratory specified acceptance criteria, with the following exceptions.

The recoveries of PCB 1016 were high and outside the laboratory specified acceptance criteria. Based on professional and technical judgment and the concentration of PCB 1248 in sample PILE 105, no qualifications were applied to the data.

3.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery results were within the laboratory specified acceptance criteria.

3.6 Surrogates

Acceptable surrogate recoveries were reported.

3.7 Field Duplicate

A field duplicate was not collected with the sample set.

3.8 Sensitivity

The sample was reported to the MDLs. Elevated non-detect results were not reported.

3.9 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No other discrepancies were identified between the level II report and the EDD.

5.0 METALS

The sample was analyzed for metals by EPA methods 3050B/6010C (Mercury evaluated separately in Section 6.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank

- ⊗ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

5.1 **Overall Assessment**

The metals data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

5.2 **Holding Times**

The holding time for metals analysis of solid samples is 180 days from sample collection to analysis. The holding time was met for the sample analysis.

5.3 **Method Blank**

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 251078). The metals were not detected in the method blank above the MDLs.

5.4 **Matrix Spike/Matrix Spike Duplicate**

MS/MSD pairs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). A sample set specific MS/MSD pair was reported, using sample PILE 105. The recovery and RPD results were within the laboratory specified acceptance criteria, with the following exceptions.

The MS recoveries of chromium and copper were high and the MSD recoveries of copper and zinc were low, outside the laboratory specified acceptance criteria. The RPDs for chromium and copper were high and outside the laboratory specified acceptance criteria. Therefore, the concentrations of chromium and copper were J qualified as estimated and the concentration of zinc was J-qualified as estimated with a low bias.

The MS/MSD recoveries of manganese were high, outside the laboratory specified acceptance criteria. Since the concentration of manganese in sample PILE 105 was more than four times the

spike amount, no qualifications were applied to the data based on professional and technical judgment.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
PILE 105	Chromium	8.2	F1,F2	8.2	J	4
PILE 105	Copper	47	F1,F2	47	J	4
PILE 105	Zinc	70	F1	70	J-	4

mg/kg-milligrams per kilogram

F1-laboratory flag indicating the MS and/or MSD recovery is outside acceptance limits

F2- laboratory flag indicating the MS and/or MSD RPD is outside acceptance limits

5.5 **Laboratory Control Sample**

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery results were within the laboratory specified acceptance criteria.

5.6 **Laboratory Duplicate**

A laboratory duplicate was not reported with the sample set.

5.7 **Field Duplicate**

A field duplicate was not collected with the sample set.

5.8 **Sensitivity**

The sample was reported to the MDLs. Elevated non-detect results were not reported.

5.9 **Electronic Data Deliverable Review**

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

6.0 **MERCURY**

The sample was analyzed for mercury by EPA method 7471B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

6.1 Overall Assessment

The mercury data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

6.2 Holding Times

The holding time for the mercury analysis of solid samples is 28 days from sample collection to analysis. The holding time was met for the sample analysis.

6.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 251322). Mercury was not detected in the method blank above the MDL.

6.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported.

6.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery result was within the laboratory specified acceptance criteria.

6.6 Laboratory Duplicate

A laboratory duplicate was not reported.

6.7 Field Duplicate

A field duplicate was not collected with the sample set.

6.8 Sensitivity

The sample was reported to the MDL. Elevated non-detect results were not reported.

6.9 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

7.0 TOTAL CYANIDE

The sample was analyzed for total cyanide by EPA Methods 9010C/9014.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Equipment Blank
- ✓ Sensitivity

✓ Electronic Data Deliverable Review

7.1 Overall Assessment

The cyanide data reported in this package are considered usable for meeting project objectives. The analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

7.2 Holding Times

The holding time for the cyanide analysis of solid samples is 14 days from sample collection to analysis. The holding time was met for the sample analysis.

7.3 Method Blanks

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 251441). Cyanide was not detected in the method blank above the MDL.

7.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported, using sample PILE 105. The recovery and RPD results were within the laboratory specified acceptance criteria.

7.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

7.6 Laboratory Duplicate

A laboratory duplicate was not reported.

7.7 Field Duplicate

A field duplicate was not collected with the sample set.

7.8 **Sensitivity**

The sample was reported to the MDL. Elevated non-detect results were not reported.

7.9 **Electronic Data Deliverable Review**

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other

RPD-relative percent difference

Memorandum

Date: 30 July 2018
To: Aron Krasnopoler
From: Mary Tyler
CC: J. Caprio
Subject: **Stage 2A Data Validation - Level II Data Deliverables, TestAmerica
Job IDs 180-80015-1 and 180-80015-2**

SITE: Former Sperry Remington Site-North

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of eight solid samples, collected July 19, 2018, as part of the Former Sperry Remington Site-North project. The analyses were performed at TestAmerica Laboratories, Inc., Pittsburgh, Pennsylvania. The samples were analyzed for the following tests:

- Volatile Organic Compounds (VOCs) by EPA Methods 5035/8260C
- Semivolatile Organic Compounds (SVOCs) by EPA Methods 3541/8270D
- Polychlorinated Biphenyls (PCBs) by EPA Methods 3541/8082A
- Metals by EPA Methods 3050B/6010C
- Mercury by EPA Method 7471B
- Total Cyanide by EPA Methods 9010C/9014
- Total Solids by Standard Method 2540G

EXECUTIVE SUMMARY

The samples were handled, prepared, and measured in the same manner under similar prescribed conditions.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives. Qualified data should be used within the limitations of the qualification.

The data were validated using the Quality Assurance Project Plan (QAPP) for Former Sperry Remington Facility Industrial Outfall Site, Elmira, New York, NYSDEC Site I.D. # 808043,

NY09-2480-04, July 7, 2010, Revised November 11, 2010, USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2017 (EPA 540-R-2017-002), USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review, January 2017 (EPA 540-R-2017-001), the pertinent methods referenced by the laboratory report and professional and technical judgment.

The following samples were analyzed and validated at Stage 2A level in the data sets:

Laboratory ID	Client ID
180-80015-1	PILE 106
180-80015-2	PILE 106A
180-80015-3	PILE 106B
180-80015-4	PILE 106C

Laboratory ID	Client ID
180-80015-5	PILE 106D
180-80015-6	FH
180-80015-7	FHA
180-80015-8	FHB

The samples were received at the laboratory at 2.6°C, within the criteria of 0-6°C. No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC):

- There were two sets of sample relinquishing documentation on 7/19/18 and one set of sample receiving documentation on 7/20/18.
- The sample IDs on the COC for samples PILE 106B, PILE 106C and PILE 106D did not include “PILE”.
- A trip blank was listed on the COC, but not sent.
- Sample AS722-07182018-10 was listed on the COC by the laboratory. This sample was sent in with the samples reported in laboratory reports 180-80015-1 and 180-80015-2, but reported in laboratory report 180-79927-1.

The solids data, used to report the samples on a dry weight basis, were not validated.

1.0 VOLATILE ORGANIC COMPOUNDS

The samples were analyzed for VOCs by EPA methods 5035/8260C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Trip Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

1.1 Overall Assessment

The VOC data reported in this package are considered usable for meeting project objectives. The analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

The narrative indicated that the percent difference (%D) for acetone in the continuing calibration verification (CCV) in batch 251682 was high, outside method specified acceptance criteria in batch 217322 with a low bias; the %D was 21.6%. Since the %D was within the validation guidance acceptance criteria of 40%D, no qualifications were applied to the data, based on professional and technical judgment.

1.2 Holding Times

The holding times for the VOC analysis of a preserved solid sample collected as a terracore are 48 hours until laboratory receipt and 14 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported (batches 251272 and 251682). VOCs were not detected in the method blanks above the method detection limits (MDLs).

1.4 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD pairs were not reported.

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

1.6 Surrogates

Acceptable surrogate recoveries were reported.

1.7 Trip Blank

A trip blank did not accompany the samples. No qualifications were applied to the data, but the discrepancy should be noted by the data user.

1.8 Field Duplicate

A field duplicate was not collected with the sample set.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were not reported.

1.10 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

2.0 SEMIVOLATILE ORGANIC COMPOUNDS

The samples were analyzed for SVOCs by EPA methods 3541/8270D.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank

- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

2.1 Overall Assessment

The SVOC data reported in this package are considered usable for meeting project objectives. The analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

2.2 Holding Times

The holding times for SVOC analysis of solid samples are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 251364). SVOCs were not detected in the method blank above the MDLs.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported.

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery results were within the laboratory specified acceptance criteria.

2.6 Surrogates

Acceptable surrogate recoveries were reported, with the following exceptions.

No surrogate recoveries (0%) were reported in sample PILE 106. No qualifications were applied to the data, based on the dilution analyzed and professional and technical judgment.

2.7 Field Duplicate

A field duplicate was not collected with the sample set.

2.8 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were reported due to the dilutions analyzed.

2.9 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II reports and the EDDs.

3.0 POLYCHLORINATED BIPHENYLS

The sample was analyzed for PCBs by EPA Methods 3541/8082A.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ⊗ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

3.1 Overall Assessment

The PCB data reported in this package are considered usable for meeting project objectives. The analytical completeness defined as the ratio of the number of valid analytical results (valid

analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for this sample set is 100%.

The narrative indicated that the %Ds in batch 251459 for one peak in the PCB 1254 CCV on gas chromatography (GC) column CLP-1 and two peaks in the PCB 1254 CCV on GC column CLP-2 were high, outside method specified acceptance criteria, with low biases. Since these peaks were not used in the quantitation of the associated samples and based on professional and technical judgment, no qualifications were applied to the data.

The %D in the CCV in batch 251459 on GC column CLP-1 for PCB 1016 were high and outside method specified acceptance criteria, with a high bias. Since PCB 1016 was not detected in the associated samples, no qualifications were applied to the data. In addition, the %Ds for 2 peaks in the CCV in batch 251199 for PCB 1260 were high and outside method specified acceptance criteria, with high biases on GC column CLP-1. Since the concentrations of PCB 1260 in the associated samples were reported from GC column CLP-2, no qualifications were applied to the data.

The samples contain a mixture of PCBs 1248, 1254 and 1260. There are peaks in 1248 and 1254 that are in both of these PCBs and peaks in 1254 and 1260 that are in both of these PCBs; therefore, there is contribution between PCBs when more than one PCB is detected in a sample. Therefore, based on professional and technical judgment, the concentrations of PCBs 1248, 1254 and 1260 in samples PILE 106 and FH were J qualified as estimated.

The concentration of PCB 1260 in sample PILE 106 was flagged with p, indicating that the relative percent difference (RPD) between the primary and confirmation GC columns is >40%; the lower value was reported. Therefore, based on professional and technical judgment, the concentration of PCB 1260 in this sample was J qualified as estimated.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier*	Reason Code**
FH	PCB-1248	17	NA	17	J	13
FH	PCB-1254	5.9	NA	5.9	J	13
FH	PCB-1260	0.96	NA	0.96	J	13
PILE 106	PCB-1248	2.3	NA	2.3	J	13
PILE 106	PCB-1254	0.77	NA	0.77	J	13
PILE 106	PCB-1260	0.10	p	0.10	J	13

mg/kg-milligrams per kilogram
NA-not applicable

p-laboratory flag indicating the RPDs between the primary and confirmation GC column was >40%; the lower value was reported

* Validation qualifiers are defined in Attachment 1 at the end of this report

**Reason codes are defined in Attachment 2 at the end of this report

3.2 Holding Times

The holding times for the PCB analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

3.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 251316). PCBs were not detected in the method blank above the MDLs.

3.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported.

3.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery results were within the laboratory specified acceptance criteria.

3.6 Surrogates

Acceptable surrogate recoveries were reported.

3.7 Field Duplicate

A field duplicate was not collected with the sample set.

3.8 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were reported in sample FH due to the dilution analyzed.

3.9 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No other discrepancies were identified between the level II report and the EDD.

5.0 METALS

The sample was analyzed for metals by EPA methods 3050B/6010C (Mercury evaluated separately in Section 6.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ⊗ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

5.1 Overall Assessment

The metals data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

5.2 Holding Times

The holding time for metals analysis of solid samples is 180 days from sample collection to analysis. The holding time was met for the sample analyses.

5.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 251361). The metals were not detected in the method blank above the MDLs.

5.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). A sample set specific MS/MSD pair was reported, using sample PILE 106. The recovery and RPD results were within the laboratory specified acceptance criteria, with the following exceptions.

The MS recovery of copper was high, and the MS/MSD recoveries of zinc were low, outside the laboratory specified acceptance criteria. In addition, the RPD for zinc was high and outside the laboratory specified acceptance criteria. Therefore, the concentration of copper was J+ qualified as estimated with a high bias and the concentration of zinc was J qualified as estimated.

The MS/MSD recoveries of manganese were high, outside the laboratory specified acceptance criteria. Since the concentration of manganese in sample PILE 106 was more than four times the spike amount, no qualifications were applied to the data based on professional and technical judgment.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
PILE 106	Copper	27	F1	27	J+	4
PILE 106	Zinc	110	F2,F1	110	J	4

mg/kg-milligrams per kilogram

F1-laboratory flag indicating the MS and/or MSD recovery is outside acceptance limits

F2- laboratory flag indicating the MS and/or MSD RPD is outside acceptance limits

5.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery results were within the laboratory specified acceptance criteria.

5.6 Laboratory Duplicate

A laboratory duplicate was not reported with the sample set.

5.7 Field Duplicate

A field duplicate was not collected with the sample set.

5.8 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were not reported.

5.9 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

6.0 MERCURY

The sample was analyzed for mercury by EPA method 7471B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

6.1 Overall Assessment

The mercury data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

6.2 Holding Times

The holding time for the mercury analysis of solid samples is 28 days from sample collection to analysis. The holding time was met for the sample analyses.

6.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 251322). Mercury was not detected in the method blank above the MDL.

6.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported.

6.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery result was within the laboratory specified acceptance criteria.

6.6 Laboratory Duplicate

A laboratory duplicate was not reported.

6.7 Field Duplicate

A field duplicate was not collected with the sample set.

6.8 Sensitivity

The samples were reported to the MDL. Elevated non-detect results were not reported.

6.9 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

7.0 TOTAL CYANIDE

The sample was analyzed for total cyanide by EPA Methods 9010C/9014.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Equipment Blank
- ✓ Sensitivity
- ✓ Electronic Data Deliverables Review

7.1 Overall Assessment

The cyanide data reported in this package are considered usable for meeting project objectives. The analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

7.2 Holding Times

The holding time for the cyanide analysis of solid samples is 14 days from sample collection to analysis. The holding time was met for the sample analyses.

7.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 251441). Cyanide was not detected in the method blank above the MDL.

7.4 Matrix Spike/Matrix Spike Duplicate

MS/MSD pairs were not reported.

7.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

7.6 Laboratory Duplicate

A laboratory duplicate was not reported.

7.7 Field Duplicate

A field duplicate was not collected with the sample set.

7.8 Sensitivity

The samples were reported to the MDL. Elevated non-detect results were not reported.

7.9 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other

RPD-relative percent difference



**NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION**



Request to Import/Reuse Fill or Soil

This form is based on the information required by DER-10, Section 5.4(e). Use of this form is not a substitute for reading the applicable Technical Guidance document.

SECTION 1 – SITE BACKGROUND

The allowable site use is:

Have Ecological Resources been identified?

Is this soil originating from the site?

How many cubic yards of soil will be imported/reused?

If greater than 1000 cubic yards will be imported, enter volume to be imported:

SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone?

Does it contain less than 10%, by weight, material that would pass a size 80 sieve?

Is this virgin material from a permitted mine or quarry?

Is this material recycled concrete or brick from a DEC registered processing facility?

SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

Piles 105 and 106 are soils categorized for potential reuse that overlay TSCA soils and were staged within the excavation.

From Pile 105 (~190 CY), 4 discrete sample were collected and analyzed for VOCs and 1 composite samples was collected and analyzed for PCBs, SVOCs and inorganics.

From Pile 106 (~122 CY), 4 discrete sample were collected and analyzed for VOCs and 1 composite samples was collected and analyzed for PCBs, SVOCs and inorganics.

Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.

If the material meets requirements of DER-10 section 5.5 (other material), no chemical testing needed.

SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

Total PCBs were detected above the allowable level of 1 ppm in soils from Piles 105 and 106 but below 10 ppm. See attached summary table.

Sample FH was collected from the pile that came from the excavation north of K-wing to close the loop of the water line. Results are reported with those for Pile 106. Total PCBs detected were above 10 ppm. Those soils have been staged separately from Pile 106 and will be disposed of at an appropriate facility.

Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.

If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Unisys Corporation, Responsible Party

Location where fill was obtained:

Former Sperry Remington Site - North Portion, 777 S Main St, Elmira, NY

Identification of any state or local approvals as a fill source:

If no approvals are available, provide a brief history of the use of the property that is the fill source:

The Former Sperry Remington Site - North Portion (the Site) is a former manufacturing facility. Soils have been excavated at the Site as part of an approved Interim Remedial Measure to address PCB-impacted soils.

Provide a list of supporting documentation included with this request:

Analytical Reports 180-79862-1 and 180-79862-2 (Pile 105) and 180-80015-1 and 180-80015-2 (Pile 106)
Data Validation Reports

The information provided on this form is accurate and complete.

1 Aug 2018

Date _____

Signature

Aron Krasnopoler

Print Name

Beech and Bonaparte Engineering,P.C.

Firm

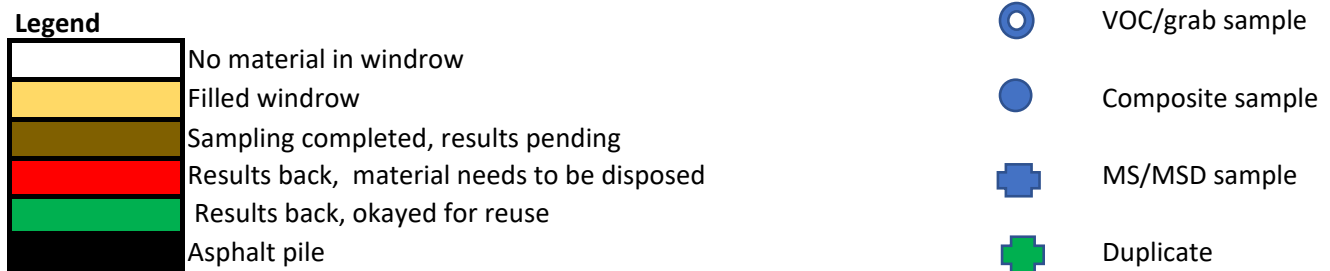


TABLE 1

Request for Reuse - Summary of Analytical Results
Former Sperry Remington Site - North Portion
Elmira, New York

				Field_ID	W1S1	DUP20180713-3	W1S1-A	W1S1-B	W1S2	W1S2-A	W1S2-B
				Sample Date	7/13/2018	7/13/2018	7/13/2018	7/13/2018	7/13/2018	7/13/2018	7/13/2018
				Lab Report Number	180-79799-1	180-79799-1	180-79799-1	180-79799-1	180-79799-1	180-79799-1	180-79799-1
				NYSDEC DER10 App 5 Constituent Levels for Imported Fill or Soil Restricted Residential Use May 2010							
Group	Constituent	Units	EQL								
PCBs	Arochlor 1016	mg/kg	0.0059		<0.028U	<0.028U	-	-	<0.0059U	-	-
	Arochlor 1221	mg/kg	0.0086		<0.057U	<0.056U	-	-	<0.012U	-	-
	Arochlor 1232	mg/kg	0.0086		<0.052U	<0.051U	-	-	<0.011U	-	-
	Arochlor 1242	mg/kg	0.0086		<0.052U	<0.052U	-	-	<0.011U	-	-
	Arochlor 1248	mg/kg	0.018		6.7J	7.5J	-	-	5.1J	-	-
	Arochlor 1254	mg/kg	0.0086		3.1J	3.6J	-	-	2.4J	-	-
	Arochlor 1260	mg/kg	0.0086		0.34J	0.38J	-	-	0.31J	-	-
	Arochlor 1268	mg/kg	0.0086		<0.042U	<0.042U	-	-	<0.0087U	-	-
	Arochlor 1262	mg/kg	0.0086		<0.061U	<0.061U	-	-	<0.013U	-	-
	Total PCBs	mg/kg		1	10.29	11.63	-	-	7.841	-	-
SVOCs	1,4-Dioxane	mg/kg	0.011	0.1	<0.032U	<0.11U	-	-	<0.11U	-	-
	2,4,5-trichlorophenol	mg/kg	0.0024		<0.0074U	<0.024U	-	-	<0.026U	-	-
	2,4,6-trichlorophenol	mg/kg	0.0019		<0.0057U	<0.018U	-	-	<0.02U	-	-
	2,4-Dinitrotoluene	mg/kg	0.0017		<0.0052U	<0.017U	-	-	<0.018U	-	-
	2-methylphenol	mg/kg	0.0097	0.33	<0.03U	<0.097U	-	-	<0.1U	-	-
	4-methylphenol	mg/kg	0.0099	0.33	<0.03U	<0.099U	-	-	<0.11U	-	-
	Acenaphthene	mg/kg	0.0019	98	0.0076J	<0.019U	-	-	<0.021U	-	-
	Acenaphthylene	mg/kg	0.0015	100	0.024	0.054J	-	-	0.086	-	-
	Anthracene	mg/kg	0.002	100	0.026	0.057J	-	-	0.11J	-	-
	Benz(a)anthracene	mg/kg	0.0068	1	0.064	0.2	-	-	0.26J	-	-
	Benzo(a) pyrene	mg/kg	0.0068	1	0.068J	0.23J	-	-	0.27J	-	-
	Benzo(b)fluoranthene	mg/kg	0.0068	1	0.09	0.27J	-	-	0.29	-	-
	Benzo(g,h,i)perylene	mg/kg	0.0068	100	0.071	0.2	-	-	0.26J	-	-
	Benzo(k)fluoranthene	mg/kg	0.0068	1.7	0.043	0.13	-	-	0.16	-	-
	Chrysene	mg/kg	0.0068	1	0.075	0.24	-	-	0.26J	-	-
	Dibenz(a,h)anthracene	mg/kg	0.0068	0.33	0.017J	0.056J	-	-	0.058J	-	-
	Dibenzofuran	mg/kg	0.033	59	0.0094J	0.018J	-	-	0.035J	-	-
	Fluoranthene	mg/kg	0.0068	100	0.11	0.34	-	-	0.52J	-	-
	Fluorene	mg/kg	0.0068	100	0.0078J	0.015J	-	-	0.023J	-	-
	Hexachlorobenzene	mg/kg	0.0024	1.2	<0.0074U	<0.024U	-	-	<0.026U	-	-
	Hexachlorobutadiene	mg/kg	0.002		<0.0061U	<0.02U	-	-	<0.021U	-	-
	Hexachloroethane	mg/kg	0.0017		<0.0053U	<0.017U	-	-	<0.018U	-	-
	Indeno(1,2,3-c,d)pyrene	mg/kg	0.0068	0.5	0.058	0.16	-	-	0.2J	-	-
	Naphthalene	mg/kg	0.0068	12	0.021	0.035J	-	-	0.054J	-	-
	Nitrobenzene	mg/kg	0.012		<0.038U	<0.12U	-	-	<0.13U	-	-
	Pentachlorophenol	mg/kg	0.054	0.8	<0.17U	<0.54U	-	-	<0.58U	-	-
	Phenanthrene	mg/kg	0.0068	100	0.064	0.15	-	-	0.38J	-	-
	Phenol	mg/kg	0.01	0.33	<0.031U	<0.1U	-	-	<0.11U	-	-
	Pyrene	mg/kg	0.0068	100	0.099	0.32	-	-	0.45J	-	-
	Pyridine	mg/kg	0.018		<0.056U	<0.18U	-	-	-	-	-
Inorganics	Cyanide Total	mg/kg	0.27	27	<0.28U	<0.27U	-	-	<0.29U	-	-
	Arsenic	mg/kg	0.99	16	7.1	6.5	-	-	8.8	-	-
	Barium	mg/kg	20	400	82	64	-	-	90	-	-
	Beryllium	mg/kg	0.4	47	0.35J	0.3J	-	-	0.42	-	-
	Cadmium	mg/kg	0.49	4.3	0.19J	0.2J	-	-	0.2J	-	-
	Chromium (III+VI)	mg/kg	0.49	19	12	11	-	-	12	-	-
	Copper	mg/kg	2.5	270	34	37	-	-	37	-	-
	Lead	mg/kg	0.99	400	28	27	-	-	32	-	-
	Manganese	mg/kg	1.5	2000	470	390	-	-	450=	-	-
	Nickel	mg/kg	4	130	25	23	-	-	28	-	-
	Selenium	mg/kg	0.52	4	<0.55U	0.65J	-	-	<0.54U	-	-
	Silver	mg/kg	0.1	8.3	<0.11U	<0.1U	-	-	<0.11U	-	-
	Zinc	mg/kg	2	2480	68	61	-	-	77J-	-	-
	Mercury	mg/kg	0.033	0.73	0.026J	0.039	-	-	0.032J	-	-

TABLE 1

Request for Reuse - Summary of Analytical Results
Former Sperry Remington Site - North Portion
Elmira, New York

				Field_ID	W1S1	DUP20180713-3	W1S1-A	W1S1-B	W1S2	W1S2-A	W1S2-B
				Sample Date	7/13/2018	7/13/2018	7/13/2018	7/13/2018	7/13/2018	7/13/2018	7/13/2018
				Lab Report Number	180-79799-1	180-79799-1	180-79799-1	180-79799-1	180-79799-1	180-79799-1	180-79799-1
				NYSDEC DER10 App 5 Constituent Levels for Imported Fill or Soil Restricted Residential Use May 2010							
Group	Constituent	Units	EQL								
VOCs	1,1,1-trichloroethane	mg/kg	0.0024	0.68	-	<0.0026U	<0.0026U	<0.0027U	-	<0.0027U	<0.0024U
	1,1-dichloroethane	mg/kg	0.0017	0.27	-	<0.0019U	<0.0018U	<0.0019U	-	<0.0019U	<0.0017U
	1,1-dichloroethene	mg/kg	0.0027	0.33	-	<0.0029U	<0.0029U	<0.003U	-	<0.003U	<0.0027U
	1,2,4-trimethylbenzene	mg/kg	0.0013	3.6	-	<0.0014U	<0.0014U	<0.0014U	-	<0.0014U	<0.0013U
	1,2-dichlorobenzene	mg/kg	0.0039	1.1	-	<0.0041U	<0.0041U	<0.0043U	-	<0.0043U	<0.0039U
	1,2-dichloroethane	mg/kg	0.0014	0.02	-	<0.0015U	<0.0015U	<0.0015U	-	<0.0015U	<0.0014U
	1,3,5-trimethylbenzene	mg/kg	0.0017	8.4	-	<0.0018U	<0.0018U	<0.0018U	-	<0.0018U	<0.0017U
	1,3-dichlorobenzene	mg/kg	0.0015	2.4	-	<0.0016U	<0.0016U	<0.0017U	-	<0.0017U	<0.0015U
	1,4-dichlorobenzene	mg/kg	0.00098	1.8	-	<0.0011U	<0.001U	<0.0011U	-	<0.0011U	<0.00098U
	1,4-Dioxane	mg/kg	0.035	0.1	-	<0.038U	<0.037U	<0.039U	-	<0.039U	<0.035U
	Methyl Ethyl Ketone	mg/kg	0.0028	0.12	-	<0.003U	<0.003U	<0.0031U	-	<0.0031U	<0.0028U
	Acetone	mg/kg	0.003	0.05	-	0.0087J	0.009J	0.0075J	-	0.0035J	<0.003U
	Benzene	mg/kg	0.0019	0.06	-	<0.002U	<0.002U	<0.0021U	-	<0.0021U	<0.0019U
	Carbon tetrachloride	mg/kg	0.0032	0.76	-	<0.0034U	<0.0034U	<0.0035U	-	<0.0035U	<0.0032U
	Chlorobenzene	mg/kg	0.0015	1.1	-	<0.0016U	<0.0016U	<0.0017U	-	<0.0017U	<0.0015U
	Chloroform	mg/kg	0.002	0.37	-	<0.0022U	<0.0022U	<0.0022U	-	<0.0022U	<0.002U
	cis-1,2-dichloroethene	mg/kg	0.0015	0.25	-	<0.0016U	<0.0016U	<0.0017U	-	<0.0017U	<0.0015U
	Dichloromethane	mg/kg	0.0023	0.05	-	<0.0024U	<0.0024U	<0.0025U	-	<0.0025U	<0.0023U
	Ethylbenzene	mg/kg	0.0021	1	-	<0.0022U	<0.0022U	<0.0023U	-	<0.0023U	<0.0021U
	Methyl-tert-butyl ether	mg/kg	0.0036	0.93	-	<0.0038U	<0.0038U	<0.0039U	-	<0.0039U	<0.0036U
	n-butylbenzene	mg/kg	0.0037	12	-	<0.0039U	<0.0039U	<0.004U	-	<0.004U	<0.0037U
	n-propylbenzene	mg/kg	0.002	3.9	-	<0.0022U	<0.0022U	<0.0022U	-	<0.0022U	<0.002U
	sec-butylbenzene	mg/kg	0.0024	11	-	<0.0025U	<0.0025U	<0.0026U	-	<0.0026U	<0.0024U
	Trichloroethene	mg/kg	0.0014	0.47	-	<0.0015U	<0.0015U	<0.0016U	-	<0.0016U	<0.0014U
	tert-butylbenzene	mg/kg	0.0018	5.9	-	<0.0019U	<0.0019U	<0.0019U	-	<0.0019U	<0.0018U
	Tetrachloroethene	mg/kg	0.0019	1.3	-	<0.0021U	<0.002U	0.0035J	-	0.0026J	<0.0019U
	Toluene	mg/kg	0.0016	0.7	-	<0.0017U	<0.0017U	<0.0018U	-	<0.0018U	<0.0016U
	trans-1,2-dichloroethene	mg/kg	0.0024	0.19	-	<0.0026U	<0.0026U	<0.0027U	-	<0.0027U	<0.0024U
	Vinyl chloride	mg/kg	0.0035	0.02	-	<0.0038U	<0.0037U	<0.0039U	-	<0.0039U	<0.0035U
	Xylene Total	mg/kg	0.0041	1.6	-	<0.0044U	<0.0044U	<0.0046U	-	<0.0046U	<0.0041U

DATA QUALIFIER DEFINITIONS

- UThe analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- JThe analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
The analyte was positively identified; however, the associated numerical value is likely to be higher that the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J+The analyte was positively identified; however, the associated numerical value is likely to be lower that the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributat
- J-
- UJThe analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pittsburgh

301 Alpha Drive

RIDC Park

Pittsburgh, PA 15238

Tel: (412)963-7058

TestAmerica Job ID: 180-79799-1

Client Project/Site: Former Sperry Remington Site-North

For:

Geosyntec Consultants, Inc.

10211 Wincopin Circle

4th Floor

Columbia, Maryland 21044

Attn: Mr. Aron Krasnopoler



Authorized for release by:

7/23/2018 4:04:18 PM

David Dunlap, Senior Project Manager

(412)963-2432

david.dunlap@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Certification Summary	5
Sample Summary	6
Method Summary	7
Lab Chronicle	8
Client Sample Results	13
QC Sample Results	24
QC Association Summary	38
Chain of Custody	42
Receipt Checklists	44



Case Narrative

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Job ID: 180-79799-1

Laboratory: TestAmerica Pittsburgh

Narrative

Job Narrative 180-79799-1

Receipt

The samples were received on 7/14/2018 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.7° C.

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) analyzed in batch 180-250599 was above criteria for the following analyte: acetone. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260C: The matrix spike (MS) of sample W1S2-B (180-79799-2) recovered above the control limits for acetone. The recovery of the laboratory control sample (LCS) was within the control limits. The RPD between the spikes was also above the control limits for 1,4-dichlorobenzene. The recoveries were within the control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D LL: The following samples were diluted due to the nature of the sample matrix: W1S2 (180-79799-3) and its matrix spikes, W1S1 (180-79799-6), and DUP20180713-3 (180-79799-8). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: The matrix spike/matrix spike duplicate (MS/MSD) of sample W1S2 (180-79799-3) had several recoveries and RPD's between the spikes outside of the control limits. The recoveries of the laboratory control sample (LCS) were within the control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8082A: The following samples were diluted to bring the concentration of target analytes within the calibration range: W1S1 (180-79799-6) and DUP20180713-3 (180-79799-8). Elevated reporting limits (RLs) are provided.

Method(s) 8082A: The matrix spike/matrix spike duplicate (MS/MSD) recoveries of sample W1S2 (180-79799-3) were above the control limits for aroclor 1016. The RPD between the spikes and the recoveries of the laboratory control sample (LCS) were within the control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method(s) 6010C: The matrix spike (MS) of sample W1S2 (180-79799-3) recovered below the control limits for zinc. The RPD between the spikes was above the control limits for manganese. The recoveries of the laboratory control sample were within the control limits.

Method(s) 7471B: The matrix spike (MS) of sample W1S2 (180-79799-3) recovered above the control limits for zinc. The RPD between the spikes and the recovery of the laboratory control sample were within the control limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Definitions/Glossary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits
F1	MS and/or MSD Recovery is outside acceptance limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
E	Result exceeded calibration range.

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Laboratory: TestAmerica Pittsburgh

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	11182	03-31-19

The following analytes are included in this report, but accreditation/certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
2540G		Solid	Percent Moisture
2540G		Solid	Percent Solids
EPA 8270D LL	3541	Solid	1,4-Dioxane

Sample Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
180-79799-1	W1S2-A	Solid	07/13/18 15:20	07/14/18 09:10
180-79799-2	W1S2-B	Solid	07/13/18 15:30	07/14/18 09:10
180-79799-3	W1S2	Solid	07/13/18 15:30	07/14/18 09:10
180-79799-4	W1S1-A	Solid	07/13/18 14:50	07/14/18 09:10
180-79799-5	W1S1-B	Solid	07/13/18 15:00	07/14/18 09:10
180-79799-6	W1S1	Solid	07/13/18 14:50	07/14/18 09:10
180-79799-7	DUP20180713-3	Solid	07/13/18 00:00	07/14/18 09:10
180-79799-8	DUP20180713-3	Solid	07/13/18 00:00	07/14/18 09:10
180-79799-9	TB20180713	Water	07/13/18 00:00	07/14/18 09:10

Method Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method	Method Description	Protocol	Laboratory
EPA 8260C	Volatile Organic Compounds (GC/MS)	SW846	TAL PIT
EPA 8260C	Volatile Organic Compounds by GC/MS	SW846	TAL PIT
EPA 8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PIT
EPA 8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL PIT
EPA 6010C	Metals (ICP)	SW846	TAL PIT
EPA 7471B	Mercury (CVAA)	SW846	TAL PIT
2540G	SM 2540G	SM22	TAL PIT
EPA 9014	Cyanide	SW846	TAL PIT
3050B	Preparation, Metals	SW846	TAL PIT
3541	Automated Soxhlet Extraction	SW846	TAL PIT
3541	Automated Soxhlet Extraction (Low Level)	SW846	TAL PIT
3660B	Sulfur Cleanup	SW846	TAL PIT
3665A	Sulfuric Acid/Permanganate Cleanup	SW846	TAL PIT
5030C	Purge and Trap	SW846	TAL PIT
5035	Closed System Purge and Trap	SW846	TAL PIT
7471B	Preparation, Mercury	SW846	TAL PIT
9010C	Cyanide, Distillation	SW846	TAL PIT

Protocol References:

SM22 = Standard Methods For The Examination Of Water And Wastewater, 22nd Edition

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: W1S2-A

Date Collected: 07/13/18 15:20

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			250656	07/16/18 10:54	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: W1S2-A

Date Collected: 07/13/18 15:20

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-1

Matrix: Solid

Percent Solids: 90.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.1834 g	5 mL	250624	07/16/18 05:31	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	250599	07/16/18 12:05	KLG	TAL PIT
Instrument ID: CHHP3										

Client Sample ID: W1S2-B

Date Collected: 07/13/18 15:30

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-2

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			250656	07/16/18 10:54	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: W1S2-B

Date Collected: 07/13/18 15:30

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-2

Matrix: Solid

Percent Solids: 98.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.2927 g	5 mL	250624	07/16/18 05:31	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	250599	07/16/18 10:31	KLG	TAL PIT
Instrument ID: CHHP3										

Client Sample ID: W1S2

Date Collected: 07/13/18 15:30

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-3

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			250656	07/16/18 10:54	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: W1S2

Date Collected: 07/13/18 15:30

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-3

Matrix: Solid

Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.1 g	0.5 mL	250693	07/16/18 14:40	SAC	TAL PIT

TestAmerica Pittsburgh

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: W1S2

Date Collected: 07/13/18 15:30

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-3

Matrix: Solid

Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8270D LL		10	1 mL	1 mL	251245	07/21/18 19:49	DLF	TAL PIT
		Instrument ID: CH71								
Total/NA	Prep	3541			15.0 g	20.0 mL	250578	07/14/18 15:24	MAL	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	250616	07/16/18 06:36	CMR	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	250617	07/16/18 06:37	CMR	TAL PIT
Total/NA	Analysis	EPA 8082A		1			250592	07/16/18 10:31	CMR	TAL PIT
		Instrument ID: CHGC8								
Total/NA	Prep	3050B			1.03 g	100 mL	250685	07/16/18 13:55	KA	TAL PIT
Total/NA	Analysis	EPA 6010C		1			250845	07/17/18 11:06	RJG	TAL PIT
		Instrument ID: C								
Total/NA	Prep	7471B			0.62 g	100 mL	250659	07/16/18 11:24	RJR	TAL PIT
Total/NA	Analysis	EPA 7471B		1			250783	07/17/18 11:48	RJR	TAL PIT
		Instrument ID: HGZ								
Total/NA	Prep	9010C			1.01 g	50 mL	250756	07/17/18 09:57	BSH	TAL PIT
Total/NA	Analysis	EPA 9014		1			250810	07/17/18 14:43	BSH	TAL PIT
		Instrument ID: SEAL2								

Client Sample ID: W1S1-A

Date Collected: 07/13/18 14:50

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-4

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			250656	07/16/18 10:54	AVS	TAL PIT
		Instrument ID: NOEQUIP								

Client Sample ID: W1S1-A

Date Collected: 07/13/18 14:50

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-4

Matrix: Solid

Percent Solids: 93.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.2457 g	5 mL	250624	07/16/18 05:31	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	250599	07/16/18 12:28	KLG	TAL PIT
		Instrument ID: CHHP3								

Client Sample ID: W1S1-B

Date Collected: 07/13/18 15:00

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			250656	07/16/18 10:54	AVS	TAL PIT
		Instrument ID: NOEQUIP								

TestAmerica Pittsburgh

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: W1S1-B

Date Collected: 07/13/18 15:00

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-5

Matrix: Solid

Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.9027 g	5 mL	250624	07/16/18 05:31	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	250599	07/16/18 12:52	KLG	TAL PIT
Instrument ID: CHHP3										

Client Sample ID: W1S1

Date Collected: 07/13/18 14:50

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			250656	07/16/18 10:54	AVS	TAL PIT
Instrument ID: NOEQUIP										

Client Sample ID: W1S1

Date Collected: 07/13/18 14:50

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-6

Matrix: Solid

Percent Solids: 95.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.2 g	0.5 mL	250693	07/16/18 14:40	SAC	TAL PIT
Total/NA	Analysis	EPA 8270D LL		3	1 mL	1 mL	251245	07/21/18 21:12	DLF	TAL PIT
Instrument ID: CH71										
Total/NA	Prep	3541			15.0 g	20.0 mL	250578	07/14/18 15:24	MAL	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	250616	07/16/18 06:36	CMR	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	250617	07/16/18 06:37	CMR	TAL PIT
Total/NA	Analysis	EPA 8082A		5			250592	07/16/18 17:05	CMR	TAL PIT
Instrument ID: CHGC8										
Total/NA	Prep	3050B			0.98 g	100 mL	250685	07/16/18 13:55	KA	TAL PIT
Total/NA	Analysis	EPA 6010C		1			250845	07/17/18 11:32	RJG	TAL PIT
Instrument ID: C										
Total/NA	Prep	7471B			0.62 g	100 mL	250659	07/16/18 11:24	RJR	TAL PIT
Total/NA	Analysis	EPA 7471B		1			250783	07/17/18 11:52	RJR	TAL PIT
Instrument ID: HGZ										
Total/NA	Prep	9010C			1.02 g	50 mL	250756	07/17/18 09:58	BSH	TAL PIT
Total/NA	Analysis	EPA 9014		1			250810	07/17/18 14:48	BSH	TAL PIT
Instrument ID: SEAL2										

Client Sample ID: DUP20180713-3

Date Collected: 07/13/18 00:00

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			250656	07/16/18 10:54	AVS	TAL PIT
Instrument ID: NOEQUIP										

TestAmerica Pittsburgh

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: DUP20180713-3

Date Collected: 07/13/18 00:00

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-7

Matrix: Solid

Percent Solids: 93.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.2174 g	5 mL	250624	07/16/18 05:31	KLG	TAL PIT
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	250599	07/16/18 13:15	KLG	TAL PIT
		Instrument ID: CHHP3								

Client Sample ID: DUP20180713-3

Date Collected: 07/13/18 00:00

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	2540G		1			250656	07/16/18 10:54	AVS	TAL PIT
		Instrument ID: NOEQUIP								

Client Sample ID: DUP20180713-3

Date Collected: 07/13/18 00:00

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-8

Matrix: Solid

Percent Solids: 96.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3541			15.4 g	0.5 mL	250693	07/16/18 14:40	SAC	TAL PIT
Total/NA	Analysis	EPA 8270D LL		10	1 mL	1 mL	251245	07/21/18 21:39	DLF	TAL PIT
		Instrument ID: CH71								
Total/NA	Prep	3541			15.0 g	20.0 mL	250578	07/14/18 15:24	MAL	TAL PIT
Total/NA	Cleanup	3665A			2 mL	2 mL	250616	07/16/18 06:36	CMR	TAL PIT
Total/NA	Cleanup	3660B			2 mL	2 mL	250617	07/16/18 06:37	CMR	TAL PIT
Total/NA	Analysis	EPA 8082A		5			250592	07/16/18 17:24	CMR	TAL PIT
		Instrument ID: CHGC8								
Total/NA	Prep	3050B			1.05 g	100 mL	250685	07/16/18 13:55	KA	TAL PIT
Total/NA	Analysis	EPA 6010C		1			250845	07/17/18 11:38	RJG	TAL PIT
		Instrument ID: C								
Total/NA	Prep	7471B			0.63 g	100 mL	250659	07/16/18 11:24	RJR	TAL PIT
Total/NA	Analysis	EPA 7471B		1			250783	07/17/18 11:53	RJR	TAL PIT
		Instrument ID: HGZ								
Total/NA	Prep	9010C			1.03 g	50 mL	250756	07/17/18 09:58	BSH	TAL PIT
Total/NA	Analysis	EPA 9014		1			250810	07/17/18 14:53	BSH	TAL PIT
		Instrument ID: SEAL2								

Client Sample ID: TB20180713

Date Collected: 07/13/18 00:00

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	EPA 8260C		1	5 mL	5 mL	250626	07/16/18 21:39	HRB	TAL PIT
		Instrument ID: CHHP6								

TestAmerica Pittsburgh

Lab Chronicle

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Analyst References:

Lab: TAL PIT

Batch Type: Cleanup

CMR = Carl Reagle

Batch Type: Prep

BSH = Brandon Hough

KA = Kayla Kalamasz

KLK = Kathy Gordon

MAL = Michael Lonzo

RJR = Ron Rosenbaum

SAC = Shawn Clemente

Batch Type: Analysis

AVS = Abbey Smith

BSH = Brandon Hough

CMR = Carl Reagle

DLF = Donald Ferguson

HRB = Hannah Bowie

KLK = Kathy Gordon

RJG = Rob Good

RJR = Ron Rosenbaum

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: W1S2-A

Date Collected: 07/13/18 15:20

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-1

Matrix: Solid

Percent Solids: 90.6

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.0035	J	0.021	0.0034	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
Benzene	ND		0.0053	0.0021	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
2-Butanone (MEK)	ND		0.0053	0.0031	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
Carbon tetrachloride	ND		0.0053	0.0035	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
Chlorobenzene	ND		0.0053	0.0017	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
Chloroform	ND		0.0053	0.0022	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
cis-1,2-Dichloroethene	ND		0.0053	0.0017	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
1,2-Dichlorobenzene	ND		0.0053	0.0043	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
1,3-Dichlorobenzene	ND		0.0053	0.0017	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
1,4-Dichlorobenzene	ND		0.0053	0.0011	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
1,1-Dichloroethane	ND		0.0053	0.0019	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
1,2-Dichloroethane	ND		0.0053	0.0015	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
1,1-Dichloroethene	ND		0.0053	0.0030	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
1,4-Dioxane	ND		1100	39	ug/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
Ethylbenzene	ND		0.0053	0.0023	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
Methylene Chloride	ND		0.0053	0.0025	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
Methyl tert-butyl ether	ND		0.0053	0.0039	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
n-Butylbenzene	ND		0.0053	0.0040	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
N-Propylbenzene	ND		0.0053	0.0022	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
sec-Butylbenzene	ND		0.0053	0.0026	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
tert-Butylbenzene	ND		0.0053	0.0019	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
Tetrachloroethene	0.0026	J	0.0053	0.0021	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
Toluene	ND		0.0053	0.0018	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
trans-1,2-Dichloroethene	ND		0.0053	0.0027	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
1,1,1-Trichloroethane	ND		0.0053	0.0027	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
Trichloroethene	ND		0.0053	0.0016	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
1,2,4-Trimethylbenzene	ND		0.0053	0.0014	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
1,3,5-Trimethylbenzene	ND		0.0053	0.0018	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
Vinyl chloride	ND		0.0053	0.0039	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1
Xylenes, Total	ND		0.011	0.0046	mg/Kg	☼	07/16/18 05:31	07/16/18 12:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		76 - 111	07/16/18 05:31	07/16/18 12:05	1
Dibromofluoromethane (Surr)	90		72 - 116	07/16/18 05:31	07/16/18 12:05	1
1,2-Dichloroethane-d4 (Surr)	85		62 - 118	07/16/18 05:31	07/16/18 12:05	1
Toluene-d8 (Surr)	95		80 - 129	07/16/18 05:31	07/16/18 12:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.4		0.1	0.1	%			07/16/18 10:54	1
Percent Solids	90.6		0.1	0.1	%			07/16/18 10:54	1

Client Sample ID: W1S2-B

Date Collected: 07/13/18 15:30

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-2

Matrix: Solid

Percent Solids: 98.0

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	F1	0.019	0.0030	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
Benzene	ND		0.0048	0.0019	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: W1S2-B

Date Collected: 07/13/18 15:30

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-2

Matrix: Solid

Percent Solids: 98.0

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		0.0048	0.0028	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
Carbon tetrachloride	ND		0.0048	0.0032	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
Chlorobenzene	ND		0.0048	0.0015	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
Chloroform	ND		0.0048	0.0020	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
cis-1,2-Dichloroethene	ND		0.0048	0.0015	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
1,2-Dichlorobenzene	ND		0.0048	0.0039	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
1,3-Dichlorobenzene	ND		0.0048	0.0015	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
1,4-Dichlorobenzene	ND	F2	0.0048	0.00098	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
1,1-Dichloroethane	ND		0.0048	0.0017	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
1,2-Dichloroethane	ND		0.0048	0.0014	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
1,1-Dichloroethene	ND		0.0048	0.0027	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
1,4-Dioxane	ND		960	35	ug/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
Ethylbenzene	ND		0.0048	0.0021	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
Methylene Chloride	ND		0.0048	0.0023	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
Methyl tert-butyl ether	ND		0.0048	0.0036	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
n-Butylbenzene	ND		0.0048	0.0037	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
N-Propylbenzene	ND		0.0048	0.0020	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
sec-Butylbenzene	ND		0.0048	0.0024	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
tert-Butylbenzene	ND		0.0048	0.0018	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
Tetrachloroethene	ND		0.0048	0.0019	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
Toluene	ND		0.0048	0.0016	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
trans-1,2-Dichloroethene	ND		0.0048	0.0024	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
1,1,1-Trichloroethane	ND		0.0048	0.0024	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
Trichloroethene	ND		0.0048	0.0014	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
1,2,4-Trimethylbenzene	ND		0.0048	0.0013	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
1,3,5-Trimethylbenzene	ND		0.0048	0.0017	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
Vinyl chloride	ND		0.0048	0.0035	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1
Xylenes, Total	ND		0.0096	0.0041	mg/Kg	☼	07/16/18 05:31	07/16/18 10:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		76 - 111	07/16/18 05:31	07/16/18 10:31	1
Dibromofluoromethane (Surr)	91		72 - 116	07/16/18 05:31	07/16/18 10:31	1
1,2-Dichloroethane-d4 (Surr)	90		62 - 118	07/16/18 05:31	07/16/18 10:31	1
Toluene-d8 (Surr)	93		80 - 129	07/16/18 05:31	07/16/18 10:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	2.0		0.1	0.1	%	-		07/16/18 10:54	1
Percent Solids	98.0		0.1	0.1	%	-		07/16/18 10:54	1

Client Sample ID: W1S2

Date Collected: 07/13/18 15:30

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-3

Matrix: Solid

Percent Solids: 92.6

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.072	0.021	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Acenaphthylene	0.086		0.072	0.016	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Anthracene	0.11	F1	0.072	0.019	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Benzo[a]anthracene	0.26	F1	0.072	0.014	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: W1S2

Date Collected: 07/13/18 15:30

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-3

Matrix: Solid

Percent Solids: 92.6

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	0.27	F1	0.072	0.016	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Benzo[b]fluoranthene	0.29		0.072	0.018	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Benzo[g,h,i]perylene	0.26	F1	0.072	0.015	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Benzo[k]fluoranthene	0.16		0.072	0.021	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Chrysene	0.26	F1	0.072	0.014	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Dibenz(a,h)anthracene	0.058	J F1	0.072	0.016	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Dibenzofuran	0.035	J	0.35	0.016	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
2,4-Dinitrotoluene	ND		0.35	0.018	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
1,4-Dioxane	ND		0.72	0.11	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Fluoranthene	0.52	F1 F2	0.072	0.019	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Fluorene	0.023	J	0.072	0.014	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Hexachlorobenzene	ND		0.072	0.026	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Hexachlorobutadiene	ND		0.072	0.021	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Hexachloroethane	ND		0.35	0.018	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Indeno[1,2,3-cd]pyrene	0.20	F1	0.072	0.014	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
2-Methylphenol	ND		0.35	0.10	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Methylphenol, 3 & 4	ND		0.35	0.11	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Naphthalene	0.054	J	0.072	0.014	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Nitrobenzene	ND		0.72	0.13	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Pentachlorophenol	ND	F2	1.8	0.58	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Phenanthrene	0.38	F2	0.072	0.019	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Phenol	ND		0.35	0.11	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Pyrene	0.45	F2	0.072	0.017	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
Pyridine	ND	F1	0.72	0.19	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
2,4,5-Trichlorophenol	ND		0.35	0.026	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10
2,4,6-Trichlorophenol	ND		0.35	0.020	mg/Kg	☼	07/16/18 14:40	07/21/18 19:49	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	89		39 - 105	07/16/18 14:40	07/21/18 19:49	10
2-Fluorophenol (Surr)	77		35 - 105	07/16/18 14:40	07/21/18 19:49	10
Nitrobenzene-d5 (Surr)	85		39 - 105	07/16/18 14:40	07/21/18 19:49	10
Phenol-d5 (Surr)	90		42 - 105	07/16/18 14:40	07/21/18 19:49	10
Terphenyl-d14 (Surr)	101		28 - 148	07/16/18 14:40	07/21/18 19:49	10
2,4,6-Tribromophenol (Surr)	77		44 - 105	07/16/18 14:40	07/21/18 19:49	10

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND	F1	0.018	0.0059	mg/Kg	☼	07/14/18 15:24	07/16/18 10:31	1
PCB-1221	ND		0.018	0.012	mg/Kg	☼	07/14/18 15:24	07/16/18 10:31	1
PCB-1232	ND		0.018	0.011	mg/Kg	☼	07/14/18 15:24	07/16/18 10:31	1
PCB-1242	ND		0.018	0.011	mg/Kg	☼	07/14/18 15:24	07/16/18 10:31	1
PCB-1248	5.1		0.018	0.014	mg/Kg	☼	07/14/18 15:24	07/16/18 10:31	1
PCB-1254	2.4		0.018	0.012	mg/Kg	☼	07/14/18 15:24	07/16/18 10:31	1
PCB-1260	0.31		0.018	0.0051	mg/Kg	☼	07/14/18 15:24	07/16/18 10:31	1
PCB-1262	ND		0.018	0.013	mg/Kg	☼	07/14/18 15:24	07/16/18 10:31	1
PCB-1268	ND		0.018	0.0087	mg/Kg	☼	07/14/18 15:24	07/16/18 10:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	88		33 - 137	07/14/18 15:24	07/16/18 10:31	1
DCB Decachlorobiphenyl (Surr)	83		33 - 137	07/14/18 15:24	07/16/18 10:31	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: W1S2

Date Collected: 07/13/18 15:30

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-3

Matrix: Solid

Percent Solids: 92.6

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene (Surr)	85		44 - 114	07/14/18 15:24	07/16/18 10:31	1
Tetrachloro-m-xylene (Surr)	78		44 - 114	07/14/18 15:24	07/16/18 10:31	1

Method: EPA 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.8		1.0	0.29	mg/Kg	☼	07/16/18 13:55	07/17/18 11:06	1
Barium	90		21	1.1	mg/Kg	☼	07/16/18 13:55	07/17/18 11:06	1
Beryllium	0.42		0.42	0.024	mg/Kg	☼	07/16/18 13:55	07/17/18 11:06	1
Cadmium	0.20	J	0.52	0.038	mg/Kg	☼	07/16/18 13:55	07/17/18 11:06	1
Chromium	12		0.52	0.13	mg/Kg	☼	07/16/18 13:55	07/17/18 11:06	1
Copper	37		2.6	0.18	mg/Kg	☼	07/16/18 13:55	07/17/18 11:06	1
Lead	32		1.0	0.26	mg/Kg	☼	07/16/18 13:55	07/17/18 11:06	1
Manganese	450	F2	1.6	0.17	mg/Kg	☼	07/16/18 13:55	07/17/18 11:06	1
Nickel	28		4.2	0.26	mg/Kg	☼	07/16/18 13:55	07/17/18 11:06	1
Selenium	ND		1.0	0.54	mg/Kg	☼	07/16/18 13:55	07/17/18 11:06	1
Silver	ND		0.52	0.11	mg/Kg	☼	07/16/18 13:55	07/17/18 11:06	1
Zinc	77	F1	2.1	1.1	mg/Kg	☼	07/16/18 13:55	07/17/18 11:06	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.032	J F1	0.034	0.0077	mg/Kg	☼	07/16/18 11:24	07/17/18 11:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.4		0.1	0.1	%			07/16/18 10:54	1
Percent Solids	92.6		0.1	0.1	%			07/16/18 10:54	1
Cyanide, Total	ND		0.53	0.29	mg/Kg	☼	07/17/18 09:57	07/17/18 14:43	1

Client Sample ID: W1S1-A

Date Collected: 07/13/18 14:50

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-4

Matrix: Solid

Percent Solids: 93.4

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.0090	J	0.020	0.0032	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
Benzene	ND		0.0051	0.0020	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
2-Butanone (MEK)	ND		0.0051	0.0030	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
Carbon tetrachloride	ND		0.0051	0.0034	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
Chlorobenzene	ND		0.0051	0.0016	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
Chloroform	ND		0.0051	0.0022	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
cis-1,2-Dichloroethene	ND		0.0051	0.0016	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
1,2-Dichlorobenzene	ND		0.0051	0.0041	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
1,3-Dichlorobenzene	ND		0.0051	0.0016	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
1,4-Dichlorobenzene	ND		0.0051	0.0010	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
1,1-Dichloroethane	ND		0.0051	0.0018	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
1,2-Dichloroethane	ND		0.0051	0.0015	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
1,1-Dichloroethene	ND		0.0051	0.0029	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
1,4-Dioxane	ND		1000	37	ug/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
Ethylbenzene	ND		0.0051	0.0022	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
Methylene Chloride	ND		0.0051	0.0024	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: W1S1-A

Date Collected: 07/13/18 14:50

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-4

Matrix: Solid

Percent Solids: 93.4

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.0051	0.0038	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
n-Butylbenzene	ND		0.0051	0.0039	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
N-Propylbenzene	ND		0.0051	0.0022	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
sec-Butylbenzene	ND		0.0051	0.0025	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
tert-Butylbenzene	ND		0.0051	0.0019	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
Tetrachloroethene	ND		0.0051	0.0020	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
Toluene	ND		0.0051	0.0017	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
trans-1,2-Dichloroethene	ND		0.0051	0.0026	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
1,1,1-Trichloroethane	ND		0.0051	0.0026	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
Trichloroethene	ND		0.0051	0.0015	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
1,2,4-Trimethylbenzene	ND		0.0051	0.0014	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
1,3,5-Trimethylbenzene	ND		0.0051	0.0018	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
Vinyl chloride	ND		0.0051	0.0037	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1
Xylenes, Total	ND		0.010	0.0044	mg/Kg	☼	07/16/18 05:31	07/16/18 12:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		76 - 111	07/16/18 05:31	07/16/18 12:28	1
Dibromofluoromethane (Surr)	91		72 - 116	07/16/18 05:31	07/16/18 12:28	1
1,2-Dichloroethane-d4 (Surr)	85		62 - 118	07/16/18 05:31	07/16/18 12:28	1
Toluene-d8 (Surr)	96		80 - 129	07/16/18 05:31	07/16/18 12:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.6		0.1	0.1	%			07/16/18 10:54	1
Percent Solids	93.4		0.1	0.1	%			07/16/18 10:54	1

Client Sample ID: W1S1-B

Date Collected: 07/13/18 15:00

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-5

Matrix: Solid

Percent Solids: 95.8

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.0075	J	0.021	0.0034	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
Benzene	ND		0.0053	0.0021	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
2-Butanone (MEK)	ND		0.0053	0.0031	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
Carbon tetrachloride	ND		0.0053	0.0035	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
Chlorobenzene	ND		0.0053	0.0017	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
Chloroform	ND		0.0053	0.0022	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
cis-1,2-Dichloroethene	ND		0.0053	0.0017	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
1,2-Dichlorobenzene	ND		0.0053	0.0043	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
1,3-Dichlorobenzene	ND		0.0053	0.0017	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
1,4-Dichlorobenzene	ND		0.0053	0.0011	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
1,1-Dichloroethane	ND		0.0053	0.0019	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
1,2-Dichloroethane	ND		0.0053	0.0015	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
1,1-Dichloroethene	ND		0.0053	0.0030	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
1,4-Dioxane	ND		1100	39	ug/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
Ethylbenzene	ND		0.0053	0.0023	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
Methylene Chloride	ND		0.0053	0.0025	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
Methyl tert-butyl ether	ND		0.0053	0.0039	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
n-Butylbenzene	ND		0.0053	0.0040	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: W1S1-B

Date Collected: 07/13/18 15:00

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-5

Matrix: Solid

Percent Solids: 95.8

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		0.0053	0.0022	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
sec-Butylbenzene	ND		0.0053	0.0026	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
tert-Butylbenzene	ND		0.0053	0.0019	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
Tetrachloroethene	0.0035	J	0.0053	0.0021	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
Toluene	ND		0.0053	0.0018	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
trans-1,2-Dichloroethene	ND		0.0053	0.0027	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
1,1,1-Trichloroethane	ND		0.0053	0.0027	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
Trichloroethene	ND		0.0053	0.0016	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
1,2,4-Trimethylbenzene	ND		0.0053	0.0014	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
1,3,5-Trimethylbenzene	ND		0.0053	0.0018	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
Vinyl chloride	ND		0.0053	0.0039	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1
Xylenes, Total	ND		0.011	0.0046	mg/Kg	☼	07/16/18 05:31	07/16/18 12:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		76 - 111	07/16/18 05:31	07/16/18 12:52	1
Dibromofluoromethane (Surr)	90		72 - 116	07/16/18 05:31	07/16/18 12:52	1
1,2-Dichloroethane-d4 (Surr)	84		62 - 118	07/16/18 05:31	07/16/18 12:52	1
Toluene-d8 (Surr)	94		80 - 129	07/16/18 05:31	07/16/18 12:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.2		0.1	0.1	%			07/16/18 10:54	1
Percent Solids	95.8		0.1	0.1	%			07/16/18 10:54	1

Client Sample ID: W1S1

Date Collected: 07/13/18 14:50

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-6

Matrix: Solid

Percent Solids: 95.4

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.0076	J	0.021	0.0060	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Acenaphthylene	0.024		0.021	0.0045	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Anthracene	0.026		0.021	0.0054	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Benzo[a]anthracene	0.064		0.021	0.0039	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Benzo[a]pyrene	0.068		0.021	0.0045	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Benzo[b]fluoranthene	0.090		0.021	0.0051	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Benzo[g,h,i]perylene	0.071		0.021	0.0045	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Benzo[k]fluoranthene	0.043		0.021	0.0062	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Chrysene	0.075		0.021	0.0041	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Dibenz(a,h)anthracene	0.017	J	0.021	0.0046	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Dibenzofuran	0.0094	J	0.10	0.0045	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
2,4-Dinitrotoluene	ND		0.10	0.0052	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
1,4-Dioxane	ND		0.21	0.032	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Fluoranthene	0.11		0.021	0.0055	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Fluorene	0.0078	J	0.021	0.0041	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Hexachlorobenzene	ND		0.021	0.0074	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Hexachlorobutadiene	ND		0.021	0.0061	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Hexachloroethane	ND		0.10	0.0053	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Indeno[1,2,3-cd]pyrene	0.058		0.021	0.0042	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
2-Methylphenol	ND		0.10	0.030	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: W1S1

Date Collected: 07/13/18 14:50

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-6

Matrix: Solid

Percent Solids: 95.4

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylphenol, 3 & 4	ND		0.10	0.030	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Naphthalene	0.021		0.021	0.0040	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Nitrobenzene	ND		0.21	0.038	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Pentachlorophenol	ND		0.53	0.17	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Phenanthrene	0.064		0.021	0.0056	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Phenol	ND		0.10	0.031	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Pyrene	0.099		0.021	0.0049	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
Pyridine	ND		0.21	0.056	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
2,4,5-Trichlorophenol	ND		0.10	0.0074	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3
2,4,6-Trichlorophenol	ND		0.10	0.0057	mg/Kg	☼	07/16/18 14:40	07/21/18 21:12	3

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	50		39 - 105	07/16/18 14:40	07/21/18 21:12	3
2-Fluorophenol (Surr)	49		35 - 105	07/16/18 14:40	07/21/18 21:12	3
Nitrobenzene-d5 (Surr)	52		39 - 105	07/16/18 14:40	07/21/18 21:12	3
Phenol-d5 (Surr)	53		42 - 105	07/16/18 14:40	07/21/18 21:12	3
Terphenyl-d14 (Surr)	59		28 - 148	07/16/18 14:40	07/21/18 21:12	3
2,4,6-Tribromophenol (Surr)	44		44 - 105	07/16/18 14:40	07/21/18 21:12	3

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.087	0.028	mg/Kg	☼	07/14/18 15:24	07/16/18 17:05	5
PCB-1221	ND		0.087	0.057	mg/Kg	☼	07/14/18 15:24	07/16/18 17:05	5
PCB-1232	ND		0.087	0.052	mg/Kg	☼	07/14/18 15:24	07/16/18 17:05	5
PCB-1242	ND		0.087	0.052	mg/Kg	☼	07/14/18 15:24	07/16/18 17:05	5
PCB-1248	6.7		0.087	0.069	mg/Kg	☼	07/14/18 15:24	07/16/18 17:05	5
PCB-1254	3.1		0.087	0.060	mg/Kg	☼	07/14/18 15:24	07/16/18 17:05	5
PCB-1260	0.34		0.087	0.025	mg/Kg	☼	07/14/18 15:24	07/16/18 17:05	5
PCB-1262	ND		0.087	0.061	mg/Kg	☼	07/14/18 15:24	07/16/18 17:05	5
PCB-1268	ND		0.087	0.042	mg/Kg	☼	07/14/18 15:24	07/16/18 17:05	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	95		33 - 137	07/14/18 15:24	07/16/18 17:05	5
DCB Decachlorobiphenyl (Surr)	88		33 - 137	07/14/18 15:24	07/16/18 17:05	5
Tetrachloro-m-xylene (Surr)	79		44 - 114	07/14/18 15:24	07/16/18 17:05	5
Tetrachloro-m-xylene (Surr)	78		44 - 114	07/14/18 15:24	07/16/18 17:05	5

Method: EPA 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.1		1.1	0.30	mg/Kg	☼	07/16/18 13:55	07/17/18 11:32	1
Barium	82		21	1.1	mg/Kg	☼	07/16/18 13:55	07/17/18 11:32	1
Beryllium	0.35	J	0.43	0.024	mg/Kg	☼	07/16/18 13:55	07/17/18 11:32	1
Cadmium	0.19	J	0.53	0.039	mg/Kg	☼	07/16/18 13:55	07/17/18 11:32	1
Chromium	12		0.53	0.13	mg/Kg	☼	07/16/18 13:55	07/17/18 11:32	1
Copper	34		2.7	0.18	mg/Kg	☼	07/16/18 13:55	07/17/18 11:32	1
Lead	28		1.1	0.26	mg/Kg	☼	07/16/18 13:55	07/17/18 11:32	1
Manganese	470		1.6	0.17	mg/Kg	☼	07/16/18 13:55	07/17/18 11:32	1
Nickel	25		4.3	0.27	mg/Kg	☼	07/16/18 13:55	07/17/18 11:32	1
Selenium	ND		1.1	0.55	mg/Kg	☼	07/16/18 13:55	07/17/18 11:32	1
Silver	ND		0.53	0.11	mg/Kg	☼	07/16/18 13:55	07/17/18 11:32	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: W1S1

Date Collected: 07/13/18 14:50

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-6

Matrix: Solid

Percent Solids: 95.4

Method: EPA 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	68		2.1	1.2	mg/Kg	☼	07/16/18 13:55	07/17/18 11:32	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.026	J	0.033	0.0075	mg/Kg	☼	07/16/18 11:24	07/17/18 11:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.6		0.1	0.1	%			07/16/18 10:54	1
Percent Solids	95.4		0.1	0.1	%			07/16/18 10:54	1
Cyanide, Total	ND		0.51	0.28	mg/Kg	☼	07/17/18 09:58	07/17/18 14:48	1

Client Sample ID: DUP20180713-3

Date Collected: 07/13/18 00:00

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-7

Matrix: Solid

Percent Solids: 93.0

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	0.0087	J	0.021	0.0032	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
Benzene	ND		0.0052	0.0020	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
2-Butanone (MEK)	ND		0.0052	0.0030	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
Carbon tetrachloride	ND		0.0052	0.0034	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
Chlorobenzene	ND		0.0052	0.0016	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
Chloroform	ND		0.0052	0.0022	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
cis-1,2-Dichloroethene	ND		0.0052	0.0016	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
1,2-Dichlorobenzene	ND		0.0052	0.0041	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
1,3-Dichlorobenzene	ND		0.0052	0.0016	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
1,4-Dichlorobenzene	ND		0.0052	0.0011	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
1,1-Dichloroethane	ND		0.0052	0.0019	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
1,2-Dichloroethane	ND		0.0052	0.0015	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
1,1-Dichloroethene	ND		0.0052	0.0029	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
1,4-Dioxane	ND		1000	38	ug/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
Ethylbenzene	ND		0.0052	0.0022	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
Methylene Chloride	ND		0.0052	0.0024	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
Methyl tert-butyl ether	ND		0.0052	0.0038	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
n-Butylbenzene	ND		0.0052	0.0039	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
N-Propylbenzene	ND		0.0052	0.0022	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
sec-Butylbenzene	ND		0.0052	0.0025	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
tert-Butylbenzene	ND		0.0052	0.0019	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
Tetrachloroethene	ND		0.0052	0.0021	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
Toluene	ND		0.0052	0.0017	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
trans-1,2-Dichloroethene	ND		0.0052	0.0026	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
1,1,1-Trichloroethane	ND		0.0052	0.0026	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
Trichloroethene	ND		0.0052	0.0015	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
1,2,4-Trimethylbenzene	ND		0.0052	0.0014	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
1,3,5-Trimethylbenzene	ND		0.0052	0.0018	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
Vinyl chloride	ND		0.0052	0.0038	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1
Xylenes, Total	ND		0.010	0.0044	mg/Kg	☼	07/16/18 05:31	07/16/18 13:15	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: DUP20180713-3

Date Collected: 07/13/18 00:00

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-7

Matrix: Solid

Percent Solids: 93.0

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		76 - 111	07/16/18 05:31	07/16/18 13:15	1
Dibromofluoromethane (Surr)	92		72 - 116	07/16/18 05:31	07/16/18 13:15	1
1,2-Dichloroethane-d4 (Surr)	86		62 - 118	07/16/18 05:31	07/16/18 13:15	1
Toluene-d8 (Surr)	99		80 - 129	07/16/18 05:31	07/16/18 13:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.0		0.1	0.1	%			07/16/18 10:54	1
Percent Solids	93.0		0.1	0.1	%			07/16/18 10:54	1

Client Sample ID: DUP20180713-3

Date Collected: 07/13/18 00:00

Date Received: 07/14/18 09:10

Lab Sample ID: 180-79799-8

Matrix: Solid

Percent Solids: 96.4

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.068	0.019	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Acenaphthylene	0.054	J	0.068	0.015	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Anthracene	0.057	J	0.068	0.017	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Benzo[a]anthracene	0.20		0.068	0.013	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Benzo[a]pyrene	0.23		0.068	0.015	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Benzo[b]fluoranthene	0.27		0.068	0.017	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Benzo[g,h,i]perylene	0.20		0.068	0.015	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Benzo[k]fluoranthene	0.13		0.068	0.020	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Chrysene	0.24		0.068	0.013	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Dibenz(a,h)anthracene	0.056	J	0.068	0.015	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Dibenzofuran	0.018	J	0.33	0.015	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
2,4-Dinitrotoluene	ND		0.33	0.017	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
1,4-Dioxane	ND		0.67	0.11	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Fluoranthene	0.34		0.068	0.018	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Fluorene	0.015	J	0.068	0.013	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Hexachlorobenzene	ND		0.068	0.024	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Hexachlorobutadiene	ND		0.068	0.020	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Hexachloroethane	ND		0.33	0.017	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Indeno[1,2,3-cd]pyrene	0.16		0.068	0.014	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
2-Methylphenol	ND		0.33	0.097	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Methylphenol, 3 & 4	ND		0.33	0.099	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Naphthalene	0.035	J	0.068	0.013	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Nitrobenzene	ND		0.67	0.12	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Pentachlorophenol	ND		1.7	0.54	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Phenanthrene	0.15		0.068	0.018	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Phenol	ND		0.33	0.10	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Pyrene	0.32		0.068	0.016	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
Pyridine	ND		0.68	0.18	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
2,4,5-Trichlorophenol	ND		0.33	0.024	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10
2,4,6-Trichlorophenol	ND		0.33	0.018	mg/Kg	☼	07/16/18 14:40	07/21/18 21:39	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	83		39 - 105	07/16/18 14:40	07/21/18 21:39	10
2-Fluorophenol (Surr)	77		35 - 105	07/16/18 14:40	07/21/18 21:39	10
Nitrobenzene-d5 (Surr)	78		39 - 105	07/16/18 14:40	07/21/18 21:39	10

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: DUP20180713-3

Lab Sample ID: 180-79799-8

Date Collected: 07/13/18 00:00

Matrix: Solid

Date Received: 07/14/18 09:10

Percent Solids: 96.4

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	82		42 - 105	07/16/18 14:40	07/21/18 21:39	10
Terphenyl-d14 (Surr)	95		28 - 148	07/16/18 14:40	07/21/18 21:39	10
2,4,6-Tribromophenol (Surr)	71		44 - 105	07/16/18 14:40	07/21/18 21:39	10

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.086	0.028	mg/Kg	☼	07/14/18 15:24	07/16/18 17:24	5
PCB-1221	ND		0.086	0.056	mg/Kg	☼	07/14/18 15:24	07/16/18 17:24	5
PCB-1232	ND		0.086	0.051	mg/Kg	☼	07/14/18 15:24	07/16/18 17:24	5
PCB-1242	ND		0.086	0.052	mg/Kg	☼	07/14/18 15:24	07/16/18 17:24	5
PCB-1248	7.5		0.086	0.068	mg/Kg	☼	07/14/18 15:24	07/16/18 17:24	5
PCB-1254	3.6		0.086	0.059	mg/Kg	☼	07/14/18 15:24	07/16/18 17:24	5
PCB-1260	0.38		0.086	0.025	mg/Kg	☼	07/14/18 15:24	07/16/18 17:24	5
PCB-1262	ND		0.086	0.061	mg/Kg	☼	07/14/18 15:24	07/16/18 17:24	5
PCB-1268	ND		0.086	0.042	mg/Kg	☼	07/14/18 15:24	07/16/18 17:24	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	105		33 - 137	07/14/18 15:24	07/16/18 17:24	5
DCB Decachlorobiphenyl (Surr)	93		33 - 137	07/14/18 15:24	07/16/18 17:24	5
Tetrachloro-m-xylene (Surr)	89		44 - 114	07/14/18 15:24	07/16/18 17:24	5
Tetrachloro-m-xylene (Surr)	86		44 - 114	07/14/18 15:24	07/16/18 17:24	5

Method: EPA 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.5		0.99	0.27	mg/Kg	☼	07/16/18 13:55	07/17/18 11:38	1
Barium	64		20	1.1	mg/Kg	☼	07/16/18 13:55	07/17/18 11:38	1
Beryllium	0.30	J	0.40	0.023	mg/Kg	☼	07/16/18 13:55	07/17/18 11:38	1
Cadmium	0.20	J	0.49	0.036	mg/Kg	☼	07/16/18 13:55	07/17/18 11:38	1
Chromium	11		0.49	0.12	mg/Kg	☼	07/16/18 13:55	07/17/18 11:38	1
Copper	37		2.5	0.17	mg/Kg	☼	07/16/18 13:55	07/17/18 11:38	1
Lead	27		0.99	0.24	mg/Kg	☼	07/16/18 13:55	07/17/18 11:38	1
Manganese	390		1.5	0.16	mg/Kg	☼	07/16/18 13:55	07/17/18 11:38	1
Nickel	23		4.0	0.25	mg/Kg	☼	07/16/18 13:55	07/17/18 11:38	1
Selenium	0.65	J	0.99	0.51	mg/Kg	☼	07/16/18 13:55	07/17/18 11:38	1
Silver	ND		0.49	0.10	mg/Kg	☼	07/16/18 13:55	07/17/18 11:38	1
Zinc	61		2.0	1.1	mg/Kg	☼	07/16/18 13:55	07/17/18 11:38	1

Method: EPA 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.039		0.033	0.0073	mg/Kg	☼	07/16/18 11:24	07/17/18 11:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.6		0.1	0.1	%	—		07/16/18 10:54	1
Percent Solids	96.4		0.1	0.1	%	—		07/16/18 10:54	1
Cyanide, Total	ND		0.50	0.27	mg/Kg	☼	07/17/18 09:58	07/17/18 14:53	1

TestAmerica Pittsburgh

Client Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Client Sample ID: TB20180713

Lab Sample ID: 180-79799-9

Date Collected: 07/13/18 00:00

Matrix: Water

Date Received: 07/14/18 09:10

Method: EPA 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5.0	3.4	ug/L			07/16/18 21:39	1
Benzene	ND		1.0	0.60	ug/L			07/16/18 21:39	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			07/16/18 21:39	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			07/16/18 21:39	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/18 21:39	1
Chloroform	ND		1.0	0.60	ug/L			07/16/18 21:39	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			07/16/18 21:39	1
1,2-Dichlorobenzene	ND		1.0	0.36	ug/L			07/16/18 21:39	1
1,3-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/18 21:39	1
1,4-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/18 21:39	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			07/16/18 21:39	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			07/16/18 21:39	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			07/16/18 21:39	1
Ethylbenzene	ND		1.0	0.51	ug/L			07/16/18 21:39	1
Methylene Chloride	ND		1.0	0.36	ug/L			07/16/18 21:39	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			07/16/18 21:39	1
n-Butylbenzene	ND		1.0	0.61	ug/L			07/16/18 21:39	1
N-Propylbenzene	ND		1.0	0.47	ug/L			07/16/18 21:39	1
sec-Butylbenzene	ND		1.0	0.52	ug/L			07/16/18 21:39	1
tert-Butylbenzene	ND		1.0	0.48	ug/L			07/16/18 21:39	1
Tetrachloroethene	ND		1.0	0.47	ug/L			07/16/18 21:39	1
Toluene	ND		1.0	0.46	ug/L			07/16/18 21:39	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			07/16/18 21:39	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			07/16/18 21:39	1
Trichloroethene	ND		1.0	0.69	ug/L			07/16/18 21:39	1
1,2,4-Trimethylbenzene	ND		1.0	0.48	ug/L			07/16/18 21:39	1
1,3,5-Trimethylbenzene	ND		1.0	0.47	ug/L			07/16/18 21:39	1
Vinyl chloride	ND		1.0	0.88	ug/L			07/16/18 21:39	1
Xylenes, Total	ND		2.0	0.89	ug/L			07/16/18 21:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	82		80 - 120					07/16/18 21:39	1
Dibromofluoromethane (Surr)	100		73 - 120					07/16/18 21:39	1
1,2-Dichloroethane-d4 (Surr)	100		65 - 121					07/16/18 21:39	1
Toluene-d8 (Surr)	98		73 - 120					07/16/18 21:39	1

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 180-250626/7

Matrix: Water

Analysis Batch: 250626

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		5.0	3.4	ug/L			07/16/18 13:44	1
Benzene	ND		1.0	0.60	ug/L			07/16/18 13:44	1
2-Butanone (MEK)	ND		5.0	2.6	ug/L			07/16/18 13:44	1
Carbon tetrachloride	ND		1.0	0.88	ug/L			07/16/18 13:44	1
Chlorobenzene	ND		1.0	0.50	ug/L			07/16/18 13:44	1
Chloroform	ND		1.0	0.60	ug/L			07/16/18 13:44	1
cis-1,2-Dichloroethene	ND		1.0	0.71	ug/L			07/16/18 13:44	1
1,2-Dichlorobenzene	ND		1.0	0.36	ug/L			07/16/18 13:44	1
1,3-Dichlorobenzene	ND		1.0	0.50	ug/L			07/16/18 13:44	1
1,4-Dichlorobenzene	ND		1.0	0.54	ug/L			07/16/18 13:44	1
1,1-Dichloroethane	ND		1.0	0.63	ug/L			07/16/18 13:44	1
1,2-Dichloroethane	ND		1.0	0.57	ug/L			07/16/18 13:44	1
1,1-Dichloroethene	ND		1.0	0.55	ug/L			07/16/18 13:44	1
Ethylbenzene	ND		1.0	0.51	ug/L			07/16/18 13:44	1
Methylene Chloride	ND		1.0	0.36	ug/L			07/16/18 13:44	1
Methyl tert-butyl ether	ND		1.0	0.59	ug/L			07/16/18 13:44	1
n-Butylbenzene	ND		1.0	0.61	ug/L			07/16/18 13:44	1
N-Propylbenzene	ND		1.0	0.47	ug/L			07/16/18 13:44	1
sec-Butylbenzene	ND		1.0	0.52	ug/L			07/16/18 13:44	1
tert-Butylbenzene	ND		1.0	0.48	ug/L			07/16/18 13:44	1
Tetrachloroethene	ND		1.0	0.47	ug/L			07/16/18 13:44	1
Toluene	ND		1.0	0.46	ug/L			07/16/18 13:44	1
trans-1,2-Dichloroethene	ND		1.0	0.67	ug/L			07/16/18 13:44	1
1,1,1-Trichloroethane	ND		1.0	0.60	ug/L			07/16/18 13:44	1
Trichloroethene	ND		1.0	0.69	ug/L			07/16/18 13:44	1
1,2,4-Trimethylbenzene	ND		1.0	0.48	ug/L			07/16/18 13:44	1
1,3,5-Trimethylbenzene	ND		1.0	0.47	ug/L			07/16/18 13:44	1
Vinyl chloride	ND		1.0	0.88	ug/L			07/16/18 13:44	1
Xylenes, Total	ND		2.0	0.89	ug/L			07/16/18 13:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		80 - 120		07/16/18 13:44	1
Dibromofluoromethane (Surr)	96		73 - 120		07/16/18 13:44	1
1,2-Dichloroethane-d4 (Surr)	92		65 - 121		07/16/18 13:44	1
Toluene-d8 (Surr)	104		73 - 120		07/16/18 13:44	1

Lab Sample ID: LCS 180-250626/4

Matrix: Water

Analysis Batch: 250626

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	19.3		ug/L		97	24 - 150
Benzene	10.0	9.95		ug/L		100	75 - 123
2-Butanone (MEK)	20.0	18.2		ug/L		91	37 - 150
Carbon tetrachloride	10.0	8.33		ug/L		83	58 - 145
Chlorobenzene	10.0	10.2		ug/L		102	79 - 124
Chloroform	10.0	9.34		ug/L		93	72 - 123
cis-1,2-Dichloroethene	10.0	9.87		ug/L		99	73 - 120

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 180-250626/4

Matrix: Water

Analysis Batch: 250626

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	10.0	10.7		ug/L		107	74 - 121
1,3-Dichlorobenzene	10.0	10.4		ug/L		104	77 - 119
1,4-Dichlorobenzene	10.0	10.5		ug/L		105	76 - 118
1,1-Dichloroethane	10.0	9.29		ug/L		93	66 - 122
1,2-Dichloroethane	10.0	9.09		ug/L		91	63 - 130
1,1-Dichloroethene	10.0	9.02		ug/L		90	64 - 131
Ethylbenzene	10.0	9.84		ug/L		98	77 - 124
Methylene Chloride	10.0	10.9		ug/L		109	66 - 123
Methyl tert-butyl ether	10.0	8.96		ug/L		90	66 - 130
n-Butylbenzene	10.0	9.61		ug/L		96	66 - 133
N-Propylbenzene	10.0	9.82		ug/L		98	71 - 124
sec-Butylbenzene	10.0	10.0		ug/L		100	69 - 130
tert-Butylbenzene	10.0	9.57		ug/L		96	71 - 125
Tetrachloroethene	10.0	10.2		ug/L		102	76 - 128
Toluene	10.0	10.3		ug/L		103	76 - 129
trans-1,2-Dichloroethene	10.0	9.83		ug/L		98	70 - 123
1,1,1-Trichloroethane	10.0	8.47		ug/L		85	66 - 129
Trichloroethene	10.0	9.69		ug/L		97	74 - 121
1,2,4-Trimethylbenzene	10.0	10.2		ug/L		102	75 - 124
1,3,5-Trimethylbenzene	10.0	10.0		ug/L		100	73 - 126
Vinyl chloride	10.0	7.76		ug/L		78	52 - 136
Xylenes, Total	20.0	19.6		ug/L		98	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		80 - 120
Dibromofluoromethane (Surr)	89		73 - 120
1,2-Dichloroethane-d4 (Surr)	88		65 - 121
Toluene-d8 (Surr)	95		73 - 120

Method: EPA 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 180-250599/6

Matrix: Solid

Analysis Batch: 250599

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		0.020	0.0032	mg/Kg			07/16/18 08:33	1
Benzene	ND		0.0050	0.0020	mg/Kg			07/16/18 08:33	1
2-Butanone (MEK)	ND		0.0050	0.0029	mg/Kg			07/16/18 08:33	1
Carbon tetrachloride	ND		0.0050	0.0033	mg/Kg			07/16/18 08:33	1
Chlorobenzene	ND		0.0050	0.0016	mg/Kg			07/16/18 08:33	1
Chloroform	ND		0.0050	0.0021	mg/Kg			07/16/18 08:33	1
cis-1,2-Dichloroethene	ND		0.0050	0.0016	mg/Kg			07/16/18 08:33	1
1,2-Dichlorobenzene	ND		0.0050	0.0040	mg/Kg			07/16/18 08:33	1
1,3-Dichlorobenzene	ND		0.0050	0.0016	mg/Kg			07/16/18 08:33	1
1,4-Dichlorobenzene	ND		0.0050	0.0010	mg/Kg			07/16/18 08:33	1
1,1-Dichloroethane	ND		0.0050	0.0018	mg/Kg			07/16/18 08:33	1
1,2-Dichloroethane	ND		0.0050	0.0015	mg/Kg			07/16/18 08:33	1

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 180-250599/6

Matrix: Solid

Analysis Batch: 250599

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		0.0050	0.0029	mg/Kg			07/16/18 08:33	1
1,4-Dioxane	ND		1000	37	ug/Kg			07/16/18 08:33	1
Ethylbenzene	ND		0.0050	0.0022	mg/Kg			07/16/18 08:33	1
Methylene Chloride	ND		0.0050	0.0024	mg/Kg			07/16/18 08:33	1
Methyl tert-butyl ether	ND		0.0050	0.0037	mg/Kg			07/16/18 08:33	1
n-Butylbenzene	ND		0.0050	0.0038	mg/Kg			07/16/18 08:33	1
N-Propylbenzene	ND		0.0050	0.0021	mg/Kg			07/16/18 08:33	1
sec-Butylbenzene	ND		0.0050	0.0024	mg/Kg			07/16/18 08:33	1
tert-Butylbenzene	ND		0.0050	0.0018	mg/Kg			07/16/18 08:33	1
Tetrachloroethene	ND		0.0050	0.0020	mg/Kg			07/16/18 08:33	1
Toluene	ND		0.0050	0.0017	mg/Kg			07/16/18 08:33	1
trans-1,2-Dichloroethene	ND		0.0050	0.0025	mg/Kg			07/16/18 08:33	1
1,1,1-Trichloroethane	ND		0.0050	0.0025	mg/Kg			07/16/18 08:33	1
Trichloroethene	ND		0.0050	0.0015	mg/Kg			07/16/18 08:33	1
1,2,4-Trimethylbenzene	ND		0.0050	0.0013	mg/Kg			07/16/18 08:33	1
1,3,5-Trimethylbenzene	ND		0.0050	0.0017	mg/Kg			07/16/18 08:33	1
Vinyl chloride	ND		0.0050	0.0037	mg/Kg			07/16/18 08:33	1
Xylenes, Total	ND		0.010	0.0043	mg/Kg			07/16/18 08:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		76 - 111		07/16/18 08:33	1
Dibromofluoromethane (Surr)	88		72 - 116		07/16/18 08:33	1
1,2-Dichloroethane-d4 (Surr)	86		62 - 118		07/16/18 08:33	1
Toluene-d8 (Surr)	94		80 - 129		07/16/18 08:33	1

Lab Sample ID: LCS 180-250599/4

Matrix: Solid

Analysis Batch: 250599

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	0.0400	0.0594		mg/Kg		148	36 - 150
Benzene	0.0400	0.0374		mg/Kg		93	78 - 118
2-Butanone (MEK)	0.0400	0.0507		mg/Kg		127	30 - 150
Carbon tetrachloride	0.0400	0.0381		mg/Kg		95	60 - 137
Chlorobenzene	0.0400	0.0378		mg/Kg		94	78 - 118
Chloroform	0.0400	0.0381		mg/Kg		95	68 - 124
cis-1,2-Dichloroethene	0.0400	0.0379		mg/Kg		95	71 - 120
1,2-Dichlorobenzene	0.0400	0.0381		mg/Kg		95	78 - 118
1,3-Dichlorobenzene	0.0400	0.0379		mg/Kg		95	78 - 118
1,4-Dichlorobenzene	0.0400	0.0383		mg/Kg		96	78 - 118
1,1-Dichloroethane	0.0400	0.0372		mg/Kg		93	67 - 129
1,2-Dichloroethane	0.0400	0.0343		mg/Kg		86	67 - 123
1,1-Dichloroethene	0.0400	0.0391		mg/Kg		98	59 - 128
Ethylbenzene	0.0400	0.0380		mg/Kg		95	78 - 118
Methylene Chloride	0.0400	0.0396		mg/Kg		99	68 - 120
Methyl tert-butyl ether	0.0400	0.0357		mg/Kg		89	73 - 121
n-Butylbenzene	0.0400	0.0398		mg/Kg		100	71 - 132
N-Propylbenzene	0.0400	0.0380		mg/Kg		95	72 - 126

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 180-250599/4

Matrix: Solid

Analysis Batch: 250599

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
sec-Butylbenzene	0.0400	0.0384		mg/Kg		96	80 - 126
tert-Butylbenzene	0.0400	0.0381		mg/Kg		95	80 - 122
Tetrachloroethene	0.0400	0.0382		mg/Kg		95	78 - 118
Toluene	0.0400	0.0381		mg/Kg		95	79 - 121
trans-1,2-Dichloroethene	0.0400	0.0390		mg/Kg		97	71 - 123
1,1,1-Trichloroethane	0.0400	0.0392		mg/Kg		98	69 - 135
Trichloroethene	0.0400	0.0390		mg/Kg		97	76 - 120
1,2,4-Trimethylbenzene	0.0400	0.0387		mg/Kg		97	77 - 122
1,3,5-Trimethylbenzene	0.0400	0.0383		mg/Kg		96	78 - 122
Vinyl chloride	0.0400	0.0366		mg/Kg		91	53 - 148
Xylenes, Total	0.0800	0.0763		mg/Kg		95	78 - 118

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		76 - 111
Dibromofluoromethane (Surr)	91		72 - 116
1,2-Dichloroethane-d4 (Surr)	85		62 - 118
Toluene-d8 (Surr)	90		80 - 129

Lab Sample ID: 180-79799-2 MS

Matrix: Solid

Analysis Batch: 250599

Client Sample ID: W1S2-B

Prep Type: Total/NA

Prep Batch: 250624

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND	F1	0.0381	0.0619	F1	mg/Kg	✱	163	36 - 150
Benzene	ND		0.0381	0.0356		mg/Kg	✱	93	78 - 118
2-Butanone (MEK)	ND		0.0381	0.0404		mg/Kg	✱	106	30 - 150
Carbon tetrachloride	ND		0.0381	0.0369		mg/Kg	✱	97	60 - 137
Chlorobenzene	ND		0.0381	0.0355		mg/Kg	✱	93	78 - 118
Chloroform	ND		0.0381	0.0357		mg/Kg	✱	94	68 - 124
cis-1,2-Dichloroethene	ND		0.0381	0.0361		mg/Kg	✱	95	71 - 120
1,2-Dichlorobenzene	ND		0.0381	0.0350		mg/Kg	✱	92	78 - 118
1,3-Dichlorobenzene	ND		0.0381	0.0364		mg/Kg	✱	96	78 - 118
1,4-Dichlorobenzene	ND	F2	0.0381	0.0353		mg/Kg	✱	93	78 - 118
1,1-Dichloroethane	ND		0.0381	0.0353		mg/Kg	✱	93	67 - 129
1,2-Dichloroethane	ND		0.0381	0.0309		mg/Kg	✱	81	67 - 123
1,1-Dichloroethene	ND		0.0381	0.0372		mg/Kg	✱	98	59 - 128
Ethylbenzene	ND		0.0381	0.0358		mg/Kg	✱	94	78 - 118
Methylene Chloride	ND		0.0381	0.0360		mg/Kg	✱	94	68 - 120
Methyl tert-butyl ether	ND		0.0381	0.0312		mg/Kg	✱	82	73 - 121
n-Butylbenzene	ND		0.0381	0.0361		mg/Kg	✱	95	71 - 132
N-Propylbenzene	ND		0.0381	0.0364		mg/Kg	✱	96	72 - 126
sec-Butylbenzene	ND		0.0381	0.0360		mg/Kg	✱	94	80 - 126
tert-Butylbenzene	ND		0.0381	0.0365		mg/Kg	✱	96	80 - 122
Tetrachloroethene	ND		0.0381	0.0410		mg/Kg	✱	108	78 - 118
Toluene	ND		0.0381	0.0349		mg/Kg	✱	92	79 - 121
trans-1,2-Dichloroethene	ND		0.0381	0.0375		mg/Kg	✱	98	71 - 123
1,1,1-Trichloroethane	ND		0.0381	0.0378		mg/Kg	✱	99	69 - 135
Trichloroethene	ND		0.0381	0.0373		mg/Kg	✱	98	76 - 120

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 180-79799-2 MS

Matrix: Solid

Analysis Batch: 250599

Client Sample ID: W1S2-B

Prep Type: Total/NA

Prep Batch: 250624

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trimethylbenzene	ND		0.0381	0.0365		mg/Kg	☼	96	77 - 122
1,3,5-Trimethylbenzene	ND		0.0381	0.0362		mg/Kg	☼	95	78 - 122
Vinyl chloride	ND		0.0381	0.0342		mg/Kg	☼	90	53 - 148
Xylenes, Total	ND		0.0762	0.0725		mg/Kg	☼	95	78 - 118

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	85		76 - 111
Dibromofluoromethane (Surr)	90		72 - 116
1,2-Dichloroethane-d4 (Surr)	79		62 - 118
Toluene-d8 (Surr)	86		80 - 129

Lab Sample ID: 180-79799-2 MSD

Matrix: Solid

Analysis Batch: 250599

Client Sample ID: W1S2-B

Prep Type: Total/NA

Prep Batch: 250624

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Acetone	ND	F1	0.0387	0.0578		mg/Kg	☼	149	36 - 150	7	35
Benzene	ND		0.0387	0.0406		mg/Kg	☼	105	78 - 118	13	15
2-Butanone (MEK)	ND		0.0387	0.0448		mg/Kg	☼	116	30 - 150	10	35
Carbon tetrachloride	ND		0.0387	0.0421		mg/Kg	☼	109	60 - 137	13	21
Chlorobenzene	ND		0.0387	0.0408		mg/Kg	☼	105	78 - 118	14	15
Chloroform	ND		0.0387	0.0404		mg/Kg	☼	104	68 - 124	12	15
cis-1,2-Dichloroethene	ND		0.0387	0.0415		mg/Kg	☼	107	71 - 120	14	15
1,2-Dichlorobenzene	ND		0.0387	0.0408		mg/Kg	☼	105	78 - 118	15	15
1,3-Dichlorobenzene	ND		0.0387	0.0422		mg/Kg	☼	109	78 - 118	15	15
1,4-Dichlorobenzene	ND	F2	0.0387	0.0415	F2	mg/Kg	☼	107	78 - 118	16	15
1,1-Dichloroethane	ND		0.0387	0.0409		mg/Kg	☼	106	67 - 129	15	15
1,2-Dichloroethane	ND		0.0387	0.0352		mg/Kg	☼	91	67 - 123	13	15
1,1-Dichloroethene	ND		0.0387	0.0428		mg/Kg	☼	111	59 - 128	14	17
Ethylbenzene	ND		0.0387	0.0411		mg/Kg	☼	106	78 - 118	14	15
Methylene Chloride	ND		0.0387	0.0427		mg/Kg	☼	110	68 - 120	17	19
Methyl tert-butyl ether	ND		0.0387	0.0359		mg/Kg	☼	93	73 - 121	14	24
n-Butylbenzene	ND		0.0387	0.0416		mg/Kg	☼	107	71 - 132	14	16
N-Propylbenzene	ND		0.0387	0.0421		mg/Kg	☼	109	72 - 126	14	24
sec-Butylbenzene	ND		0.0387	0.0415		mg/Kg	☼	107	80 - 126	14	18
tert-Butylbenzene	ND		0.0387	0.0423		mg/Kg	☼	109	80 - 122	15	19
Tetrachloroethene	ND		0.0387	0.0458		mg/Kg	☼	118	78 - 118	11	20
Toluene	ND		0.0387	0.0406		mg/Kg	☼	105	79 - 121	15	18
trans-1,2-Dichloroethene	ND		0.0387	0.0423		mg/Kg	☼	109	71 - 123	12	15
1,1,1-Trichloroethane	ND		0.0387	0.0434		mg/Kg	☼	112	69 - 135	14	22
Trichloroethene	ND		0.0387	0.0425		mg/Kg	☼	110	76 - 120	13	15
1,2,4-Trimethylbenzene	ND		0.0387	0.0420		mg/Kg	☼	108	77 - 122	14	16
1,3,5-Trimethylbenzene	ND		0.0387	0.0416		mg/Kg	☼	108	78 - 122	14	17
Vinyl chloride	ND		0.0387	0.0396		mg/Kg	☼	102	53 - 148	15	35
Xylenes, Total	ND		0.0774	0.0835		mg/Kg	☼	108	78 - 118	14	15

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 180-79799-2 MSD

Matrix: Solid

Analysis Batch: 250599

Client Sample ID: W1S2-B

Prep Type: Total/NA

Prep Batch: 250624

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	93		76 - 111
Dibromofluoromethane (Surr)	97		72 - 116
1,2-Dichloroethane-d4 (Surr)	84		62 - 118
Toluene-d8 (Surr)	94		80 - 129

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 180-250693/1-A

Matrix: Solid

Analysis Batch: 250862

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 250693

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.0067	0.0019	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Acenaphthylene	ND		0.0067	0.0015	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Anthracene	ND		0.0067	0.0017	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Benzo[a]anthracene	ND		0.0067	0.0013	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Benzo[a]pyrene	ND		0.0067	0.0015	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Benzo[b]fluoranthene	ND		0.0067	0.0016	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Benzo[g,h,i]perylene	ND		0.0067	0.0014	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Benzo[k]fluoranthene	ND		0.0067	0.0020	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Chrysene	ND		0.0067	0.0013	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Dibenz(a,h)anthracene	ND		0.0067	0.0015	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Dibenzofuran	ND		0.033	0.0015	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
2,4-Dinitrotoluene	ND		0.033	0.0017	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
1,4-Dioxane	ND		0.067	0.010	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Fluoranthene	ND		0.0067	0.0018	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Fluorene	ND		0.0067	0.0013	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Hexachlorobenzene	ND		0.0067	0.0024	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Hexachlorobutadiene	ND		0.0067	0.0020	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Hexachloroethane	ND		0.033	0.0017	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Indeno[1,2,3-cd]pyrene	ND		0.0067	0.0014	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
2-Methylphenol	ND		0.033	0.0096	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Methylphenol, 3 & 4	ND		0.033	0.0098	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Naphthalene	ND		0.0067	0.0013	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Nitrobenzene	ND		0.067	0.012	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Pentachlorophenol	ND		0.17	0.054	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Phenanthrene	ND		0.0067	0.0018	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Phenol	ND		0.033	0.010	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Pyrene	ND		0.0067	0.0016	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
Pyridine	ND		0.067	0.018	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
2,4,5-Trichlorophenol	ND		0.033	0.0024	mg/Kg		07/16/18 14:40	07/18/18 14:36	1
2,4,6-Trichlorophenol	ND		0.033	0.0018	mg/Kg		07/16/18 14:40	07/18/18 14:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		39 - 105	07/16/18 14:40	07/18/18 14:36	1
2-Fluorophenol (Surr)	73		35 - 105	07/16/18 14:40	07/18/18 14:36	1
Nitrobenzene-d5 (Surr)	73		39 - 105	07/16/18 14:40	07/18/18 14:36	1

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 180-250693/1-A

Matrix: Solid

Analysis Batch: 250862

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 250693

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	75		42 - 105	07/16/18 14:40	07/18/18 14:36	1
Terphenyl-d14 (Surr)	91		28 - 148	07/16/18 14:40	07/18/18 14:36	1
2,4,6-Tribromophenol (Surr)	65		44 - 105	07/16/18 14:40	07/18/18 14:36	1

Lab Sample ID: LCS 180-250693/2-A

Matrix: Solid

Analysis Batch: 250862

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250693

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	0.667	0.510		mg/Kg		77	46 - 100
Acenaphthylene	0.667	0.505		mg/Kg		76	44 - 100
Anthracene	0.667	0.597		mg/Kg		90	46 - 102
Benzo[a]anthracene	0.667	0.511		mg/Kg		77	47 - 100
Benzo[a]pyrene	0.667	0.554		mg/Kg		83	47 - 100
Benzo[b]fluoranthene	0.667	0.485		mg/Kg		73	41 - 100
Benzo[g,h,i]perylene	0.667	0.541		mg/Kg		81	43 - 101
Benzo[k]fluoranthene	0.667	0.579		mg/Kg		87	44 - 100
Chrysene	0.667	0.509		mg/Kg		76	45 - 100
Dibenz(a,h)anthracene	0.667	0.533		mg/Kg		80	45 - 102
Dibenzofuran	0.667	0.500		mg/Kg		75	46 - 100
2,4-Dinitrotoluene	0.667	0.509		mg/Kg		76	52 - 100
1,4-Dioxane	0.667	0.450		mg/Kg		67	27 - 112
Fluoranthene	0.667	0.487		mg/Kg		73	47 - 101
Fluorene	0.667	0.489		mg/Kg		73	47 - 100
Hexachlorobenzene	0.667	0.451		mg/Kg		68	43 - 105
Hexachlorobutadiene	0.667	0.325		mg/Kg		49	45 - 100
Hexachloroethane	0.667	0.421		mg/Kg		63	37 - 100
Indeno[1,2,3-cd]pyrene	0.667	0.530		mg/Kg		79	45 - 102
2-Methylphenol	0.667	0.458		mg/Kg		69	39 - 100
Methylphenol, 3 & 4	0.667	0.479		mg/Kg		72	39 - 100
Naphthalene	0.667	0.439		mg/Kg		66	45 - 100
Nitrobenzene	0.667	0.442		mg/Kg		66	36 - 100
Pentachlorophenol	1.33	0.852		mg/Kg		64	35 - 105
Phenanthrene	0.667	0.554		mg/Kg		83	45 - 100
Phenol	0.667	0.459		mg/Kg		69	32 - 100
Pyrene	0.667	0.509		mg/Kg		76	40 - 105
Pyridine	1.33	0.938		mg/Kg		70	29 - 117
2,4,5-Trichlorophenol	0.667	0.421		mg/Kg		63	49 - 100
2,4,6-Trichlorophenol	0.667	0.436		mg/Kg		65	50 - 100

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	68		39 - 105
2-Fluorophenol (Surr)	69		35 - 105
Nitrobenzene-d5 (Surr)	68		39 - 105
Phenol-d5 (Surr)	72		42 - 105
Terphenyl-d14 (Surr)	82		28 - 148
2,4,6-Tribromophenol (Surr)	69		44 - 105

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-79799-3 MS

Matrix: Solid

Analysis Batch: 251245

Client Sample ID: W1S2

Prep Type: Total/NA

Prep Batch: 250693

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	ND		0.711	0.693		mg/Kg	☼	97	46 - 100
Acenaphthylene	0.086		0.711	0.755		mg/Kg	☼	94	44 - 100
Anthracene	0.11	F1	0.711	0.848	F1	mg/Kg	☼	104	46 - 102
Benzo[a]anthracene	0.26	F1	0.711	0.867		mg/Kg	☼	85	47 - 100
Benzo[a]pyrene	0.27	F1	0.711	0.966		mg/Kg	☼	98	47 - 100
Benzo[b]fluoranthene	0.29		0.711	0.883		mg/Kg	☼	83	41 - 100
Benzo[g,h,i]perylene	0.26	F1	0.711	1.09	F1	mg/Kg	☼	117	43 - 101
Benzo[k]fluoranthene	0.16		0.711	0.841		mg/Kg	☼	95	44 - 100
Chrysene	0.26	F1	0.711	0.906		mg/Kg	☼	91	45 - 100
Dibenz(a,h)anthracene	0.058	J F1	0.711	0.827	F1	mg/Kg	☼	108	45 - 102
Dibenzofuran	0.035	J	0.711	0.687		mg/Kg	☼	92	46 - 100
2,4-Dinitrotoluene	ND		0.711	0.690		mg/Kg	☼	97	52 - 100
1,4-Dioxane	ND		0.711	0.497	J	mg/Kg	☼	70	27 - 112
Fluoranthene	0.52	F1 F2	0.711	1.04		mg/Kg	☼	74	47 - 101
Fluorene	0.023	J	0.711	0.665		mg/Kg	☼	90	47 - 100
Hexachlorobenzene	ND		0.711	0.628		mg/Kg	☼	88	43 - 105
Hexachlorobutadiene	ND		0.711	0.447		mg/Kg	☼	63	45 - 100
Hexachloroethane	ND		0.711	0.544		mg/Kg	☼	77	37 - 100
Indeno[1,2,3-cd]pyrene	0.20	F1	0.711	1.02	F1	mg/Kg	☼	115	45 - 102
2-Methylphenol	ND		0.711	0.575		mg/Kg	☼	81	39 - 100
Methylphenol, 3 & 4	ND		0.711	0.592		mg/Kg	☼	83	39 - 100
Naphthalene	0.054	J	0.711	0.626		mg/Kg	☼	81	45 - 100
Nitrobenzene	ND		0.711	0.579	J	mg/Kg	☼	81	36 - 100
Pentachlorophenol	ND	F2	1.42	0.645	J	mg/Kg	☼	45	35 - 105
Phenanthrene	0.38	F2	0.711	0.846		mg/Kg	☼	66	45 - 100
Phenol	ND		0.711	0.552		mg/Kg	☼	78	32 - 100
Pyrene	0.45	F2	0.711	0.958		mg/Kg	☼	72	40 - 105
Pyridine	ND	F1	1.42	ND	F1	mg/Kg	☼	0	29 - 117
2,4,5-Trichlorophenol	ND		0.711	0.523		mg/Kg	☼	74	49 - 100
2,4,6-Trichlorophenol	ND		0.711	0.533		mg/Kg	☼	75	50 - 100

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	86		39 - 105
2-Fluorophenol (Surr)	79		35 - 105
Nitrobenzene-d5 (Surr)	89		39 - 105
Phenol-d5 (Surr)	86		42 - 105
Terphenyl-d14 (Surr)	98		28 - 148
2,4,6-Tribromophenol (Surr)	87		44 - 105

Lab Sample ID: 180-79799-3 MSD

Matrix: Solid

Analysis Batch: 251245

Client Sample ID: W1S2

Prep Type: Total/NA

Prep Batch: 250693

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Acenaphthene	ND		0.715	0.704		mg/Kg	☼	98	46 - 100	2	20
Acenaphthylene	0.086		0.715	0.803		mg/Kg	☼	100	44 - 100	6	20
Anthracene	0.11	F1	0.715	0.922	F1	mg/Kg	☼	114	46 - 102	8	19
Benzo[a]anthracene	0.26	F1	0.715	1.01	F1	mg/Kg	☼	105	47 - 100	16	17

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 180-79799-3 MSD

Matrix: Solid

Analysis Batch: 251245

Client Sample ID: W1S2

Prep Type: Total/NA

Prep Batch: 250693

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[a]pyrene	0.27	F1	0.715	0.993	F1	mg/Kg	✱	101	47 - 100	3	17
Benzo[b]fluoranthene	0.29		0.715	0.975		mg/Kg	✱	95	41 - 100	10	17
Benzo[g,h,i]perylene	0.26	F1	0.715	1.06	F1	mg/Kg	✱	113	43 - 101	3	19
Benzo[k]fluoranthene	0.16		0.715	0.815		mg/Kg	✱	91	44 - 100	3	15
Chrysene	0.26	F1	0.715	1.05	F1	mg/Kg	✱	110	45 - 100	15	19
Dibenz(a,h)anthracene	0.058	J F1	0.715	0.840	F1	mg/Kg	✱	109	45 - 102	2	18
Dibenzofuran	0.035	J	0.715	0.716		mg/Kg	✱	95	46 - 100	4	16
2,4-Dinitrotoluene	ND		0.715	0.671		mg/Kg	✱	94	52 - 100	3	16
1,4-Dioxane	ND		0.715	0.569	J	mg/Kg	✱	80	27 - 112	13	22
Fluoranthene	0.52	F1 F2	0.715	1.42	F1 F2	mg/Kg	✱	126	47 - 101	30	17
Fluorene	0.023	J	0.715	0.715		mg/Kg	✱	97	47 - 100	7	19
Hexachlorobenzene	ND		0.715	0.617		mg/Kg	✱	86	43 - 105	2	16
Hexachlorobutadiene	ND		0.715	0.494		mg/Kg	✱	69	45 - 100	10	17
Hexachloroethane	ND		0.715	0.588		mg/Kg	✱	82	37 - 100	8	16
Indeno[1,2,3-cd]pyrene	0.20	F1	0.715	0.976	F1	mg/Kg	✱	108	45 - 102	4	18
2-Methylphenol	ND		0.715	0.626		mg/Kg	✱	88	39 - 100	9	16
Methylphenol, 3 & 4	ND		0.715	0.657		mg/Kg	✱	92	39 - 100	10	16
Naphthalene	0.054	J	0.715	0.660		mg/Kg	✱	85	45 - 100	5	15
Nitrobenzene	ND		0.715	0.592	J	mg/Kg	✱	83	36 - 100	2	15
Pentachlorophenol	ND	F2	1.43	0.825	J F2	mg/Kg	✱	58	35 - 105	25	17
Phenanthrene	0.38	F2	0.715	1.08	F2	mg/Kg	✱	98	45 - 100	24	17
Phenol	ND		0.715	0.630		mg/Kg	✱	88	32 - 100	13	18
Pyrene	0.45	F2	0.715	1.20	F2	mg/Kg	✱	105	40 - 105	22	21
Pyridine	ND	F1	1.43	0.559	J	mg/Kg	✱	39	29 - 117	NC	19
2,4,5-Trichlorophenol	ND		0.715	0.584		mg/Kg	✱	82	49 - 100	11	18
2,4,6-Trichlorophenol	ND		0.715	0.591		mg/Kg	✱	83	50 - 100	10	17

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	85		39 - 105
2-Fluorophenol (Surr)	88		35 - 105
Nitrobenzene-d5 (Surr)	87		39 - 105
Phenol-d5 (Surr)	90		42 - 105
Terphenyl-d14 (Surr)	102		28 - 148
2,4,6-Tribromophenol (Surr)	85		44 - 105

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 180-250578/1-C

Matrix: Solid

Analysis Batch: 250592

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 250578

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.017	0.0054	mg/Kg		07/14/18 15:24	07/16/18 10:11	1
PCB-1221	ND		0.017	0.011	mg/Kg		07/14/18 15:24	07/16/18 10:11	1
PCB-1232	ND		0.017	0.0099	mg/Kg		07/14/18 15:24	07/16/18 10:11	1
PCB-1242	ND		0.017	0.010	mg/Kg		07/14/18 15:24	07/16/18 10:11	1
PCB-1248	ND		0.017	0.013	mg/Kg		07/14/18 15:24	07/16/18 10:11	1
PCB-1254	ND		0.017	0.011	mg/Kg		07/14/18 15:24	07/16/18 10:11	1

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 180-250578/1-C

Matrix: Solid

Analysis Batch: 250592

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 250578

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1260	ND		0.017	0.0047	mg/Kg		07/14/18 15:24	07/16/18 10:11	1
PCB-1262	ND		0.017	0.012	mg/Kg		07/14/18 15:24	07/16/18 10:11	1
PCB-1268	ND		0.017	0.0081	mg/Kg		07/14/18 15:24	07/16/18 10:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	89		33 - 137	07/14/18 15:24	07/16/18 10:11	1
DCB Decachlorobiphenyl (Surr)	82		33 - 137	07/14/18 15:24	07/16/18 10:11	1
Tetrachloro-m-xylene (Surr)	83		44 - 114	07/14/18 15:24	07/16/18 10:11	1
Tetrachloro-m-xylene (Surr)	76		44 - 114	07/14/18 15:24	07/16/18 10:11	1

Lab Sample ID: LCS 180-250578/2-C

Matrix: Solid

Analysis Batch: 250592

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250578

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	1.33	1.26		mg/Kg		95	46 - 122
PCB-1260	1.33	1.09		mg/Kg		82	51 - 119

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	91		33 - 137
DCB Decachlorobiphenyl (Surr)	86		33 - 137
Tetrachloro-m-xylene (Surr)	95		44 - 114
Tetrachloro-m-xylene (Surr)	88		44 - 114

Lab Sample ID: 180-79799-3 MS

Matrix: Solid

Analysis Batch: 250592

Client Sample ID: W1S2

Prep Type: Total/NA

Prep Batch: 250578

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	ND	F1	1.44	3.87	E F1	mg/Kg	☼	269	46 - 122
PCB-1260	0.31		1.44	1.50		mg/Kg	☼	83	51 - 119

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	88		33 - 137
DCB Decachlorobiphenyl (Surr)	87		33 - 137
Tetrachloro-m-xylene (Surr)	87		44 - 114
Tetrachloro-m-xylene (Surr)	80		44 - 114

Lab Sample ID: 180-79799-3 MSD

Matrix: Solid

Analysis Batch: 250592

Client Sample ID: W1S2

Prep Type: Total/NA

Prep Batch: 250578

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1016	ND	F1	1.44	3.46	F1	mg/Kg	☼	240	46 - 122	11	23
PCB-1260	0.31		1.44	1.52		mg/Kg	☼	84	51 - 119	1	17

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 180-79799-3 MSD

Matrix: Solid

Analysis Batch: 250592

Client Sample ID: W1S2

Prep Type: Total/NA

Prep Batch: 250578

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	89		33 - 137
DCB Decachlorobiphenyl (Surr)	85		33 - 137
Tetrachloro-m-xylene (Surr)	90		44 - 114
Tetrachloro-m-xylene (Surr)	82		44 - 114

Method: EPA 6010C - Metals (ICP)

Lab Sample ID: MB 180-250685/1-A

Matrix: Solid

Analysis Batch: 250845

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 250685

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		1.0	0.28	mg/Kg		07/16/18 13:55	07/17/18 10:04	1
Barium	ND		20	1.1	mg/Kg		07/16/18 13:55	07/17/18 10:04	1
Beryllium	ND		0.40	0.023	mg/Kg		07/16/18 13:55	07/17/18 10:04	1
Cadmium	ND		0.50	0.036	mg/Kg		07/16/18 13:55	07/17/18 10:04	1
Chromium	ND		0.50	0.12	mg/Kg		07/16/18 13:55	07/17/18 10:04	1
Copper	ND		2.5	0.17	mg/Kg		07/16/18 13:55	07/17/18 10:04	1
Lead	ND		1.0	0.25	mg/Kg		07/16/18 13:55	07/17/18 10:04	1
Manganese	ND		1.5	0.16	mg/Kg		07/16/18 13:55	07/17/18 10:04	1
Nickel	ND		4.0	0.25	mg/Kg		07/16/18 13:55	07/17/18 10:04	1
Selenium	ND		1.0	0.52	mg/Kg		07/16/18 13:55	07/17/18 10:04	1
Silver	ND		0.50	0.11	mg/Kg		07/16/18 13:55	07/17/18 10:04	1
Zinc	ND		2.0	1.1	mg/Kg		07/16/18 13:55	07/17/18 10:04	1

Lab Sample ID: LCS 180-250685/2-A

Matrix: Solid

Analysis Batch: 250845

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250685

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	50.0	46.0		mg/Kg		92	80 - 120
Barium	200	189		mg/Kg		94	80 - 120
Beryllium	5.00	4.78		mg/Kg		96	80 - 120
Cadmium	5.00	4.70		mg/Kg		94	80 - 120
Chromium	20.0	18.5		mg/Kg		93	80 - 120
Copper	25.0	23.4		mg/Kg		94	80 - 120
Lead	50.0	44.9		mg/Kg		90	80 - 120
Manganese	50.0	46.6		mg/Kg		93	80 - 120
Nickel	50.0	46.6		mg/Kg		93	80 - 120
Selenium	50.0	45.7		mg/Kg		91	80 - 120
Silver	5.00	4.69		mg/Kg		94	80 - 120
Zinc	50.0	46.2		mg/Kg		92	80 - 120

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 6010C - Metals (ICP) (Continued)

Lab Sample ID: 180-79799-3 MS

Matrix: Solid

Analysis Batch: 250845

Client Sample ID: W1S2

Prep Type: Total/NA

Prep Batch: 250685

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Arsenic	8.8		54.5	57.7		mg/Kg	☼	90	75 - 125
Barium	90		218	271		mg/Kg	☼	83	75 - 125
Beryllium	0.42		5.45	5.32		mg/Kg	☼	90	75 - 125
Cadmium	0.20	J	5.45	5.34		mg/Kg	☼	94	75 - 125
Chromium	12		21.8	30.8		mg/Kg	☼	85	75 - 125
Copper	37		27.3	62.8		mg/Kg	☼	96	75 - 125
Lead	32		54.5	79.8		mg/Kg	☼	87	75 - 125
Manganese	450	F2	54.5	422	4	mg/Kg	☼	-57	75 - 125
Nickel	28		54.5	80.5		mg/Kg	☼	96	75 - 125
Selenium	ND		54.5	49.6		mg/Kg	☼	91	75 - 125
Silver	ND		5.45	5.11		mg/Kg	☼	94	75 - 125
Zinc	77	F1	54.5	115	F1	mg/Kg	☼	69	75 - 125

Lab Sample ID: 180-79799-3 MSD

Matrix: Solid

Analysis Batch: 250845

Client Sample ID: W1S2

Prep Type: Total/NA

Prep Batch: 250685

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	8.8		55.1	58.9		mg/Kg	☼	91	75 - 125	2	20
Barium	90		220	286		mg/Kg	☼	89	75 - 125	5	20
Beryllium	0.42		5.51	5.42		mg/Kg	☼	91	75 - 125	2	20
Cadmium	0.20	J	5.51	5.35		mg/Kg	☼	93	75 - 125	0	20
Chromium	12		22.0	33.8		mg/Kg	☼	97	75 - 125	9	20
Copper	37		27.6	64.3		mg/Kg	☼	101	75 - 125	2	20
Lead	32		55.1	80.8		mg/Kg	☼	88	75 - 125	1	20
Manganese	450	F2	55.1	540	4 F2	mg/Kg	☼	156	75 - 125	24	20
Nickel	28		55.1	83.4		mg/Kg	☼	100	75 - 125	4	20
Selenium	ND		55.1	49.5		mg/Kg	☼	90	75 - 125	0	20
Silver	ND		5.51	5.10		mg/Kg	☼	93	75 - 125	0	20
Zinc	77	F1	55.1	126		mg/Kg	☼	88	75 - 125	9	20

Method: EPA 7471B - Mercury (CVAA)

Lab Sample ID: MB 180-250659/1-A

Matrix: Solid

Analysis Batch: 250783

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 250659

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.033	0.0074	mg/Kg		07/16/18 11:24	07/17/18 11:32	1

Lab Sample ID: LCS 180-250659/2-A

Matrix: Solid

Analysis Batch: 250783

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250659

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.410	0.413		mg/Kg		101	80 - 120

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 7471B - Mercury (CVAA) (Continued)

Lab Sample ID: 180-79799-3 MS

Matrix: Solid

Analysis Batch: 250783

Client Sample ID: W1S2

Prep Type: Total/NA

Prep Batch: 250659

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.032	J F1	0.180	0.250	F1	mg/Kg	☼	121	80 - 120

Lab Sample ID: 180-79799-3 MSD

Matrix: Solid

Analysis Batch: 250783

Client Sample ID: W1S2

Prep Type: Total/NA

Prep Batch: 250659

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	0.032	J F1	0.186	0.217		mg/Kg	☼	100	80 - 120	14	20

Method: EPA 9014 - Cyanide

Lab Sample ID: MB 180-250756/4-A

Matrix: Solid

Analysis Batch: 250810

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 250756

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	ND		0.50	0.27	mg/Kg		07/17/18 09:57	07/17/18 14:40	1

Lab Sample ID: HLCS 180-250756/2-A

Matrix: Solid

Analysis Batch: 250810

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250756

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.250	0.243		mg/Kg		97	90 - 110

Lab Sample ID: LCS 180-250756/3-A

Matrix: Solid

Analysis Batch: 250810

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250756

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	43.8	30.3		mg/Kg		69	38 - 162

Lab Sample ID: LLCS 180-250756/1-A

Matrix: Solid

Analysis Batch: 250810

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 250756

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0500	0.0503		mg/Kg		101	90 - 110

Lab Sample ID: 180-79799-3 MS

Matrix: Solid

Analysis Batch: 250810

Client Sample ID: W1S2

Prep Type: Total/NA

Prep Batch: 250756

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	ND		5.24	5.18		mg/Kg	☼	99	75 - 125

TestAmerica Pittsburgh

QC Sample Results

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Method: EPA 9014 - Cyanide (Continued)

Lab Sample ID: 180-79799-3 MSD

Matrix: Solid

Analysis Batch: 250810

Client Sample ID: W1S2

Prep Type: Total/NA

Prep Batch: 250756

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	ND		5.24	5.14		mg/Kg	☼	98	75 - 125	1	20

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

GC/MS VOA

Analysis Batch: 250599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-1	W1S2-A	Total/NA	Solid	EPA 8260C	250624
180-79799-2	W1S2-B	Total/NA	Solid	EPA 8260C	250624
180-79799-4	W1S1-A	Total/NA	Solid	EPA 8260C	250624
180-79799-5	W1S1-B	Total/NA	Solid	EPA 8260C	250624
180-79799-7	DUP20180713-3	Total/NA	Solid	EPA 8260C	250624
MB 180-250599/6	Method Blank	Total/NA	Solid	EPA 8260C	
LCS 180-250599/4	Lab Control Sample	Total/NA	Solid	EPA 8260C	
180-79799-2 MS	W1S2-B	Total/NA	Solid	EPA 8260C	250624
180-79799-2 MSD	W1S2-B	Total/NA	Solid	EPA 8260C	250624

Prep Batch: 250624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-1	W1S2-A	Total/NA	Solid	5035	
180-79799-2	W1S2-B	Total/NA	Solid	5035	
180-79799-4	W1S1-A	Total/NA	Solid	5035	
180-79799-5	W1S1-B	Total/NA	Solid	5035	
180-79799-7	DUP20180713-3	Total/NA	Solid	5035	
180-79799-2 MS	W1S2-B	Total/NA	Solid	5035	
180-79799-2 MSD	W1S2-B	Total/NA	Solid	5035	

Analysis Batch: 250626

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-9	TB20180713	Total/NA	Water	EPA 8260C	
MB 180-250626/7	Method Blank	Total/NA	Water	EPA 8260C	
LCS 180-250626/4	Lab Control Sample	Total/NA	Water	EPA 8260C	

GC/MS Semi VOA

Prep Batch: 250693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-3	W1S2	Total/NA	Solid	3541	
180-79799-6	W1S1	Total/NA	Solid	3541	
180-79799-8	DUP20180713-3	Total/NA	Solid	3541	
MB 180-250693/1-A	Method Blank	Total/NA	Solid	3541	
LCS 180-250693/2-A	Lab Control Sample	Total/NA	Solid	3541	
180-79799-3 MS	W1S2	Total/NA	Solid	3541	
180-79799-3 MSD	W1S2	Total/NA	Solid	3541	

Analysis Batch: 250862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 180-250693/1-A	Method Blank	Total/NA	Solid	EPA 8270D LL	250693
LCS 180-250693/2-A	Lab Control Sample	Total/NA	Solid	EPA 8270D LL	250693

Analysis Batch: 251245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-3	W1S2	Total/NA	Solid	EPA 8270D LL	250693
180-79799-6	W1S1	Total/NA	Solid	EPA 8270D LL	250693
180-79799-8	DUP20180713-3	Total/NA	Solid	EPA 8270D LL	250693
180-79799-3 MS	W1S2	Total/NA	Solid	EPA 8270D LL	250693
180-79799-3 MSD	W1S2	Total/NA	Solid	EPA 8270D LL	250693

TestAmerica Pittsburgh

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

GC Semi VOA

Prep Batch: 250578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-3	W1S2	Total/NA	Solid	3541	
180-79799-6	W1S1	Total/NA	Solid	3541	
180-79799-8	DUP20180713-3	Total/NA	Solid	3541	
MB 180-250578/1-C	Method Blank	Total/NA	Solid	3541	
LCS 180-250578/2-C	Lab Control Sample	Total/NA	Solid	3541	
180-79799-3 MS	W1S2	Total/NA	Solid	3541	
180-79799-3 MSD	W1S2	Total/NA	Solid	3541	

Analysis Batch: 250592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-3	W1S2	Total/NA	Solid	EPA 8082A	250617
180-79799-6	W1S1	Total/NA	Solid	EPA 8082A	250617
180-79799-8	DUP20180713-3	Total/NA	Solid	EPA 8082A	250617
MB 180-250578/1-C	Method Blank	Total/NA	Solid	EPA 8082A	250617
LCS 180-250578/2-C	Lab Control Sample	Total/NA	Solid	EPA 8082A	250617
180-79799-3 MS	W1S2	Total/NA	Solid	EPA 8082A	250617
180-79799-3 MSD	W1S2	Total/NA	Solid	EPA 8082A	250617

Cleanup Batch: 250616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-3	W1S2	Total/NA	Solid	3665A	250578
180-79799-6	W1S1	Total/NA	Solid	3665A	250578
180-79799-8	DUP20180713-3	Total/NA	Solid	3665A	250578
MB 180-250578/1-C	Method Blank	Total/NA	Solid	3665A	250578
LCS 180-250578/2-C	Lab Control Sample	Total/NA	Solid	3665A	250578
180-79799-3 MS	W1S2	Total/NA	Solid	3665A	250578
180-79799-3 MSD	W1S2	Total/NA	Solid	3665A	250578

Cleanup Batch: 250617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-3	W1S2	Total/NA	Solid	3660B	250616
180-79799-6	W1S1	Total/NA	Solid	3660B	250616
180-79799-8	DUP20180713-3	Total/NA	Solid	3660B	250616
MB 180-250578/1-C	Method Blank	Total/NA	Solid	3660B	250616
LCS 180-250578/2-C	Lab Control Sample	Total/NA	Solid	3660B	250616
180-79799-3 MS	W1S2	Total/NA	Solid	3660B	250616
180-79799-3 MSD	W1S2	Total/NA	Solid	3660B	250616

Metals

Prep Batch: 250659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-3	W1S2	Total/NA	Solid	7471B	
180-79799-6	W1S1	Total/NA	Solid	7471B	
180-79799-8	DUP20180713-3	Total/NA	Solid	7471B	
MB 180-250659/1-A	Method Blank	Total/NA	Solid	7471B	
LCS 180-250659/2-A	Lab Control Sample	Total/NA	Solid	7471B	
180-79799-3 MS	W1S2	Total/NA	Solid	7471B	
180-79799-3 MSD	W1S2	Total/NA	Solid	7471B	

TestAmerica Pittsburgh

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

Metals (Continued)

Prep Batch: 250685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-3	W1S2	Total/NA	Solid	3050B	
180-79799-6	W1S1	Total/NA	Solid	3050B	
180-79799-8	DUP20180713-3	Total/NA	Solid	3050B	
MB 180-250685/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 180-250685/2-A	Lab Control Sample	Total/NA	Solid	3050B	
180-79799-3 MS	W1S2	Total/NA	Solid	3050B	
180-79799-3 MSD	W1S2	Total/NA	Solid	3050B	

Analysis Batch: 250783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-3	W1S2	Total/NA	Solid	EPA 7471B	250659
180-79799-6	W1S1	Total/NA	Solid	EPA 7471B	250659
180-79799-8	DUP20180713-3	Total/NA	Solid	EPA 7471B	250659
MB 180-250659/1-A	Method Blank	Total/NA	Solid	EPA 7471B	250659
LCS 180-250659/2-A	Lab Control Sample	Total/NA	Solid	EPA 7471B	250659
180-79799-3 MS	W1S2	Total/NA	Solid	EPA 7471B	250659
180-79799-3 MSD	W1S2	Total/NA	Solid	EPA 7471B	250659

Analysis Batch: 250845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-3	W1S2	Total/NA	Solid	EPA 6010C	250685
180-79799-6	W1S1	Total/NA	Solid	EPA 6010C	250685
180-79799-8	DUP20180713-3	Total/NA	Solid	EPA 6010C	250685
MB 180-250685/1-A	Method Blank	Total/NA	Solid	EPA 6010C	250685
LCS 180-250685/2-A	Lab Control Sample	Total/NA	Solid	EPA 6010C	250685
180-79799-3 MS	W1S2	Total/NA	Solid	EPA 6010C	250685
180-79799-3 MSD	W1S2	Total/NA	Solid	EPA 6010C	250685

General Chemistry

Analysis Batch: 250656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-1	W1S2-A	Total/NA	Solid	2540G	
180-79799-2	W1S2-B	Total/NA	Solid	2540G	
180-79799-3	W1S2	Total/NA	Solid	2540G	
180-79799-4	W1S1-A	Total/NA	Solid	2540G	
180-79799-5	W1S1-B	Total/NA	Solid	2540G	
180-79799-6	W1S1	Total/NA	Solid	2540G	
180-79799-7	DUP20180713-3	Total/NA	Solid	2540G	
180-79799-8	DUP20180713-3	Total/NA	Solid	2540G	

Prep Batch: 250756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-3	W1S2	Total/NA	Solid	9010C	
180-79799-6	W1S1	Total/NA	Solid	9010C	
180-79799-8	DUP20180713-3	Total/NA	Solid	9010C	
MB 180-250756/4-A	Method Blank	Total/NA	Solid	9010C	
HLCS 180-250756/2-A	Lab Control Sample	Total/NA	Solid	9010C	
LCS 180-250756/3-A	Lab Control Sample	Total/NA	Solid	9010C	
LLCS 180-250756/1-A	Lab Control Sample	Total/NA	Solid	9010C	

TestAmerica Pittsburgh

QC Association Summary

Client: Geosyntec Consultants, Inc.
Project/Site: Former Sperry Remington Site-North

TestAmerica Job ID: 180-79799-1

General Chemistry (Continued)

Prep Batch: 250756 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-3 MS	W1S2	Total/NA	Solid	9010C	
180-79799-3 MSD	W1S2	Total/NA	Solid	9010C	

Analysis Batch: 250810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
180-79799-3	W1S2	Total/NA	Solid	EPA 9014	250756
180-79799-6	W1S1	Total/NA	Solid	EPA 9014	250756
180-79799-8	DUP20180713-3	Total/NA	Solid	EPA 9014	250756
MB 180-250756/4-A	Method Blank	Total/NA	Solid	EPA 9014	250756
HLCS 180-250756/2-A	Lab Control Sample	Total/NA	Solid	EPA 9014	250756
LCS 180-250756/3-A	Lab Control Sample	Total/NA	Solid	EPA 9014	250756
LLCS 180-250756/1-A	Lab Control Sample	Total/NA	Solid	EPA 9014	250756
180-79799-3 MS	W1S2	Total/NA	Solid	EPA 9014	250756
180-79799-3 MSD	W1S2	Total/NA	Solid	EPA 9014	250756

Chain of Custody Record

Client Information		Lab PM		Carrier Tracking No(s)		COC No.						
Client Contact: Arion Krasnopoler		Dunlap, David A										
Company: Geosyntec Consultants, Inc.		E-Mail: david.dunlap@testamericainc.com				Page 1 of 1						
Address: 10211 Wincopin Cr. 4th Floor		Due Date Requested:		Analysis Requested		Job #:						
City: Columbia		TAT Requested (days): 5										
State, Zip: MD, 20910		PO #: MN0832D										
Phone: 202-550-7724		WO #:										
Email: akrasnopoler@geosyntec.com		Project #:										
Former Sperry Remington Site - North IRM		SSOW#:										
Former Sperry Remington Site - North IRM												
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=oil, ST=Soil, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260C - VOA-Select List	6010C, 7471B, 9014 - Select ICP Metals, Mercury, Cyanide	8082A, 8270D, PCBs, Select BNA	8260C - VOA-Select List (Trip Blanks only)	Total Number of Containers	Special Instructions/Note:
W1S2-A	7-13-18	15:20	G	Solid			X				4	
W1S2-B	7-13-18	15:30	G	Solid			X				4	
W1S2	7-13-18	15:30	C	Solid				X			2	
W1S2-BMS	7-13-18	15:30	G	Solid			X				4	
W1S2-BMSD	7-13-18	15:30	G	Solid			X				4	
W1S1-A	7-13-18	14:50	G	Solid			X				4	
W1S1-B	7-13-18	15:00	G	Solid			X				4	
W1S1	7-13-18	14:50	C	Solid			X				2	
DUP2018.0713-3	7-13-18	-	G	Solid			X				4	
W1S2-MS	7-13-18	15:30	C	Solid			X				2	
W1S2-MSD	7-13-18	15:30	C	Solid			X				2	



180-79799 Chain of Custody

Special Instructions/Note:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements:

Method of Shipment:

Date:

Relinquished by:

Relinquished by:

Relinquished by:

Relinquished by:

Custody Seal No.:

Yes No

Chain of Custody Record

Client Information Client Contact: Aron Krasnopoler Company: Geosyntec Consultants, Inc. Address: 10211 Wincopin Cr. 4th Floor City: Columbia State: MD, 20910 Phone: 202-550-7724 Email: akrasnopoler@geosyntec.com Project Name: Former Sperry Remington Site - North IRM Site: Former Sperry Remington Site - North IRM		Lab PM: Dunlap, David A E-Mail: david.dunlap@testamericainc.com Carrier Tracking No(s): Page: Page 1 of 1 Job #:	
Due Date Requested: TAT Requested (days): 5 PO #: MN0832D WO #: Project #: SSOW#:		Analysis Requested 8260C - VOA-Select List (Yes or No) 8260C - VOA-Select List (Trip Blanks only) 8082A, 8270D, PCBs, Select BNA 6010C, 7471B, 9014 - Select ICP Metals, Mercury, Cyanide 8260C - VOA-Select List Perform MS/MSD (Yes or No) Field Filtered Sample (Yes or No)	
Sample Identification DUP 20180713-3 TB 20180713		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months Special Instructions/QC Requirements:	
Empty Kit Relinquished by: Relinquished by: [Signature] Relinquished by: [Signature] Relinquished by: [Signature]		Method of Shipment: Received by: [Signature] Date/Time: 7/13/18 1900 Received by: [Signature] Date/Time: 7/13/18 1900 Received by: [Signature] Date/Time: 7/13/18 1900	
Custody Seal's Intact: ☐ Yes ☐ No Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	

Login Sample Receipt Checklist

Client: Geosyntec Consultants, Inc.

Job Number: 180-79799-1

Login Number: 79799

List Number: 1

Creator: Neri, Tom

List Source: TestAmerica Pittsburgh

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Memorandum

Date: 2 August 2018
To: Aron Krasnopoler
From: Mary Tyler
CC: J. Caprio
Subject: **Stage 2A Data Validation - Level II Data Deliverable, TestAmerica
Job ID 180-79799-1**

SITE: Former Sperry Remington Site-North

INTRODUCTION

This report summarizes the findings of the Stage 2A data validation of six solid samples, including two samples for matrix spike/matrix spike duplicate (MS/MSD) analyses, two field duplicate samples and one trip blank, collected July 13, 2018, as part of the Former Sperry Remington Site-North project. The analyses were performed at TestAmerica Laboratories, Inc., Pittsburgh, Pennsylvania. The samples were analyzed for the following tests:

- Volatile Organic Compounds (VOCs) by EPA Methods 5035/8260C and 5030C/8260C
- Semivolatile Organic Compounds (SVOCs) by EPA Methods 3541/8270D
- Polychlorinated Biphenyls (PCBs) by EPA Methods 3541/8082A
- Metals by EPA Methods 3050B/6010C
- Mercury by EPA Method 7471B
- Total Cyanide by EPA Methods 9010C/9014
- Total Solids by Standard Method 2540G

EXECUTIVE SUMMARY

The samples were handled, prepared, and measured in the same manner under similar prescribed conditions.

Overall, based on this Stage 2A data validation covering the quality control (QC) parameters listed below, the data as qualified are usable for meeting project objectives, with the following exception. The nondetect pyridine result in sample W1S2 was R qualified as rejected due to no MS recovery (0% recovery).

The remaining qualified data should be used within the limitations of the qualifications.

The data were validated using the Quality Assurance Project Plan (QAPP) for Former Sperry Remington Facility Industrial Outfall Site, Elmira, New York, NYSDEC Site I.D. # 808043, NY09-2480-04, July 7, 2010, Revised November 11, 2010, USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2017 (EPA 540-R-2017-002), USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review, January 2017 (EPA 540-R-2017-001), the pertinent methods referenced by the laboratory report and professional and technical judgment.

The following samples were analyzed and validated at Stage 2A level in the data set:

Laboratory ID	Client ID
180-79799-1	W1S2-A
180-79799-2	W1S2-B
180-79799-2 MS	W1S2-B MS
180-79799-2 MSD	W1S2-B MSD
180-79799-3	W1S2
180-79799-3 MS	W1S2 MS
180-79799-3 MSD	W1S2 MSD

Laboratory ID	Client ID
180-79799-4	W1S1-A
180-79799-5	W1S1-B
180-79799-6	W1S1
180-79799-7	DUP20180713-3
180-79799-8	DUP20180713-3
180-79799-9	TB20180713

The samples were received at the laboratory at 4.7°C, within the criteria of 0-6°C. No sample preservation issues were noted by the laboratory.

The following issues were noted with the chain of custody (COC):

- Incorrect error corrections were observed on the COC, instead of the proper procedure of a single strike through, correction, and initials and date of person making the corrections.
- Collection times were not documented on the COC for the trip blank or field duplicate samples. The laboratory logged both samples in with collection times of 00:00.
- The field duplicate samples, DUP20180713-3, had the same client IDs. Information from the client indicated they were associated with two samples, W1S1-A for VOCs and W1S1 for the other analyses.

The solids data, used to report the samples on a dry weight basis, were not validated.

1.0 VOLATILE ORGANIC COMPOUNDS

The samples were analyzed for VOCs by EPA methods 5035/8260C and 5030C/8260C.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ✓ Trip Blank
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

1.1 Overall Assessment

The VOC data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for these analyses, for this sample set is 100%.

The narrative indicated that the percent difference (%D) for acetone in the continuing calibration verification (CCV) in batch 250599 was high, outside method specified acceptance criteria with a high bias; the %D was 34.6%. Since the %D was within the validation guidance acceptance criteria of 40%D and acetone was not detected in the associated samples, no qualifications were applied to the data, based on professional and technical judgment.

1.2 Holding Times

The holding times for the VOC analysis of a preserved solid sample collected as a terracore are 48 hours until laboratory receipt and 14 days from sample collection to analysis. The holding time for the VOC analysis of a preserved water sample is 14 days from sample collection to analysis. The holding times were met for the sample analyses.

1.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two method blanks were reported (batches 250626 and 250599). VOCs were not detected in the method blanks above the method detection limits (MDLs).

1.4 Matrix Spike/Matrix Spike Duplicate

One sample set specific MS/MSD pair was reported, using sample W1S2-B. The recovery and relative percent difference (RPD) results were within the laboratory specified acceptance criteria, with the following exceptions.

The MS recovery of acetone and the RPD for 1,4-dichlorobenzene were high, both outside the laboratory specified acceptance criteria. Since acetone and 1,4-dichlorobenzene were not detected in sample W1S2-B, no qualifications were applied to the data.

1.5 Laboratory Control Sample (LCS)

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Two LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

1.6 Surrogates

Acceptable surrogate recoveries were reported.

1.7 Trip Blank

A trip blank accompanied the samples, TB20180713. VOCs were not detected in the trip blank above the MDLs.

1.8 Field Duplicate

A field duplicate sample was collected with the sample set, DUP20180713-3. Acceptable precision [RPD <40% for results greater than five times the reporting limit (RL) and ± 2 times the RL for results less than five times the RL] was demonstrated between the field duplicate and the original sample W1S1-A.

1.9 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were not reported.

1.10 Electronic Data Deliverable (EDD) Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

2.0 SEMIVOLATILE ORGANIC COMPOUNDS

The samples were analyzed for SVOCs by EPA methods 3541/8270D.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ⊗ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Surrogates
- ⊗ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

2.1 Overall Assessment

The SVOC data reported in this package are considered usable for meeting project objectives, with the following exception. The nondetect pyridine result in sample W1S2 was R qualified as rejected due to no MS recovery (0% recovery). Therefore, the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 98.9%.

2.2 Holding Times

The holding times for SVOC analysis of solid samples are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

2.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 250693). SVOCs were not detected in the method blank above the MDLs.

2.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported, using sample W1S2. The recovery and RPD results were within the laboratory specified acceptance criteria, with the following exceptions.

There was no MS recovery (0%) of pyridine. Therefore, the nondetect pyridine result in sample W1S2 was R qualified as rejected.

One or both of the recoveries of anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenz(a,h)anthracene, fluoranthene and indeno[1,2,3-cd]pyrene were high and outside the laboratory specified acceptance criteria. In addition, the RPDs for fluoranthene, pentachlorophenol, phenanthrene and pyrene were high and outside the laboratory specified acceptance criteria. Since pentachlorophenol was not detected in sample PILE 102, no qualifications were applied to the pentachlorophenol data. However, the concentrations of anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[g,h,i]perylene, chrysene, dibenz(a,h)anthracene, fluoranthene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene in sample W1S2 were J qualified as estimated.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier*	Reason Code**
W1S2	Anthracene	0.11	F1	0.11	J	4
W1S2	Benzo[a]anthracene	0.26	F1	0.26	J	4
W1S2	Benzo[a]pyrene	0.27	F1	0.27	J	4
W1S2	Benzo[g,h,i]perylene	0.26	F1	0.26	J	4
W1S2	Chrysene	0.26	F1	0.26	J	4
W1S2	Dibenz(a,h)anthracene	0.058	J,F1	0.058	J	4
W1S2	Fluoranthene	0.52	F1,F2	0.52	J	4
W1S2	Indeno[1,2,3-cd]pyrene	0.2	F1	0.2	J	4
W1S2	Phenanthrene	0.38	F2	0.38	J	4
W1S2	Pyrene	0.45	F2	0.45	J	4

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier*	Reason Code**
W1S2	Pyridine	0.19	U,F1	0.19	R	4

mg/kg-milligrams per kilogram

U- not detected at or above the MDL

J-the result is less than the RL but greater than the MDL and the concentration is an approximate value

F1- laboratory flag indicating the MS and/or MSD was outside acceptance criteria

F2- laboratory flag indicating the MS/MSD RPD exceeds control limits

* Validation qualifiers are defined in Attachment 1 at the end of this report

**Reason codes are defined in Attachment 2 at the end of this report

2.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery results were within the laboratory specified acceptance criteria.

2.6 Surrogates

Acceptable surrogate recoveries were reported.

2.7 Field Duplicate

A field duplicate sample was collected with the sample set, DUP20180713-3. Acceptable precision (RPD <40% for results greater than five times the RL and ± 2 times the RL for results less than five times the RL) was demonstrated between the field duplicate and the original sample W1S1, with the following exceptions.

The concentrations of the following compounds were less than five times the RLs and the differences between the field duplicate pair concentrations were greater than two times the RLs: Benzo[a]pyrene, benzo[b]fluoranthene, chrysene, fluoranthene and pyrene. Therefore, the concentrations of benzo[a]pyrene, benzo[b]fluoranthene, chrysene, fluoranthene and pyrene in the field duplicate pair were J qualified as estimated.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Diff.	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
DUP20180713-3	Benzo[a]pyrene	0.23	NA	0.136	0.23	J	7
W1S1	Benzo[a]pyrene	0.068	NA		0.068	J	7
DUP20180713-3	Benzo[b]fluoranthene	0.27	NA	0.180	0.27	J	7

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Diff.	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
W1S1	Benzo[b]fluoranthene	0.090	NA		0.090	J	7
DUP20180713-3	Chrysene	0.24	NA	0.165	0.24	J	7
W1S1	Chrysene	0.075	NA		0.075	J	7
DUP20180713-3	Fluoranthene	0.34	NA	0.23	0.34	J	7
W1S1	Fluoranthene	0.11	NA		0.11	J	7
DUP20180713-3	Pyrene	0.32	NA	0.221	0.32	J	7
W1S1	Pyrene	0.099	NA		0.099	J	7

mg/kg-milligrams per kilogram

Diff-difference between the two concentrations

NA-not applicable

2.8 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were reported in samples W1S2, W1S1 and DUP20180713-3 due to the dilutions analyzed.

2.9 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

3.0 POLYCHLORINATED BIPHENYLS

The samples were analyzed for PCBs by EPA Methods 3541/8082A.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ⊗ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample

- ✓ Surrogates
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

3.1 Overall Assessment

The PCB data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for analysis, for this sample set is 100%.

The samples contain mixtures of PCBs 1248, 1254 and 1260. There are peaks in 1248 and 1254 that are in both of these PCBs and peaks in 1254 and 1260 that are in both of these PCBs; therefore, there is contribution between PCBs when more than one PCB is detected in a sample. Therefore, based on professional and technical judgment, the concentrations of PCBs 1248, 1254 and 1260 in the samples were J qualified as estimated.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
DUP20180713-3	PCB-1248	7.5	NA	7.5	J	13
DUP20180713-3	PCB-1254	3.6	NA	3.6	J	13
DUP20180713-3	PCB-1260	0.38	NA	0.38	J	13
W1S1	PCB-1248	6.7	NA	6.7	J	13
W1S1	PCB-1254	3.1	NA	3.1	J	13
W1S1	PCB-1260	0.34	NA	0.34	J	13
W1S2	PCB-1248	5.1	NA	5.1	J	13
W1S2	PCB-1254	2.4	NA	2.4	J	13
W1S2	PCB-1260	0.31	NA	0.31	J	13

mg/kg-milligrams per kilogram

NA-not applicable

3.2 Holding Times

The holding times for the PCB analysis of solids are 14 days from sample collection to extraction and 40 days from extraction to analysis. The holding times were met for the sample analyses.

3.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 250578). PCBs were not detected in the method blank above the MDLs.

3.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported, using sample W1S2. The recovery and RPD results were within the laboratory specified acceptance criteria, with the following exceptions.

The recoveries of PCB 1016 were high and outside the laboratory specified acceptance criteria. Based on professional and technical judgment and the concentration of PCB 1248 in sample W1S2, no qualifications were applied to the data.

3.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery results were within the laboratory specified acceptance criteria.

3.6 Surrogates

Acceptable surrogate recoveries were reported.

3.7 Field Duplicate

A field duplicate sample was collected with the sample set, DUP20180713-3. Acceptable precision (RPD <40% for results greater than five times the RL and ± 2 times the RL for results less than five times the RL) was demonstrated between the field duplicate and the original sample W1S1.

3.8 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were reported in samples W1S1 and DUP20180713-3 due to the dilutions analyzed.

3.9 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No other discrepancies were identified between the level II report and the EDD.

5.0 METALS

The samples were analyzed for metals by EPA methods 3050B/6010C (Mercury evaluated separately in Section 6.0, below).

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ⊗ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ⊗ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

5.1 Overall Assessment

The metals data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

5.2 Holding Times

The holding time for metals analysis of solid samples is 180 days from sample collection to analysis. The holding time was met for the sample analyses.

5.3 **Method Blank**

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 250685). The metals were not detected in the method blank above the MDLs.

5.4 **Matrix Spike/Matrix Spike Duplicate**

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported, using sample W1S2. The recovery and RPD results were within the laboratory specified acceptance criteria, with the following exceptions.

The MS recovery of zinc was low and outside the laboratory specified acceptance criteria. Therefore, the concentration of zinc in sample W1S2 was J- qualified as estimated with a low bias.

The MS/MSD recoveries of manganese were outside the laboratory specified acceptance criteria. Since the concentration of manganese in sample W1S2 was more than four times the spike amount, no qualifications were applied to the data based on professional and technical judgment.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
W1S2	Zinc	77	F1	77	J-	4

mg/kg-milligrams per kilogram

F1- laboratory flag indicating the MS and/or MSD was outside acceptance criteria

5.5 **Laboratory Control Sample**

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery results were within the laboratory specified acceptance criteria.

5.6 **Laboratory Duplicate**

A laboratory duplicate was not reported with the sample set.

5.7 Field Duplicate

A field duplicate sample was collected with the sample set, DUP20180713-3. Acceptable precision (RPD <40% for results greater than five times the RL and ± 2 times the RL for results less than five times the RL) was demonstrated between the field duplicate and the original sample W1S1.

5.8 Sensitivity

The samples were reported to the MDLs. Elevated non-detect results were not reported.

5.9 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

6.0 MERCURY

The samples were analyzed for mercury by EPA method 7471B.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised over the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ⊗ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Field Duplicate
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

6.1 Overall Assessment

The mercury data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total

number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

6.2 Holding Times

The holding time for the mercury analysis of solid samples is 28 days from sample collection to analysis. The holding time was met for the sample analyses.

6.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 250659). Mercury was not detected in the method blank above the MDL.

6.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported, using sample W1S2. The recovery and RPD results were within the laboratory specified acceptance criteria, with the following exception.

The MS recovery was high and outside the laboratory specified acceptance criteria. Therefore, the concentration of mercury in sample W1S2 was J qualified as estimated.

Sample ID	Compound	Laboratory Concentration (mg/kg)	Laboratory Flag	Validation Concentration (mg/kg)	Validation Qualifier	Reason Code
W1S2	Mercury	0.032	J,F1	0.032	J	4

mg/kg-milligrams per kilogram

J-the result is less than the RL but greater than the MDL and the concentration is an approximate value

F1- laboratory flag indicating the MS and/or MSD was outside acceptance criteria

6.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One LCS was reported. The recovery result was within the laboratory specified acceptance criteria.

6.6 Laboratory Duplicate

A laboratory duplicate was not reported.

6.7 Field Duplicate

A field duplicate sample was collected with the sample set, DUP20180713-3. Acceptable precision (RPD <40% for results greater than five times the RL and ± 2 times the RL for results less than five times the RL) was demonstrated between the field duplicate and the original sample W1S1.

6.8 Sensitivity

The samples were reported to the MDL. Elevated non-detect results were not reported.

6.9 Electronic Data Deliverable Review

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

7.0 TOTAL CYANIDE

The samples were analyzed for total cyanide by EPA Methods 9010C/9014.

The areas of data review are listed below. A leading check mark (✓) indicates an area of review in which the data were acceptable. A preceding crossed circle (⊗) signifies areas where issues were raised during the course of the validation review and should be considered to determine any impact on data quality and usability.

- ✓ Overall Assessment
- ✓ Holding Times
- ✓ Method Blank
- ✓ Matrix Spike/Matrix Spike Duplicate
- ✓ Laboratory Control Sample
- ✓ Laboratory Duplicate
- ✓ Equipment Blank
- ✓ Sensitivity
- ✓ Electronic Data Deliverable Review

7.1 Overall Assessment

The cyanide data reported in this package are considered usable for meeting project objectives. The results are considered valid; the analytical completeness, defined as the ratio of the number of valid analytical results (valid analytical results include values qualified as estimated) to the total

number of analytical results requested on samples submitted for this analysis, for this sample set is 100%.

7.2 Holding Times

The holding time for the cyanide analysis of solid samples is 14 days from sample collection to analysis. The holding time was met for the sample analyses.

7.3 Method Blank

Method blanks were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One method blank was reported (batch 250756). Cyanide was not detected in the method blank above the MDL.

7.4 Matrix Spike/Matrix Spike Duplicate

MS/MSDs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). One sample set specific MS/MSD pair was reported, using sample W1S2. The recovery and RPD results were within the laboratory specified acceptance criteria.

7.5 Laboratory Control Sample

LCSs were analyzed at the proper frequency for the number and types of samples analyzed (one per batch of 20 samples). Three LCSs were reported. The recovery results were within the laboratory specified acceptance criteria.

7.6 Laboratory Duplicate

A laboratory duplicate was not reported.

7.7 Field Duplicate

A field duplicate sample was collected with the sample set, DUP20180713-3. Acceptable precision (RPD <40% for results greater than five times the RL and ± 2 times the RL for results less than five times the RL) was demonstrated between the field duplicate and the original sample W1S1.

7.8 Sensitivity

The samples were reported to the MDL. Elevated non-detect results were not reported.

7.9 **Electronic Data Deliverable Review**

The results and sample IDs in the EDD were reviewed against the information provided by the associated level II report at a minimum of 20% as part of the data validation process. No discrepancies were identified between the level II report and the EDD.

* * * * *

ATTACHMENT 1
DATA VALIDATION QUALIFIER DEFINITIONS
AND INTERPRETATION KEY
Assigned by Geosyntec's Data Validation Team

DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit. Upon application of the U qualifier to a reported result, the definition changes to “not detected at or above the reported result”.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified; however, the associated numerical value is likely to be higher than the concentration of the analyte in the sample due to positive bias of associated QC or calibration data or attributable to matrix interference.
- J- The analyte was positively identified; however, the associated numerical value is likely to be lower than the concentration of the analyte in the sample due to negative bias of associated QC or calibration data or attributable to matrix interference.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ATTACHMENT 2
DATA VALIDATION REASON CODES
Assigned by Geosyntec's Data Validation Team

Valid Value	Description
1	Preservation requirement not met
2	Analysis holding time exceeded
3	Blank contamination (i.e., method, trip, equipment, etc.)
4	Matrix spike/matrix spike duplicate recovery or RPD outside limits
5	LCS recovery outside limits
6	Surrogate recovery outside limits
7	Field Duplicate RPD exceeded
8	Serial dilution percent difference exceeded
9	Calibration criteria not met
10	Linear range exceeded
11	Internal standard criteria not met
12	Lab duplicates RPD exceeded
13	Other

RPD-relative percent difference

Aron Krasnopoler

From: Schneider, Timothy A (DEC) <timothy.schneider@dec.ny.gov>
Sent: Wednesday, August 1, 2018 12:24 PM
To: Aron Krasnopoler; Schilling, Bernette (DEC); Foti, Scott J (DEC); Williams, Scott F (DEC)
Cc: Ashwin Ranna; Matthew Schallinger; James Burnett
Subject: RE: Request to Reuse Soil - Former Sperry Remington Site- North Portion IRM #2 Piles 105 and 106

Aron,

I have reviewed the revised Request to Reuse Form, associated data and clarifications. Soils from Pile 105 had been previously approved for reuse. With revised clarification regarding composite sample results labeled FH (fire hydrant), Pile 106 soils are now approved for reuse under cover systems at the Former Sperry Remington – North Portion Site #C808022.

Soils from the FH sample location/pile will be appropriately disposed of at a regulated facility.

Regards,

Tim

From: Aron Krasnopoler [mailto:AKrasnopoler@Geosyntec.com]
Sent: Wednesday, August 01, 2018 10:27 AM
To: Schneider, Timothy A (DEC) <timothy.schneider@dec.ny.gov>; Schilling, Bernette (DEC) <bernette.schilling@dec.ny.gov>; Foti, Scott J (DEC) <scott.foti@dec.ny.gov>; Williams, Scott F (DEC) <Scott.Williams@dec.ny.gov>
Cc: Ashwin Ranna <ARanna@Geosyntec.com>; Matthew Schallinger <MSchallinger@Geosyntec.com>; James Burnett <JBurnett@Geosyntec.com>
Subject: RE: Request to Reuse Soil - Former Sperry Remington Site- North Portion IRM #2 Piles 105 and 106

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Tim,

Please find attached the revised request for re-use with an explanation for excluding sample FH from the evaluation. Thank you for your consideration.

Sincerely,
Aron Krasnopoler

Aron Krasnopoler, Ph. D., P.E. (MD, NY)
Project Engineer

10211 Wincopin Circle, 4th Floor
Columbia, MD 21044
Phone: 410-381-4333
Fax: 410-381-4499
Mobile: 202-550-7724

www.geosyntec.com

Beech and Bonaparte 
engineering p.c.
an affiliate of Geosyntec Consultants

This electronic mail message contains information that (a) is or may be LEGALLY PRIVILEGED, CONFIDENTIAL, PROPRIETARY IN NATURE, OR OTHERWISE PROTECTED BY LAW FROM DISCLOSURE, and (b) is intended only for the use of the Addressee(s) named herein. If you are not the intended recipient, an addressee, or the person responsible for delivering this to an addressee, you are hereby notified that reading, using, copying, or distributing any part of this message is strictly prohibited. If you have received this electronic mail message in error, please contact us immediately and take the steps necessary to delete the message completely from your computer system.

From: Schneider, Timothy A (DEC) <timothy.schneider@dec.ny.gov>
Sent: Wednesday, August 1, 2018 10:15 AM
To: Aron Krasnopoler <AKrasnopoler@Geosyntec.com>; Schilling, Bernette (DEC) <bernette.schilling@dec.ny.gov>; Foti, Scott J (DEC) <scott.foti@dec.ny.gov>; Williams, Scott F (DEC) <Scott.Williams@dec.ny.gov>
Cc: Ashwin Ranna <ARanna@Geosyntec.com>; Matthew Schallinger <MSchallinger@Geosyntec.com>; James Burnett <JBurnett@Geosyntec.com>
Subject: RE: Request to Reuse Soil - Former Sperry Remington Site- North Portion IRM #2 Piles 105 and 106

Please resubmit with that explanation as part of the reuse form and I will re-evaluate your request.

From: Aron Krasnopoler [<mailto:AKrasnopoler@Geosyntec.com>]
Sent: Wednesday, August 01, 2018 9:49 AM
To: Schneider, Timothy A (DEC) <timothy.schneider@dec.ny.gov>; Schilling, Bernette (DEC) <bernette.schilling@dec.ny.gov>; Foti, Scott J (DEC) <scott.foti@dec.ny.gov>; Williams, Scott F (DEC) <Scott.Williams@dec.ny.gov>
Cc: Ashwin Ranna <ARanna@Geosyntec.com>; Matthew Schallinger <MSchallinger@Geosyntec.com>; James Burnett <JBurnett@Geosyntec.com>
Subject: RE: Request to Reuse Soil - Former Sperry Remington Site- North Portion IRM #2 Piles 105 and 106

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Tim,

FH sample was collected from the pile that came from the excavation north of K-wing to close the loop of the water line. FH stands for fire hydrant. Those soils have been staged separately and will be disposed of at an appropriate facility.

Sincerely,
Aron Krasnopoler

Aron Krasnopoler, Ph. D., P.E. (MD, NY)
Project Engineer

10211 Wincopin Circle, 4th Floor
Columbia, MD 21044
Phone: 410-381-4333
Fax: 410-381-4499
Mobile: 202-550-7724
www.geosyntec.com

Beech and Bonaparte 
engineering p.c.
an affiliate of Geosyntec Consultants

This electronic mail message contains information that (a) is or may be LEGALLY PRIVILEGED, CONFIDENTIAL, PROPRIETARY IN NATURE, OR OTHERWISE PROTECTED BY LAW FROM DISCLOSURE, and (b) is intended only for the use of the Addressee(s) named herein. If you are not the intended recipient, an addressee, or the person responsible for delivering this to an addressee, you are hereby notified that reading, using, copying, or distributing any part of this message is strictly prohibited. If you have received this electronic mail message in error, please contact us immediately and take the steps necessary to delete the message completely from your computer system.

From: Schneider, Timothy A (DEC) <timothy.schneider@dec.ny.gov>
Sent: Wednesday, August 1, 2018 9:31 AM
To: Aron Krasnopoler <AKrasnopoler@Geosyntec.com>; Schilling, Bernette (DEC) <bernette.schilling@dec.ny.gov>; Foti, Scott J (DEC) <scott.foti@dec.ny.gov>; Williams, Scott F (DEC) <Scott.Williams@dec.ny.gov>
Cc: Ashwin Ranna <ARanna@Geosyntec.com>; Matthew Schallinger <MSchallinger@Geosyntec.com>; James Burnett <JBurnett@Geosyntec.com>
Subject: RE: Request to Reuse Soil - Former Sperry Remington Site- North Portion IRM #2 Piles 105 and 106

Sample FH is a composite sample on the same Chain of Custody as Pile 106 (attached) and is reported/validated with Pile 106 results. Please explain why these results should not be considered related to Pile 106?

From: Aron Krasnopoler [<mailto:AKrasnopoler@Geosyntec.com>]
Sent: Wednesday, August 01, 2018 9:15 AM
To: Schneider, Timothy A (DEC) <timothy.schneider@dec.ny.gov>; Schilling, Bernette (DEC) <bernette.schilling@dec.ny.gov>; Foti, Scott J (DEC) <scott.foti@dec.ny.gov>; Williams, Scott F (DEC) <Scott.Williams@dec.ny.gov>
Cc: Ashwin Ranna <ARanna@Geosyntec.com>; Matthew Schallinger <MSchallinger@Geosyntec.com>; James Burnett <JBurnett@Geosyntec.com>
Subject: RE: Request to Reuse Soil - Former Sperry Remington Site- North Portion IRM #2 Piles 105 and 106

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Tim,

The total PCBs detected in the composites sample collected from Pile 106 are 3.2 ppm. The composite sample "FH" is not associated with Pile 106. I ask that you reconsider your review of the data for Pile 106.

Sincerely,
Aron Krasnopoler

Aron Krasnopoler, Ph. D., P.E. (MD, NY)
Project Engineer

10211 Wincopin Circle, 4th Floor
Columbia, MD 21044
Phone: 410-381-4333
Fax: 410-381-4499
Mobile: 202-550-7724
www.geosyntec.com

Beech and Bonaparte 
engineering p.c.

an affiliate of Geosyntec Consultants

This electronic mail message contains information that (a) is or may be LEGALLY PRIVILEGED, CONFIDENTIAL, PROPRIETARY IN NATURE, OR OTHERWISE PROTECTED BY LAW FROM DISCLOSURE, and (b) is intended only for the use of the Addressee(s) named herein. If you are not the intended recipient, an addressee, or the person responsible for delivering this to an addressee, you are hereby notified that reading, using, copying, or distributing any part of this message is strictly prohibited. If you have received this electronic mail message in error, please contact us immediately and take the steps necessary to delete the message completely from your computer system.

From: Schneider, Timothy A (DEC) <timothy.schneider@dec.ny.gov>
Sent: Wednesday, August 1, 2018 9:03 AM
To: Aron Krasnopoler <AKrasnopoler@Geosyntec.com>; Schilling, Bernette (DEC) <bernette.schilling@dec.ny.gov>; Foti, Scott J (DEC) <scott.foti@dec.ny.gov>; Williams, Scott F (DEC) <Scott.Williams@dec.ny.gov>
Cc: Ashwin Ranna <ARanna@Geosyntec.com>; Matthew Schallinger <MSchallinger@Geosyntec.com>; James Burnett <JBurnett@Geosyntec.com>
Subject: RE: Request to Reuse Soil - Former Sperry Remington Site- North Portion IRM #2 Piles 105 and 106

Hi Aron,

I have reviewed the Request to Reuse soils and data from Piles 105 and 106 and approve soils from Pile 105 only for reuse under a cover system at the Former Sperry Remington Site #C808022.

Data indicates the presence of total PCBs above 10 ppm in Pile 106 and therefore is not authorized for site reuse and must be disposed at an appropriate regulated facility.

Regards,

Tim

Timothy A. Schneider P.E.

Professional Engineer 1, Division of Environmental Remediation

New York State Department of Environmental Conservation

6274 East Avon-Lima Road, Avon, NY 14414

P: (585) 226-5480 | F: (585) 226-8139 | timothy.schneider@dec.ny.gov

www.dec.ny.gov |  | 

From: Aron Krasnopoler [<mailto:AKrasnopoler@Geosyntec.com>]
Sent: Tuesday, July 31, 2018 6:08 PM
To: Schneider, Timothy A (DEC) <timothy.schneider@dec.ny.gov>; Schilling, Bernette (DEC) <bernette.schilling@dec.ny.gov>; Foti, Scott J (DEC) <scott.foti@dec.ny.gov>; Williams, Scott F (DEC) <Scott.Williams@dec.ny.gov>

Cc: Ashwin Ranna <ARanna@Geosyntec.com>; Matthew Schallinger <MSchallinger@Geosyntec.com>; James Burnett <JBurnett@Geosyntec.com>

Subject: Request to Reuse Soil - Former Sperry Remington Site- North Portion IRM #2 Piles 105 and 106

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Tim,

Please find attached for your review a request to reuse soils currently stockpiled as Piles 105 and 106. These are piles of soils for potential reuse that overlay TSCA soils. The piles are currently staged at the RPL. Analytical reports and data validation are included.

Best Regards,
Aron Krasnopoler

Aron Krasnopoler, Ph. D., P.E. (MD, NY)
Project Engineer

10211 Wincopin Circle, 4th Floor
Columbia, MD 21044
Phone: 410-381-4333
Fax: 410-381-4499
Mobile: 202-550-7724
www.geosyntec.com

Beech and Bonaparte 
engineering p.c.

an affiliate of Geosyntec Consultants

[GEOSYNTec](#) | [MMI ENGINEERING](#) | [SIREM](#) | [SAVRON](#)

Follow Us – [LinkedIn](#) | [Twitter](#) | [Facebook](#) | [YouTube](#)

This electronic mail message contains information that (a) is or may be LEGALLY PRIVILEGED, CONFIDENTIAL, PROPRIETARY IN NATURE, OR OTHERWISE PROTECTED BY LAW FROM DISCLOSURE, and (b) is intended only for the use of the Addressee(s) named herein. If you are not the intended recipient, an addressee, or the person responsible for delivering this to an addressee, you are hereby notified that reading, using, copying, or distributing any part of this message is strictly prohibited. If you have received this electronic mail message in error, please contact us immediately and take the steps necessary to delete the message completely from your computer system.

From: [Schneider, Timothy A \(DEC\)](#)
To: [Aron Krasnopoler](#); [Schilling, Bernette \(DEC\)](#); [Foti, Scott J \(DEC\)](#); [Williams, Scott F \(DEC\)](#)
Cc: [Ashwin Ranna](#); [Matthew Schallinger](#); [James Burnett](#)
Subject: RE: Request to Reuse Soil - Former Sperry Remington Site- North Portion IRM #2 Windrow Section W1S2
Date: Friday, August 3, 2018 8:21:42 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)

Aron,

I have reviewed the Request to Reuse form and data from windrow section W1S2 dated 2 August 2018 and authorize the reuse of these soils as backfill below 2' below ground surface and above mean high groundwater at the Former Sperry Remington – North Portion Site #c808022.

If you have any questions please contact me.

Regards,

Tim

Timothy A. Schneider P.E.

Professional Engineer 1, Division of Environmental Remediation

New York State Department of Environmental Conservation

6274 East Avon-Lima Road, Avon, NY 14414

P: (585) 226-5480 | F: (585) 226-8139 | timothy.schneider@dec.ny.gov

www.dec.ny.gov |  | 

From: Aron Krasnopoler [<mailto:AKrasnopoler@Geosyntec.com>]

Sent: Thursday, August 02, 2018 6:43 PM

To: Schneider, Timothy A (DEC) <timothy.schneider@dec.ny.gov>; Schilling, Bernette (DEC) <bernette.schilling@dec.ny.gov>; Foti, Scott J (DEC) <scott.foti@dec.ny.gov>; Williams, Scott F (DEC) <Scott.Williams@dec.ny.gov>

Cc: Ashwin Ranna <ARanna@Geosyntec.com>; Matthew Schallinger <MSchallinger@Geosyntec.com>; James Burnett <JBurnett@Geosyntec.com>

Subject: Request to Reuse Soil - Former Sperry Remington Site- North Portion IRM #2 Windrow Section W1S2

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear Tim,

Please find attached for your review a request to reuse soils in Windrow 1 Section 2 (W1S2) in the MSA. Analytical reports and data validation are included.

Total PCBs in Windrow 1 Section 1 are greater than 10 ppm and those soils will be transported off-site for disposal at an appropriate facility.

Best Regards,
Aron Krasnopoler

Aron Krasnopoler, Ph. D., P.E. (MD, NY)
Project Engineer

10211 Wincopin Circle, 4th Floor
Columbia, MD 21044
Phone: 410-381-4333
Fax: 410-381-4499
Mobile: 202-550-7724
www.geosyntec.com

Beech and Bonaparte 
engineering p.c.

an affiliate of Geosyntec Consultants

[GEOSYNTEC](#) | [MMI ENGINEERING](#) | [SIREM](#) | [SAVRON](#)

Follow Us – [LinkedIn](#) | [Twitter](#) | [Facebook](#) | [YouTube](#)

This electronic mail message contains information that (a) is or may be LEGALLY PRIVILEGED, CONFIDENTIAL, PROPRIETARY IN NATURE, OR OTHERWISE PROTECTED BY LAW FROM DISCLOSURE, and (b) is intended only for the use of the Addressee(s) named herein. If you are not the intended recipient, an addressee, or the person responsible for delivering this to an addressee, you are hereby notified that reading, using, copying, or distributing any part of this message is strictly prohibited. If you have received this electronic mail message in error, please contact us immediately and take the steps necessary to delete the message completely from your computer system.