



CERTIFICATE OF ANALYSIS

Paul J. Leofanti, Jr.
Charter Environmental, Inc.
500 Harrison Avenue, Suite 4R
Boston, MA 02118

RE: Textron Providence (74-15-0002.134)
ESS Laboratory Work Order Number: 1507073

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED

By ESS Laboratory at 4:55 pm, Jul 17, 2015

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



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ESS Laboratory Work Order: 1507073

SAMPLE RECEIPT

The following samples were received on July 09, 2015 for the analyses specified on the enclosed Chain of Custody Record.

Low Level VOA vials were frozen by ESS Laboratory on July 6, 2015 at 18:15.

These samples were originally received on hold on July 6, 2015.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1507073-01	CB1 - PJ Keating Common Borrow	Soil	9045
1507073-02	CB2 - PJ Keating 1.5in DG	Soil	9045
1507073-03	CB3 - Materials S&S Common Borrow	Soil	9045
1507073-04	CB4 - Materials S&S SAndy Fill	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1507073-05	CB5 - JR Vinagro 1.5in Brown Gravel	Soil	9045



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Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1507073

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

CG51748-BS1 **Blank Spike recovery is below lower control limit (B-).**
Chloromethane (69% @ 70-130%)

8270D Semi-Volatile Organic Compounds

CYG0116-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Di-n-butylphthalate (121% @ 80-120%)

CYG0116-CCV1 **Initial Calibration Verification recovery is below lower control limit (ICV-).**
Hexachlorocyclopentadiene

CYG0123-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
Aniline (122% @ 80-120%), Di-n-butylphthalate (121% @ 80-120%)

CYG0123-CCV1 **Initial Calibration Verification recovery is below lower control limit (ICV-).**
Hexachlorocyclopentadiene

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

- [Definitions of Quality Control Parameters](#)
- [Semivolatile Organics Internal Standard Information](#)
- [Semivolatile Organics Surrogate Information](#)
- [Volatile Organics Internal Standard Information](#)
- [Volatile Organics Surrogate Information](#)
- [EPH and VPH Alkane Lists](#)



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Client Name: Charter Environmental, Inc.
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ESS Laboratory Work Order: 1507073

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015D - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: CB1 - PJ Keating Common Borrow
Date Sampled: 07/06/15 14:50
Percent Solids: N/A

ESS Laboratory Work Order: 1507073
ESS Laboratory Sample ID: 1507073-01
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	7.54 (N/A)		9045		1	MJV	07/06/15 18:44	S.U.	CG50640
Corrosivity (pH) Sample Temp	Soil pH measured in water at 24.4 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: CB2 - PJ Keating 1.5in DG
Date Sampled: 07/06/15 14:55
Percent Solids: N/A

ESS Laboratory Work Order: 1507073
ESS Laboratory Sample ID: 1507073-02
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	9.07 (N/A)		9045		1	MJV	07/06/15 18:44	S.U.	CG50640
Corrosivity (pH) Sample Temp	Soil pH measured in water at 24 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: CB3 - Materials S&S Common Borrow
Date Sampled: 07/06/15 15:00
Percent Solids: N/A

ESS Laboratory Work Order: 1507073
ESS Laboratory Sample ID: 1507073-03
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.82 (N/A)		9045		1	MJV	07/06/15 18:44	S.U.	CG50640
Corrosivity (pH) Sample Temp	Soil pH measured in water at 23.8 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: CB4 - Materials S&S SAndy Fill
Date Sampled: 07/06/15 15:05
Percent Solids: 97

ESS Laboratory Work Order: 1507073
ESS Laboratory Sample ID: 1507073-04
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.10)		6010C		1	KJK	07/10/15 1:20	2.45	100	CG50913
Barium	6.18 (2.10)		6010C		1	KJK	07/10/15 1:20	2.45	100	CG50913
Cadmium	ND (0.42)		6010C		1	KJK	07/10/15 1:20	2.45	100	CG50913
Chromium	1.36 (0.84)		6010C		1	KJK	07/10/15 1:20	2.45	100	CG50913
Lead	ND (4.19)		6010C		1	KJK	07/10/15 1:20	2.45	100	CG50913
Mercury	ND (0.030)		7471B		1	BJV	07/10/15 13:24	0.68	40	CG50914
Selenium	ND (4.19)		6010C		1	KJK	07/10/15 1:20	2.45	100	CG50913
Silver	ND (0.42)		6010C		1	KJK	07/10/15 1:20	2.45	100	CG50913



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: CB4 - Materials S&S SAndy Fill
Date Sampled: 07/06/15 15:05
Percent Solids: 97
Initial Volume: 6.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1507073
ESS Laboratory Sample ID: 1507073-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,1,1-Trichloroethane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,1,2,2-Tetrachloroethane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,1,2-Trichloroethane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,1-Dichloroethane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,1-Dichloroethene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,1-Dichloropropene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,2,3-Trichlorobenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,2,3-Trichloropropane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,2,4-Trichlorobenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,2,4-Trimethylbenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,2-Dibromo-3-Chloropropane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,2-Dibromoethane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,2-Dichlorobenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,2-Dichloroethane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,2-Dichloropropane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,3,5-Trimethylbenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,3-Dichlorobenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,3-Dichloropropane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,4-Dichlorobenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1,4-Dioxane	ND (0.0815)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
1-Chlorohexane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
2,2-Dichloropropane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
2-Butanone	ND (0.0408)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
2-Chlorotoluene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
2-Hexanone	ND (0.0408)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
4-Chlorotoluene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
4-Isopropyltoluene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
4-Methyl-2-Pentanone	ND (0.0408)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Acetone	ND (0.0408)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Benzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Bromobenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: CB4 - Materials S&S SAndy Fill
 Date Sampled: 07/06/15 15:05
 Percent Solids: 97
 Initial Volume: 6.3
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1507073
 ESS Laboratory Sample ID: 1507073-04
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Bromodichloromethane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Bromoform	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Bromomethane	ND (0.0082)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Carbon Disulfide	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Carbon Tetrachloride	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Chlorobenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Chloroethane	ND (0.0082)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Chloroform	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Chloromethane	ND (0.0082)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
cis-1,2-Dichloroethene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
cis-1,3-Dichloropropene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Dibromochloromethane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Dibromomethane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Dichlorodifluoromethane	ND (0.0082)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Diethyl Ether	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Di-isopropyl ether	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Ethyl tertiary-butyl ether	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Ethylbenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Hexachlorobutadiene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Isopropylbenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Methyl tert-Butyl Ether	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Methylene Chloride	ND (0.0204)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Naphthalene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
n-Butylbenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
n-Propylbenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
sec-Butylbenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Styrene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
tert-Butylbenzene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Tertiary-amyl methyl ether	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Tetrachloroethene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Tetrahydrofuran	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: CB4 - Materials S&S SAndy Fill
Date Sampled: 07/06/15 15:05
Percent Solids: 97
Initial Volume: 6.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1507073
ESS Laboratory Sample ID: 1507073-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
trans-1,2-Dichloroethene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
trans-1,3-Dichloropropene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Trichloroethene	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Trichlorofluoromethane	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Vinyl Acetate	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Vinyl Chloride	ND (0.0082)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Xylene O	ND (0.0041)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Xylene P,M	ND (0.0082)		8260B Low		1	07/17/15 14:27	CYG0201	CG51748
Xylenes (Total)	ND (0.0082)		8260B Low		1	07/17/15 14:27		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>92 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>92 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>88 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>90 %</i>		<i>70-130</i>



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Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: CB4 - Materials S&S SAndy Fill
Date Sampled: 07/06/15 15:05
Percent Solids: 97
Initial Volume: 19.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1507073
ESS Laboratory Sample ID: 1507073-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 7/13/15 11:05

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (40.1)		8100M		1	07/14/15 14:28	CYG0140	CG51308
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		68 %		40-140				



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Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: CB4 - Materials S&S SAndy Fill
Date Sampled: 07/06/15 15:05
Percent Solids: 97
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1507073
ESS Laboratory Sample ID: 1507073-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 7/10/15 13:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
1,2,4-Trichlorobenzene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
1,2-Dichlorobenzene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
1,3-Dichlorobenzene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
1,4-Dichlorobenzene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2,3,4,6-Tetrachlorophenol	ND (1.66)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2,4,5-Trichlorophenol	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2,4,6-Trichlorophenol	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2,4-Dichlorophenol	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2,4-Dimethylphenol	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2,4-Dinitrophenol	ND (1.66)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2,4-Dinitrotoluene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2,6-Dinitrotoluene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2-Chloronaphthalene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2-Chlorophenol	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2-Methylnaphthalene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2-Methylphenol	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2-Nitroaniline	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
2-Nitrophenol	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
3,3'-Dichlorobenzidine	ND (0.663)		8270D		1	07/11/15 1:46	CYG0123	CG51029
3+4-Methylphenol	ND (0.663)		8270D		1	07/11/15 1:46	CYG0123	CG51029
3-Nitroaniline	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
4,6-Dinitro-2-Methylphenol	ND (1.66)		8270D		1	07/11/15 1:46	CYG0123	CG51029
4-Bromophenyl-phenylether	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
4-Chloro-3-Methylphenol	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
4-Chloroaniline	ND (0.663)		8270D		1	07/11/15 1:46	CYG0123	CG51029
4-Chloro-phenyl-phenyl ether	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
4-Nitroaniline	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
4-Nitrophenol	ND (1.66)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Acenaphthene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Acenaphthylene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Acetophenone	ND (0.663)		8270D		1	07/11/15 1:46	CYG0123	CG51029



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: CB4 - Materials S&S SAndy Fill
Date Sampled: 07/06/15 15:05
Percent Solids: 97
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1507073
ESS Laboratory Sample ID: 1507073-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 7/10/15 13:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.663)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Anthracene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Azobenzene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Benzo(a)anthracene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Benzo(a)pyrene	ND (0.166)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Benzo(b)fluoranthene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Benzo(g,h,i)perylene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Benzo(k)fluoranthene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Benzoic Acid	ND (1.66)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Benzyl Alcohol	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
bis(2-Chloroethoxy)methane	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
bis(2-Chloroethyl)ether	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
bis(2-chloroisopropyl)Ether	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
bis(2-Ethylhexyl)phthalate	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Butylbenzylphthalate	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Carbazole	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Chrysene	ND (0.166)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Dibenzo(a,h)Anthracene	ND (0.166)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Dibenzofuran	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Diethylphthalate	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Dimethylphthalate	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Di-n-butylphthalate	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Di-n-octylphthalate	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Fluoranthene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Fluorene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Hexachlorobenzene	ND (0.166)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Hexachlorobutadiene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Hexachlorocyclopentadiene	ND (1.66)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Hexachloroethane	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Indeno(1,2,3-cd)Pyrene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Isophorone	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Naphthalene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: CB4 - Materials S&S SAndy Fill
Date Sampled: 07/06/15 15:05
Percent Solids: 97
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1507073
ESS Laboratory Sample ID: 1507073-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 7/10/15 13:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
N-Nitrosodimethylamine	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
N-Nitroso-Di-n-Propylamine	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
N-nitrosodiphenylamine	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Pentachlorophenol	ND (1.66)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Phenanthrene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Phenol	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Pyrene	ND (0.331)		8270D		1	07/11/15 1:46	CYG0123	CG51029
Pyridine	ND (1.66)		8270D		1	07/11/15 1:46	CYG0123	CG51029

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>81 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>97 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>75 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>82 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>75 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>76 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>73 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>84 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: CB4 - Materials S&S SAndy Fill
Date Sampled: 07/06/15 15:05
Percent Solids: 97

ESS Laboratory Work Order: 1507073
ESS Laboratory Sample ID: 1507073-04
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.02 (N/A)		9045		1	MJV	07/06/15 18:44	S.U.	CG50640
Corrosivity (pH) Sample Temp	Soil pH measured in water at 23.6 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: CB5 - JR Vinagro 1.5in Brown Gravel
Date Sampled: 07/06/15 15:10
Percent Solids: N/A

ESS Laboratory Work Order: 1507073
ESS Laboratory Sample ID: 1507073-05
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	7.38 (N/A)		9045		1	MJV	07/06/15 18:44	S.U.	CG50640
Corrosivity (pH) Sample Temp	Soil pH measured in water at 23.8 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1507073

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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Total Metals

Batch CG50913 - 3050B

Blank

Arsenic	ND	2.50	mg/kg wet
Barium	ND	2.50	mg/kg wet
Cadmium	ND	0.50	mg/kg wet
Chromium	ND	1.00	mg/kg wet
Lead	ND	5.00	mg/kg wet
Selenium	ND	5.00	mg/kg wet
Silver	ND	0.50	mg/kg wet

LCS

Arsenic	118	9.62	mg/kg wet	133.0	89	80-120
Barium	217	9.62	mg/kg wet	229.0	95	80-120
Cadmium	106	1.92	mg/kg wet	123.0	86	80-120
Chromium	57.0	3.85	mg/kg wet	63.20	90	80-120
Lead	97.7	19.2	mg/kg wet	108.0	90	80-120
Selenium	66.3	19.2	mg/kg wet	81.40	81	80-120
Silver	70.0	1.92	mg/kg wet	74.80	94	80-120

LCS Dup

Arsenic	118	9.09	mg/kg wet	133.0	89	80-120	0.2	20
Barium	202	9.09	mg/kg wet	229.0	88	80-120	7	20
Cadmium	107	1.82	mg/kg wet	123.0	87	80-120	1	20
Chromium	57.2	3.64	mg/kg wet	63.20	91	80-120	0.4	20
Lead	97.5	18.2	mg/kg wet	108.0	90	80-120	0.2	20
Selenium	68.3	18.2	mg/kg wet	81.40	84	80-120	3	20
Silver	70.6	1.82	mg/kg wet	74.80	94	80-120	0.8	20

Batch CG50914 - 7471A

Blank

Mercury	ND	0.033	mg/kg wet
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LCS

Mercury	28.8	3.74	mg/kg wet	24.90	116	51-149
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LCS Dup

Mercury	30.3	3.88	mg/kg wet	24.90	122	51-149	5	20
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5035/8260B Volatile Organic Compounds / Low Level

Batch CG51748 - 5035

Blank

1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethene	ND	0.0050	mg/kg wet
1,1-Dichloropropene	ND	0.0050	mg/kg wet
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1507073

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CG51748 - 5035

1,2,3-Trichloropropane	ND	0.0050	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet
1,2-Dibromoethane	ND	0.0050	mg/kg wet
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet
1,2-Dichloroethane	ND	0.0050	mg/kg wet
1,2-Dichloropropane	ND	0.0050	mg/kg wet
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet
1,3-Dichloropropane	ND	0.0050	mg/kg wet
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet
1,4-Dioxane	ND	0.100	mg/kg wet
1-Chlorohexane	ND	0.0050	mg/kg wet
2,2-Dichloropropane	ND	0.0050	mg/kg wet
2-Butanone	ND	0.0500	mg/kg wet
2-Chlorotoluene	ND	0.0050	mg/kg wet
2-Hexanone	ND	0.0500	mg/kg wet
4-Chlorotoluene	ND	0.0050	mg/kg wet
4-Isopropyltoluene	ND	0.0050	mg/kg wet
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet
Acetone	ND	0.0500	mg/kg wet
Benzene	ND	0.0050	mg/kg wet
Bromobenzene	ND	0.0050	mg/kg wet
Bromochloromethane	ND	0.0050	mg/kg wet
Bromodichloromethane	ND	0.0050	mg/kg wet
Bromoform	ND	0.0050	mg/kg wet
Bromomethane	ND	0.0100	mg/kg wet
Carbon Disulfide	ND	0.0050	mg/kg wet
Carbon Tetrachloride	ND	0.0050	mg/kg wet
Chlorobenzene	ND	0.0050	mg/kg wet
Chloroethane	ND	0.0100	mg/kg wet
Chloroform	ND	0.0050	mg/kg wet
Chloromethane	ND	0.0100	mg/kg wet
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet
Dibromochloromethane	ND	0.0050	mg/kg wet
Dibromomethane	ND	0.0050	mg/kg wet
Dichlorodifluoromethane	ND	0.0100	mg/kg wet
Diethyl Ether	ND	0.0050	mg/kg wet
Di-isopropyl ether	ND	0.0050	mg/kg wet
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet
Ethylbenzene	ND	0.0050	mg/kg wet
Hexachlorobutadiene	ND	0.0050	mg/kg wet
Isopropylbenzene	ND	0.0050	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1507073

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CG51748 - 5035

Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0250	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0460		mg/kg wet	0.05000		92	70-130			
Surrogate: 4-Bromofluorobenzene	0.0454		mg/kg wet	0.05000		91	70-130			
Surrogate: Dibromofluoromethane	0.0440		mg/kg wet	0.05000		88	70-130			
Surrogate: Toluene-d8	0.0452		mg/kg wet	0.05000		90	70-130			

LCS

1,1,1,2-Tetrachloroethane	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
1,1,1-Trichloroethane	0.0542	0.0050	mg/kg wet	0.05000		108	70-130			
1,1,2,2-Tetrachloroethane	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
1,1,2-Trichloroethane	0.0513	0.0050	mg/kg wet	0.05000		103	70-130			
1,1-Dichloroethane	0.0487	0.0050	mg/kg wet	0.05000		97	70-130			
1,1-Dichloroethene	0.0557	0.0050	mg/kg wet	0.05000		111	70-130			
1,1-Dichloropropene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
1,2,3-Trichlorobenzene	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
1,2,3-Trichloropropane	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,2,4-Trichlorobenzene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130			
1,2,4-Trimethylbenzene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
1,2-Dibromo-3-Chloropropane	0.0591	0.0050	mg/kg wet	0.05000		118	70-130			
1,2-Dibromoethane	0.0574	0.0050	mg/kg wet	0.05000		115	70-130			
1,2-Dichlorobenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,2-Dichloroethane	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			
1,2-Dichloropropane	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
1,3,5-Trimethylbenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
1,3-Dichlorobenzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
1,3-Dichloropropane	0.0567	0.0050	mg/kg wet	0.05000		113	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1507073

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CG51748 - 5035

1,4-Dichlorobenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
1,4-Dioxane	1.09	0.100	mg/kg wet	1.000		109	70-130			
1-Chlorohexane	0.0542	0.0050	mg/kg wet	0.05000		108	70-130			
2,2-Dichloropropane	0.0569	0.0050	mg/kg wet	0.05000		114	70-130			
2-Butanone	0.217	0.0500	mg/kg wet	0.2500		87	70-130			
2-Chlorotoluene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
2-Hexanone	0.208	0.0500	mg/kg wet	0.2500		83	70-130			
4-Chlorotoluene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
4-Isopropyltoluene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
4-Methyl-2-Pentanone	0.208	0.0500	mg/kg wet	0.2500		83	70-130			
Acetone	0.238	0.0500	mg/kg wet	0.2500		95	70-130			
Benzene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
Bromobenzene	0.0541	0.0050	mg/kg wet	0.05000		108	70-130			
Bromochloromethane	0.0567	0.0050	mg/kg wet	0.05000		113	70-130			
Bromodichloromethane	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
Bromoform	0.0536	0.0050	mg/kg wet	0.05000		107	70-130			
Bromomethane	0.0525	0.0100	mg/kg wet	0.05000		105	70-130			
Carbon Disulfide	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
Carbon Tetrachloride	0.0555	0.0050	mg/kg wet	0.05000		111	70-130			
Chlorobenzene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			
Chloroethane	0.0461	0.0100	mg/kg wet	0.05000		92	70-130			
Chloroform	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			
Chloromethane	0.0346	0.0100	mg/kg wet	0.05000		69	70-130			B-
cis-1,2-Dichloroethene	0.0553	0.0050	mg/kg wet	0.05000		111	70-130			
cis-1,3-Dichloropropene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
Dibromochloromethane	0.0546	0.0050	mg/kg wet	0.05000		109	70-130			
Dibromomethane	0.0542	0.0050	mg/kg wet	0.05000		108	70-130			
Dichlorodifluoromethane	0.0407	0.0100	mg/kg wet	0.05000		81	70-130			
Diethyl Ether	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
Di-isopropyl ether	0.0436	0.0050	mg/kg wet	0.05000		87	70-130			
Ethyl tertiary-butyl ether	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
Ethylbenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
Hexachlorobutadiene	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
Isopropylbenzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
Methyl tert-Butyl Ether	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
Methylene Chloride	0.0511	0.0250	mg/kg wet	0.05000		102	70-130			
Naphthalene	0.0418	0.0050	mg/kg wet	0.05000		84	70-130			
n-Butylbenzene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
n-Propylbenzene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
sec-Butylbenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
Styrene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
tert-Butylbenzene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
Tertiary-amyl methyl ether	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Tetrachloroethene	0.0581	0.0050	mg/kg wet	0.05000		116	70-130			
Tetrahydrofuran	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1507073

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CG51748 - 5035

Toluene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
trans-1,2-Dichloroethene	0.0554	0.0050	mg/kg wet	0.05000		111	70-130			
trans-1,3-Dichloropropene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
Trichloroethene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
Trichlorofluoromethane	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
Vinyl Acetate	0.0564	0.0050	mg/kg wet	0.05000		113	70-130			
Vinyl Chloride	0.0426	0.0100	mg/kg wet	0.05000		85	70-130			
Xylene O	0.0565	0.0050	mg/kg wet	0.05000		113	70-130			
Xylene P,M	0.110	0.0100	mg/kg wet	0.1000		110	70-130			
Xylenes (Total)	0.167	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0571		mg/kg wet	0.05000		114	70-130			
Surrogate: 4-Bromofluorobenzene	0.0583		mg/kg wet	0.05000		117	70-130			
Surrogate: Dibromofluoromethane	0.0556		mg/kg wet	0.05000		111	70-130			
Surrogate: Toluene-d8	0.0561		mg/kg wet	0.05000		112	70-130			

LCS Dup

1,1,1,2-Tetrachloroethane	0.0530	0.0050	mg/kg wet	0.05000		106	70-130	1	25	
1,1,1-Trichloroethane	0.0545	0.0050	mg/kg wet	0.05000		109	70-130	0.6	25	
1,1,2,2-Tetrachloroethane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.1	25	
1,1,2-Trichloroethane	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	0.7	25	
1,1-Dichloroethane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	0.7	25	
1,1-Dichloroethene	0.0552	0.0050	mg/kg wet	0.05000		110	70-130	1	25	
1,1-Dichloropropene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	0.8	25	
1,2,3-Trichlorobenzene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	0.6	25	
1,2,3-Trichloropropane	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	0.3	25	
1,2,4-Trichlorobenzene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
1,2,4-Trimethylbenzene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	2	25	
1,2-Dibromo-3-Chloropropane	0.0588	0.0050	mg/kg wet	0.05000		118	70-130	0.6	25	
1,2-Dibromoethane	0.0584	0.0050	mg/kg wet	0.05000		117	70-130	2	25	
1,2-Dichlorobenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	2	25	
1,2-Dichloroethane	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	1	25	
1,2-Dichloropropane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	0.9	25	
1,3,5-Trimethylbenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	3	25	
1,3-Dichlorobenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	2	25	
1,3-Dichloropropane	0.0566	0.0050	mg/kg wet	0.05000		113	70-130	0.2	25	
1,4-Dichlorobenzene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.6	25	
1,4-Dioxane	1.14	0.100	mg/kg wet	1.000		114	70-130	4	20	
1-Chlorohexane	0.0537	0.0050	mg/kg wet	0.05000		107	70-130	1	25	
2,2-Dichloropropane	0.0560	0.0050	mg/kg wet	0.05000		112	70-130	2	25	
2-Butanone	0.226	0.0500	mg/kg wet	0.2500		90	70-130	4	25	
2-Chlorotoluene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	2	25	
2-Hexanone	0.235	0.0500	mg/kg wet	0.2500		94	70-130	12	25	
4-Chlorotoluene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	3	25	
4-Isopropyltoluene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	2	25	
4-Methyl-2-Pentanone	0.216	0.0500	mg/kg wet	0.2500		86	70-130	4	25	
Acetone	0.271	0.0500	mg/kg wet	0.2500		108	70-130	13	25	



CERTIFICATE OF ANALYSIS

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5035/8260B Volatile Organic Compounds / Low Level

Batch CG51748 - 5035

Benzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	0.3	25	
Bromobenzene	0.0529	0.0050	mg/kg wet	0.05000		106	70-130	2	25	
Bromochloromethane	0.0576	0.0050	mg/kg wet	0.05000		115	70-130	2	25	
Bromodichloromethane	0.0543	0.0050	mg/kg wet	0.05000		109	70-130	0.8	25	
Bromoform	0.0542	0.0050	mg/kg wet	0.05000		108	70-130	1	25	
Bromomethane	0.0504	0.0100	mg/kg wet	0.05000		101	70-130	4	25	
Carbon Disulfide	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	0.5	25	
Carbon Tetrachloride	0.0560	0.0050	mg/kg wet	0.05000		112	70-130	1	25	
Chlorobenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	0.7	25	
Chloroethane	0.0497	0.0100	mg/kg wet	0.05000		99	70-130	7	25	
Chloroform	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	0.6	25	
Chloromethane	0.0349	0.0100	mg/kg wet	0.05000		70	70-130	0.9	25	
cis-1,2-Dichloroethene	0.0553	0.0050	mg/kg wet	0.05000		111	70-130	0.1	25	
cis-1,3-Dichloropropene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	0.3	25	
Dibromochloromethane	0.0550	0.0050	mg/kg wet	0.05000		110	70-130	0.7	25	
Dibromomethane	0.0547	0.0050	mg/kg wet	0.05000		109	70-130	0.8	25	
Dichlorodifluoromethane	0.0406	0.0100	mg/kg wet	0.05000		81	70-130	0.3	25	
Diethyl Ether	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	0.2	25	
Di-isopropyl ether	0.0430	0.0050	mg/kg wet	0.05000		86	70-130	1	25	
Ethyl tertiary-butyl ether	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	0.6	25	
Ethylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	0.6	25	
Hexachlorobutadiene	0.0537	0.0050	mg/kg wet	0.05000		107	70-130	2	25	
Isopropylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	2	25	
Methyl tert-Butyl Ether	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
Methylene Chloride	0.0510	0.0250	mg/kg wet	0.05000		102	70-130	0.3	25	
Naphthalene	0.0420	0.0050	mg/kg wet	0.05000		84	70-130	0.6	25	
n-Butylbenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130	3	25	
n-Propylbenzene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130	2	25	
sec-Butylbenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	2	25	
Styrene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
tert-Butylbenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	2	25	
Tertiary-amyl methyl ether	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	0.5	25	
Tetrachloroethene	0.0624	0.0050	mg/kg wet	0.05000		125	70-130	7	25	
Tetrahydrofuran	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	7	25	
Toluene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	0.2	25	
trans-1,2-Dichloroethene	0.0550	0.0050	mg/kg wet	0.05000		110	70-130	0.8	25	
trans-1,3-Dichloropropene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	1	25	
Trichloroethene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	2	25	
Trichlorofluoromethane	0.0539	0.0050	mg/kg wet	0.05000		108	70-130	2	25	
Vinyl Acetate	0.0560	0.0050	mg/kg wet	0.05000		112	70-130	0.7	25	
Vinyl Chloride	0.0410	0.0100	mg/kg wet	0.05000		82	70-130	4	25	
Xylene O	0.0556	0.0050	mg/kg wet	0.05000		111	70-130	2	25	
Xylene P,M	0.109	0.0100	mg/kg wet	0.1000		109	70-130	0.5	25	
Xylenes (Total)	0.165	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0568		mg/kg wet	0.05000		114	70-130			



CERTIFICATE OF ANALYSIS

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5035/8260B Volatile Organic Compounds / Low Level

Batch CG51748 - 5035

Surrogate: 4-Bromofluorobenzene	0.0588		mg/kg wet	0.05000		118	70-130			
Surrogate: Dibromofluoromethane	0.0564		mg/kg wet	0.05000		113	70-130			
Surrogate: Toluene-d8	0.0557		mg/kg wet	0.05000		111	70-130			

8100M Total Petroleum Hydrocarbons

Batch CG51308 - 3546

Blank

Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							

Surrogate: O-Terphenyl	5.26		mg/kg wet	5.000		105	40-140			
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LCS

Decane (C10)	2.2	0.2	mg/kg wet	2.500		89	40-140			
Docosane (C22)	2.4	0.2	mg/kg wet	2.500		97	40-140			
Dodecane (C12)	2.3	0.2	mg/kg wet	2.500		92	40-140			
Eicosane (C20)	2.4	0.2	mg/kg wet	2.500		96	40-140			
Hexacosane (C26)	2.6	0.2	mg/kg wet	2.500		103	40-140			
Hexadecane (C16)	2.4	0.2	mg/kg wet	2.500		97	40-140			
Nonadecane (C19)	2.4	0.2	mg/kg wet	2.500		95	40-140			
Nonane (C9)	1.9	0.2	mg/kg wet	2.500		77	30-140			
Octacosane (C28)	2.5	0.2	mg/kg wet	2.500		102	40-140			
Octadecane (C18)	2.4	0.2	mg/kg wet	2.500		96	40-140			
Tetracosane (C24)	2.3	0.2	mg/kg wet	2.500		94	40-140			
Tetradecane (C14)	2.3	0.2	mg/kg wet	2.500		94	40-140			
Total Petroleum Hydrocarbons	31.4	37.5	mg/kg wet	35.00		90	40-140			
Triacontane (C30)	2.5	0.2	mg/kg wet	2.500		101	40-140			

Surrogate: O-Terphenyl	5.23		mg/kg wet	5.000		105	40-140			
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LCS Dup

Decane (C10)	2.2	0.2	mg/kg wet	2.500		90	40-140	0.4	25	
Docosane (C22)	2.5	0.2	mg/kg wet	2.500		99	40-140	2	25	
Dodecane (C12)	2.3	0.2	mg/kg wet	2.500		94	40-140	1	25	



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8100M Total Petroleum Hydrocarbons

Batch CG51308 - 3546

Eicosane (C20)	2.5	0.2	mg/kg wet	2.500		98	40-140	2	25	
Hexacosane (C26)	2.6	0.2	mg/kg wet	2.500		105	40-140	2	25	
Hexadecane (C16)	2.5	0.2	mg/kg wet	2.500		99	40-140	2	25	
Nonadecane (C19)	2.4	0.2	mg/kg wet	2.500		97	40-140	2	25	
Nonane (C9)	1.9	0.2	mg/kg wet	2.500		77	30-140	0.2	25	
Octacosane (C28)	2.6	0.2	mg/kg wet	2.500		104	40-140	2	25	
Octadecane (C18)	2.5	0.2	mg/kg wet	2.500		98	40-140	2	25	
Tetracosane (C24)	2.4	0.2	mg/kg wet	2.500		95	40-140	2	25	
Tetradecane (C14)	2.4	0.2	mg/kg wet	2.500		96	40-140	2	25	
Total Petroleum Hydrocarbons	31.7	37.5	mg/kg wet	35.00		90	40-140	1	25	
Triacotane (C30)	2.6	0.2	mg/kg wet	2.500		103	40-140	2	25	

Surrogate: O-Terphenyl 5.27 mg/kg wet 5.000 105 40-140

8270D Semi-Volatile Organic Compounds

Batch CG51029 - 3546

Blank										
1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,3,4,6-Tetrachlorophenol	ND	1.67	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitroaniline	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3'-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
3-Nitroaniline	ND	0.333	mg/kg wet							
4,6-Dinitro-2-Methylphenol	ND	1.67	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloro-3-Methylphenol	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Chloro-phenyl-phenyl ether	ND	0.333	mg/kg wet							
4-Nitroaniline	ND	0.333	mg/kg wet							



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8270D Semi-Volatile Organic Compounds

Batch CG51029 - 3546

4-Nitrophenol	ND	1.67	mg/kg wet
Acenaphthene	ND	0.333	mg/kg wet
Acenaphthylene	ND	0.333	mg/kg wet
Acetophenone	ND	0.667	mg/kg wet
Aniline	ND	0.667	mg/kg wet
Anthracene	ND	0.333	mg/kg wet
Azobenzene	ND	0.333	mg/kg wet
Benzo(a)anthracene	ND	0.333	mg/kg wet
Benzo(a)pyrene	ND	0.167	mg/kg wet
Benzo(b)fluoranthene	ND	0.333	mg/kg wet
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet
Benzo(k)fluoranthene	ND	0.333	mg/kg wet
Benzoic Acid	ND	1.67	mg/kg wet
Benzyl Alcohol	ND	0.333	mg/kg wet
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet
Butylbenzylphthalate	ND	0.333	mg/kg wet
Carbazole	ND	0.333	mg/kg wet
Chrysene	ND	0.167	mg/kg wet
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet
Dibenzofuran	ND	0.333	mg/kg wet
Diethylphthalate	ND	0.333	mg/kg wet
Dimethylphthalate	ND	0.333	mg/kg wet
Di-n-butylphthalate	ND	0.333	mg/kg wet
Di-n-octylphthalate	ND	0.333	mg/kg wet
Fluoranthene	ND	0.333	mg/kg wet
Fluorene	ND	0.333	mg/kg wet
Hexachlorobenzene	ND	0.167	mg/kg wet
Hexachlorobutadiene	ND	0.333	mg/kg wet
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet
Hexachloroethane	ND	0.333	mg/kg wet
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet
Isophorone	ND	0.333	mg/kg wet
Naphthalene	ND	0.333	mg/kg wet
Nitrobenzene	ND	0.333	mg/kg wet
N-Nitrosodimethylamine	ND	0.333	mg/kg wet
N-Nitroso-Di-n-Propylamine	ND	0.333	mg/kg wet
N-nitrosodiphenylamine	ND	0.333	mg/kg wet
Pentachlorophenol	ND	1.67	mg/kg wet
Phenanthrene	ND	0.333	mg/kg wet
Phenol	ND	0.333	mg/kg wet
Pyrene	ND	0.333	mg/kg wet
Pyridine	ND	1.67	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1507073

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CG51029 - 3546

Surrogate: 1,2-Dichlorobenzene-d4	3.00		mg/kg wet	6.667		45	30-130			
Surrogate: 2,4,6-Tribromophenol	5.26		mg/kg wet	10.00		53	30-130			
Surrogate: 2-Chlorophenol-d4	4.25		mg/kg wet	10.00		43	30-130			
Surrogate: 2-Fluorobiphenyl	2.99		mg/kg wet	6.667		45	30-130			
Surrogate: 2-Fluorophenol	4.26		mg/kg wet	10.00		43	30-130			
Surrogate: Nitrobenzene-d5	2.79		mg/kg wet	6.667		42	30-130			
Surrogate: Phenol-d6	4.19		mg/kg wet	10.00		42	30-130			
Surrogate: p-Terphenyl-d14	2.98		mg/kg wet	6.667		45	30-130			

LCS

1,1-Biphenyl	2.86	0.333	mg/kg wet	3.333		86	40-140			
1,2,4-Trichlorobenzene	2.81	0.333	mg/kg wet	3.333		84	40-140			
1,2-Dichlorobenzene	2.73	0.333	mg/kg wet	3.333		82	40-140			
1,3-Dichlorobenzene	2.75	0.333	mg/kg wet	3.333		82	40-140			
1,4-Dichlorobenzene	2.77	0.333	mg/kg wet	3.333		83	40-140			
2,3,4,6-Tetrachlorophenol	2.98	1.67	mg/kg wet	3.333		89	30-130			
2,4,5-Trichlorophenol	2.95	0.333	mg/kg wet	3.333		89	30-130			
2,4,6-Trichlorophenol	3.12	0.333	mg/kg wet	3.333		94	30-130			
2,4-Dichlorophenol	2.90	0.333	mg/kg wet	3.333		87	30-130			
2,4-Dimethylphenol	2.96	0.333	mg/kg wet	3.333		89	30-130			
2,4-Dinitrophenol	2.63	1.67	mg/kg wet	3.333		79	30-130			
2,4-Dinitrotoluene	3.14	0.333	mg/kg wet	3.333		94	40-140			
2,6-Dinitrotoluene	3.22	0.333	mg/kg wet	3.333		97	40-140			
2-Chloronaphthalene	2.46	0.333	mg/kg wet	3.333		74	40-140			
2-Chlorophenol	2.63	0.333	mg/kg wet	3.333		79	30-130			
2-Methylnaphthalene	2.69	0.333	mg/kg wet	3.333		81	40-140			
2-Methylphenol	2.90	0.333	mg/kg wet	3.333		87	30-130			
2-Nitroaniline	2.94	0.333	mg/kg wet	3.333		88	40-140			
2-Nitrophenol	3.03	0.333	mg/kg wet	3.333		91	30-130			
3,3'-Dichlorobenzidine	2.85	0.667	mg/kg wet	3.333		85	40-140			
3+4-Methylphenol	5.82	0.667	mg/kg wet	6.667		87	30-130			
3-Nitroaniline	3.05	0.333	mg/kg wet	3.333		92	40-140			
4,6-Dinitro-2-Methylphenol	3.12	1.67	mg/kg wet	3.333		94	30-130			
4-Bromophenyl-phenylether	3.25	0.333	mg/kg wet	3.333		98	40-140			
4-Chloro-3-Methylphenol	2.96	0.333	mg/kg wet	3.333		89	30-130			
4-Chloroaniline	2.54	0.667	mg/kg wet	3.333		76	40-140			
4-Chloro-phenyl-phenyl ether	2.74	0.333	mg/kg wet	3.333		82	40-140			
4-Nitroaniline	2.94	0.333	mg/kg wet	3.333		88	40-140			
4-Nitrophenol	3.35	1.67	mg/kg wet	3.333		101	30-130			
Acenaphthene	2.85	0.333	mg/kg wet	3.333		85	40-140			
Acenaphthylene	2.98	0.333	mg/kg wet	3.333		89	40-140			
Acetophenone	2.84	0.667	mg/kg wet	3.333		85	40-140			
Aniline	2.32	0.667	mg/kg wet	3.333		70	40-140			
Anthracene	2.98	0.333	mg/kg wet	3.333		89	40-140			
Azobenzene	3.02	0.333	mg/kg wet	3.333		91	40-140			
Benzo(a)anthracene	3.08	0.333	mg/kg wet	3.333		92	40-140			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1507073

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CG51029 - 3546

Benzo(a)pyrene	3.20	0.167	mg/kg wet	3.333		96	40-140			
Benzo(b)fluoranthene	3.09	0.333	mg/kg wet	3.333		93	40-140			
Benzo(g,h,i)perylene	3.35	0.333	mg/kg wet	3.333		100	40-140			
Benzo(k)fluoranthene	2.92	0.333	mg/kg wet	3.333		88	40-140			
Benzoic Acid	3.08	1.67	mg/kg wet	3.333		92	40-140			
Benzyl Alcohol	3.48	0.333	mg/kg wet	3.333		104	40-140			
bis(2-Chloroethoxy)methane	2.90	0.333	mg/kg wet	3.333		87	40-140			
bis(2-Chloroethyl)ether	2.81	0.333	mg/kg wet	3.333		84	40-140			
bis(2-chloroisopropyl)Ether	2.78	0.333	mg/kg wet	3.333		83	40-140			
bis(2-Ethylhexyl)phthalate	3.39	0.333	mg/kg wet	3.333		102	40-140			
Butylbenzylphthalate	3.81	0.333	mg/kg wet	3.333		114	40-140			
Carbazole	3.21	0.333	mg/kg wet	3.333		96	40-140			
Chrysene	3.15	0.167	mg/kg wet	3.333		94	40-140			
Dibenzo(a,h)Anthracene	3.47	0.167	mg/kg wet	3.333		104	40-140			
Dibenzofuran	2.79	0.333	mg/kg wet	3.333		84	40-140			
Diethylphthalate	2.94	0.333	mg/kg wet	3.333		88	40-140			
Dimethylphthalate	3.12	0.333	mg/kg wet	3.333		94	40-140			
Di-n-butylphthalate	3.43	0.333	mg/kg wet	3.333		103	40-140			
Di-n-octylphthalate	3.44	0.333	mg/kg wet	3.333		103	40-140			
Fluoranthene	3.31	0.333	mg/kg wet	3.333		99	40-140			
Fluorene	2.83	0.333	mg/kg wet	3.333		85	40-140			
Hexachlorobenzene	2.97	0.167	mg/kg wet	3.333		89	40-140			
Hexachlorobutadiene	2.67	0.333	mg/kg wet	3.333		80	40-140			
Hexachlorocyclopentadiene	3.11	1.67	mg/kg wet	3.333		93	40-140			
Hexachloroethane	2.55	0.333	mg/kg wet	3.333		76	40-140			
Indeno(1,2,3-cd)Pyrene	3.55	0.333	mg/kg wet	3.333		106	40-140			
Isophorone	2.91	0.333	mg/kg wet	3.333		87	40-140			
Naphthalene	2.87	0.333	mg/kg wet	3.333		86	40-140			
Nitrobenzene	2.79	0.333	mg/kg wet	3.333		84	40-140			
N-Nitrosodimethylamine	2.94	0.333	mg/kg wet	3.333		88	40-140			
N-Nitroso-Di-n-Propylamine	2.70	0.333	mg/kg wet	3.333		81	40-140			
N-nitrosodiphenylamine	2.95	0.333	mg/kg wet	3.333		89	40-140			
Pentachlorophenol	3.41	1.67	mg/kg wet	3.333		102	30-130			
Phenanthrene	2.98	0.333	mg/kg wet	3.333		89	40-140			
Phenol	2.91	0.333	mg/kg wet	3.333		87	30-130			
Pyrene	3.13	0.333	mg/kg wet	3.333		94	40-140			
Pyridine	2.78	1.67	mg/kg wet	3.333		83	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	2.98		mg/kg wet	6.667		45	30-130			
Surrogate: 2,4,6-Tribromophenol	5.11		mg/kg wet	10.00		51	30-130			
Surrogate: 2-Chlorophenol-d4	4.36		mg/kg wet	10.00		44	30-130			
Surrogate: 2-Fluorobiphenyl	2.94		mg/kg wet	6.667		44	30-130			
Surrogate: 2-Fluorophenol	4.69		mg/kg wet	10.00		47	30-130			
Surrogate: Nitrobenzene-d5	3.01		mg/kg wet	6.667		45	30-130			
Surrogate: Phenol-d6	4.84		mg/kg wet	10.00		48	30-130			
Surrogate: p-Terphenyl-d14	3.47		mg/kg wet	6.667		52	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1507073

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CG51029 - 3546

LCS Dup

1,1-Biphenyl	3.09	0.333	mg/kg wet	3.333		93	40-140	8	30	
1,2,4-Trichlorobenzene	3.02	0.333	mg/kg wet	3.333		91	40-140	7	30	
1,2-Dichlorobenzene	2.96	0.333	mg/kg wet	3.333		89	40-140	8	30	
1,3-Dichlorobenzene	3.02	0.333	mg/kg wet	3.333		91	40-140	10	30	
1,4-Dichlorobenzene	3.04	0.333	mg/kg wet	3.333		91	40-140	9	30	
2,3,4,6-Tetrachlorophenol	3.16	1.67	mg/kg wet	3.333		95	30-130	6	30	
2,4,5-Trichlorophenol	3.18	0.333	mg/kg wet	3.333		95	30-130	7	30	
2,4,6-Trichlorophenol	3.37	0.333	mg/kg wet	3.333		101	30-130	8	30	
2,4-Dichlorophenol	3.07	0.333	mg/kg wet	3.333		92	30-130	6	30	
2,4-Dimethylphenol	3.16	0.333	mg/kg wet	3.333		95	30-130	6	30	
2,4-Dinitrophenol	2.82	1.67	mg/kg wet	3.333		85	30-130	7	30	
2,4-Dinitrotoluene	3.33	0.333	mg/kg wet	3.333		100	40-140	6	30	
2,6-Dinitrotoluene	3.44	0.333	mg/kg wet	3.333		103	40-140	7	30	
2-Chloronaphthalene	2.67	0.333	mg/kg wet	3.333		80	40-140	8	30	
2-Chlorophenol	2.82	0.333	mg/kg wet	3.333		85	30-130	7	30	
2-Methylnaphthalene	2.85	0.333	mg/kg wet	3.333		85	40-140	6	30	
2-Methylphenol	3.10	0.333	mg/kg wet	3.333		93	30-130	7	30	
2-Nitroaniline	3.19	0.333	mg/kg wet	3.333		96	40-140	8	30	
2-Nitrophenol	3.27	0.333	mg/kg wet	3.333		98	30-130	8	30	
3,3'-Dichlorobenzidine	3.07	0.667	mg/kg wet	3.333		92	40-140	7	30	
3+4-Methylphenol	5.97	0.667	mg/kg wet	6.667		89	30-130	2	30	
3-Nitroaniline	3.28	0.333	mg/kg wet	3.333		98	40-140	7	30	
4,6-Dinitro-2-Methylphenol	3.35	1.67	mg/kg wet	3.333		101	30-130	7	30	
4-Bromophenyl-phenylether	3.42	0.333	mg/kg wet	3.333		103	40-140	5	30	
4-Chloro-3-Methylphenol	3.11	0.333	mg/kg wet	3.333		93	30-130	5	30	
4-Chloroaniline	2.67	0.667	mg/kg wet	3.333		80	40-140	5	30	
4-Chloro-phenyl-phenyl ether	2.93	0.333	mg/kg wet	3.333		88	40-140	7	30	
4-Nitroaniline	3.11	0.333	mg/kg wet	3.333		93	40-140	6	30	
4-Nitrophenol	3.53	1.67	mg/kg wet	3.333		106	30-130	5	30	
Acenaphthene	3.08	0.333	mg/kg wet	3.333		92	40-140	8	30	
Acenaphthylene	3.20	0.333	mg/kg wet	3.333		96	40-140	7	30	
Acetophenone	3.05	0.667	mg/kg wet	3.333		91	40-140	7	30	
Aniline	2.52	0.667	mg/kg wet	3.333		76	40-140	8	30	
Anthracene	3.17	0.333	mg/kg wet	3.333		95	40-140	6	30	
Azobenzene	3.25	0.333	mg/kg wet	3.333		97	40-140	7	30	
Benzo(a)anthracene	3.28	0.333	mg/kg wet	3.333		98	40-140	6	30	
Benzo(a)pyrene	3.42	0.167	mg/kg wet	3.333		103	40-140	6	30	
Benzo(b)fluoranthene	3.25	0.333	mg/kg wet	3.333		97	40-140	5	30	
Benzo(g,h,i)perylene	3.57	0.333	mg/kg wet	3.333		107	40-140	6	30	
Benzo(k)fluoranthene	3.17	0.333	mg/kg wet	3.333		95	40-140	8	30	
Benzoic Acid	3.27	1.67	mg/kg wet	3.333		98	40-140	6	30	
Benzyl Alcohol	3.09	0.333	mg/kg wet	3.333		93	40-140	12	30	
bis(2-Chloroethoxy)methane	3.10	0.333	mg/kg wet	3.333		93	40-140	7	30	
bis(2-Chloroethyl)ether	3.03	0.333	mg/kg wet	3.333		91	40-140	8	30	



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1507073

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CG51029 - 3546										
bis(2-chloroisopropyl)Ether	3.03	0.333	mg/kg wet	3.333		91	40-140	9	30	
bis(2-Ethylhexyl)phthalate	3.62	0.333	mg/kg wet	3.333		109	40-140	6	30	
Butylbenzylphthalate	4.08	0.333	mg/kg wet	3.333		122	40-140	7	30	
Carbazole	3.42	0.333	mg/kg wet	3.333		102	40-140	6	30	
Chrysene	3.36	0.167	mg/kg wet	3.333		101	40-140	6	30	
Dibenzo(a,h)Anthracene	3.71	0.167	mg/kg wet	3.333		111	40-140	7	30	
Dibenzofuran	2.99	0.333	mg/kg wet	3.333		90	40-140	7	30	
Diethylphthalate	3.13	0.333	mg/kg wet	3.333		94	40-140	6	30	
Dimethylphthalate	3.34	0.333	mg/kg wet	3.333		100	40-140	7	30	
Di-n-butylphthalate	3.63	0.333	mg/kg wet	3.333		109	40-140	6	30	
Di-n-octylphthalate	3.69	0.333	mg/kg wet	3.333		111	40-140	7	30	
Fluoranthene	3.52	0.333	mg/kg wet	3.333		106	40-140	6	30	
Fluorene	3.01	0.333	mg/kg wet	3.333		90	40-140	6	30	
Hexachlorobenzene	3.18	0.167	mg/kg wet	3.333		95	40-140	7	30	
Hexachlorobutadiene	2.90	0.333	mg/kg wet	3.333		87	40-140	8	30	
Hexachlorocyclopentadiene	3.40	1.67	mg/kg wet	3.333		102	40-140	9	30	
Hexachloroethane	2.83	0.333	mg/kg wet	3.333		85	40-140	10	30	
Indeno(1,2,3-cd)Pyrene	3.80	0.333	mg/kg wet	3.333		114	40-140	7	30	
Isophorone	3.08	0.333	mg/kg wet	3.333		92	40-140	6	30	
Naphthalene	3.05	0.333	mg/kg wet	3.333		92	40-140	6	30	
Nitrobenzene	2.99	0.333	mg/kg wet	3.333		90	40-140	7	30	
N-Nitrosodimethylamine	3.30	0.333	mg/kg wet	3.333		99	40-140	12	30	
N-Nitroso-Di-n-Propylamine	2.83	0.333	mg/kg wet	3.333		85	40-140	5	30	
N-nitrosodiphenylamine	3.16	0.333	mg/kg wet	3.333		95	40-140	7	30	
Pentachlorophenol	3.62	1.67	mg/kg wet	3.333		109	30-130	6	30	
Phenanthrene	3.16	0.333	mg/kg wet	3.333		95	40-140	6	30	
Phenol	3.32	0.333	mg/kg wet	3.333		100	30-130	13	30	
Pyrene	3.31	0.333	mg/kg wet	3.333		99	40-140	6	30	
Pyridine	3.12	1.67	mg/kg wet	3.333		94	40-140	12	30	
Surrogate: 1,2-Dichlorobenzene-d4	3.22		mg/kg wet	6.667		48	30-130			
Surrogate: 2,4,6-Tribromophenol	5.22		mg/kg wet	10.00		52	30-130			
Surrogate: 2-Chlorophenol-d4	4.45		mg/kg wet	10.00		44	30-130			
Surrogate: 2-Fluorobiphenyl	3.04		mg/kg wet	6.667		46	30-130			
Surrogate: 2-Fluorophenol	4.87		mg/kg wet	10.00		49	30-130			
Surrogate: Nitrobenzene-d5	3.09		mg/kg wet	6.667		46	30-130			
Surrogate: Phenol-d6	4.97		mg/kg wet	10.00		50	30-130			
Surrogate: p-Terphenyl-d14	3.52		mg/kg wet	6.667		53	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1507073

Notes and Definitions

- Z-10c Soil pH measured in water at 24.4 °C.
- Z-10b Soil pH measured in water at 24 °C.
- Z-10a Soil pH measured in water at 23.8 °C.
- Z-10 Soil pH measured in water at 23.6 °C.
- U Analyte included in the analysis, but not detected
- ICV- Initial Calibration Verification recovery is below lower control limit (ICV-).
- D Diluted.
- C+ Continuing Calibration recovery is above upper control limit (C+).
- B- Blank Spike recovery is below lower control limit (B-).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1507073

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

Sample and Cooler Receipt Checklist

Client: Charter Environmental
 Client Project ID: _____
 Shipped/Delivered Via: Other

ESS Project ID: 15070073
 Date Project Due: 7/13/15
 Days For Project: 5 Day

Items to be checked upon receipt:

- | | | | |
|---|-------------------------------|---|---|
| 1. Air Bill Manifest Present? | <input type="checkbox"/> * No | 10. Are the samples properly preserved? | <input type="checkbox"/> Yes |
| Air No.: | | 11. Proper sample containers used? | <input type="checkbox"/> Yes |
| 2. Were Custody Seals Present? | <input type="checkbox"/> No | 12. Any air bubbles in the VOA vials? | <input type="checkbox"/> N/A |
| 3. Were Custody Seals Intact? | <input type="checkbox"/> N/A | 13. Holding times exceeded? | <input type="checkbox"/> No |
| 4. Is Radiation count < 100 CPM? | <input type="checkbox"/> Yes | 14. Sufficient sample volumes? | <input type="checkbox"/> Yes |
| 5. Is a cooler present? | <input type="checkbox"/> Yes | 15. Any Subcontracting needed? | <input type="checkbox"/> No |
| <input type="text" value="Cooler Temp: 4.1"/> | | 16. Are ESS labels on correct containers? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| <input type="text" value="Iced With: Ice"/> | | 17. Were samples received intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 6. Was COC included with samples? | <input type="checkbox"/> Yes | ESS Sample IDs: _____ | |
| 7. Was COC signed and dated by client? | <input type="checkbox"/> Yes | Sub Lab: _____ | |
| 8. Does the COC match the sample | <input type="checkbox"/> Yes | Analysis: _____ | |
| 9. Is COC complete and correct? | <input type="checkbox"/> Yes | TAT: _____ | |

18. Was there need to call project manager to discuss status? If yes, please explain.

On Hold
LL VIALS FROZEN ^{JL 7/6/15} AT 1815 JL 7/6/15

Who was called?: _____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	40 ml - VOA	1	MeOH
1	Yes	40 ml - VOA	2	other
1	Yes	8 oz Soil Jar	2	NP
2	Yes	40 ml - VOA	1	MeOH
2	Yes	40 ml - VOA	2	other
2	Yes	8 oz Soil Jar	2	NP
3	Yes	40 ml - VOA	1	MeOH
3	Yes	40 ml - VOA	2	other
3	Yes	8 oz Soil Jar	2	NP
4	Yes	40 ml - VOA	1	MeOH
4	Yes	40 ml - VOA	2	other
4	Yes	8 oz Soil Jar	2	NP
5	Yes	40 ml - VOA	1	MeOH
5	Yes	40 ml - VOA	2	other
5	Yes	8 oz Soil Jar	2	NP

Completed By: [Signature]
 Reviewed By: [Signature]

Date/Time: 7/6/15 1810
 Date/Time: 7/6/15 1815

CHAIN OF CUSTODY

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-2211
 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

Turn Time	5	Days	
Regulatory State	Rhode Island		
Is this project for any of the following?:			
<input type="radio"/> CT RCP	<input type="radio"/> MA MCP	<input type="radio"/> RGP	<input type="radio"/> DOD
Project #	74-15-0002.134	Project Name	Textron Providence
Address	500 Harrison Avenue, Suite 4R		

Company Name: Charter Environmental
 Contact Person: Paul J. Leofanti, Jr.
 City: Boston State: MA
 Telephone Number: (857) 246-6812 FAX Number:
 Address: PO #
 Email Address: pleofanti@charter.us

ESS Lab #

Reporting Limits

Electronic Deliverables Data Checker Other (Please Specify →) Excel

PH: Corrosivity 9045

VOC

VOC Low Level

SVOC

RCRA 8

TPH

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis															
01	7/6/15	1450	Grab	Soil	CB1 - PJ Keating Comon Borrow																
02	7/6/15	1455	Grab	Soil	CB2 - PJ Keating 1.5" DG																
03	7/6/15	1500	Grab	Soil	CB3 Material S&S Common Borrow																
04	7/6/15	1505	Grab	Soil	CB4 - Material S&S Sandy Fill																
05	7/6/15	1510	Grab	Soil	CB5 JR Vinagro 1.5" Brown Gravel																

Container Type:	AC-Air Cassette	AG-Amber Glass	B-BOD Bottle	C-Cubitainer	J-Jar	O-Other	P-Poly	S-Sterile	V-Vial		
Container Volume:	1-100 mL	2-2.5 gal	3-250 mL	4-300 mL	5-500 mL	6-1L	7-VOA	8-2 oz	9-4 oz	10-8 oz	11-Other*
Preservation Code:	1-Non Preserved,	2-HCl,	3-H2SO4,	4-HNO3,	5-NaOH,	6-MeOH,	7-Na2S2O3,	8-ZnAcce,	9-NH4Cl,	10-Other*	
	1	1	1	1	2	1	1	1	2	1	

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer J-Jar O-Other P-Poly S-Sterile V-Vial

Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other*

Preservation Code: 1-Non Preserved, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Na2S2O3, 8-ZnAcce, 9-NH4Cl, 10-Other*

Number of Containers: 1 1 1 2 1

Laboratory Use Only

Cooler Present: Drop Off Pick Up

Seals Intact: Drop Off Pick Up

Cooler Temperature: _____ Technician Hours → _____

Received by: (Signature, Date & Time)

Relinquished by: (Signature, Date & Time)

Sampled by: Charter Environmental

Comments: Please specify "Other" preservative and containers types in this space

Received by: (Signature, Date & Time)

Relinquished by: (Signature, Date & Time)

ESS Laboratory

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 185 Frances Avenue, Cranston, RI 02910-2211
 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # **1507073**

Turn Time: 5 Days
 Regulatory State: Rhode Island
 Reporting Limits: RI DEM RDEC

Is this project for any of the following?
 CT RCP MA MCP RGP DOD Data Checker Other (Please Specify →)

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	Analysis									
						VOC	VOC Low Level	SVOC	RCRA 8	TPH	PH: Corrosivity 9045				
01	7/6/15	1450	Grab	Soil	CB1 - PJ Keating Comon Borrow	X	X	X	X	X	X	X	X	X	X
02	7/6/15	1455	Grab	Soil	CB2 - PJ Keating 1.5" DG	X	X	X	X	X	X	X	X	X	X
03	7/6/15	1500	Grab	Soil	CB3 Material S&S Common Borrow	X	X	X	X	X	X	X	X	X	X
04	7/6/15	1505	Grab	Soil	CB4 - Material S&S Sandy Fill	X	X	X	X	X	X	X	X	X	X
05	7/6/15	1510	Grab	Soil	CB5 JR Vinagro 1.5" Brown Gravel	X	X	X	X	X	X	X	X	X	X

Company Name: Charter Environmental
 Contact Person: Paul J. Leofanti, Jr.
 City: Boston, State: MA, Address: 500 Harrison Avenue, Suite 4R, Zip Code: 02118, PO #:
 Email Address: pleofanti@charter.us

Project # 74-15-0002.134, Project Name: Textron Providence

Container Type: AC-Air Cassette, AG-Amber Glass, B-BOD Bottle, C-Cubitainer, J-Jar, O-Other, P-Poly, S-Sterile, V-Vial
 Container Volume: 1-100 mL, 2-2.5 gal, 3-250 mL, 4-300 mL, 5-500 mL, 6-1L, 7-VOA, 8-2 oz, 9-4 oz, 10-8 oz, 11-Other*
 Preservation Code: 1-Non Preserved, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Na2S2O3, 8-ZnAc, NaOH, 9-NH4Cl, 10-Other*

Number of Containers: 1 1 1 2 1

Sampled by: Charter Environmental

Comments: Please specify "Other" preservative and containers types in this space
 On hold until instructed to analyze.

Cooler Present: Drop Off
 Seals Intact: Pickup
 Cooler Temperature: 4.1°C Ice

Relinquished by: (Signature, Date & Time) 7-6-15 17:10
 Received by: (Signature, Date & Time) 7/6/15 17:10



CERTIFICATE OF ANALYSIS

Matt Polsky
Thielsch Engineering, Inc.
195 Frances Avenue
Cranston, RI 02910

RE: Textron (74-15-0002.134)
ESS Laboratory Work Order Number: 1508190

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED

By ESS Laboratory at 3:55 pm, Aug 18, 2015

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

SAMPLE RECEIPT

The following samples were received on August 07, 2015 for the analyses specified on the enclosed Chain of Custody Record.

Low Level VOA vials were frozen by ESS Laboratory on August 7, 2015 at 18:50.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1508190-01	L-741	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508190-02	L-742	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508190-03	L-743	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508190-04	L-744	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508190-05	L-745	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508190-06	L-736	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508190-07	L-737	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508190-08	L-738	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508190-09	L-739	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508190-10	L-740	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

CH51340-BS1 **Blank Spike recovery is above upper control limit (B+).**
Acetone (197% @ 70-130%), Vinyl Acetate (136% @ 70-130%)

CH51340-BSD1 **Blank Spike recovery is above upper control limit (B+).**
Acetone (133% @ 70-130%), Vinyl Acetate (140% @ 70-130%)

CH51340-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
Acetone (39% @ 25%), Chloroethane (35% @ 25%)

8270D Semi-Volatile Organic Compounds

1508190-05 **Internal Standard(s) outside criteria. Insufficient sample for reanalysis (IS).**
Chrysene-d12 (39% @ 50-200%)

CYH0125-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (85% @ 80-120%)

CYH0125-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
N-Nitrosodimethylamine (122% @ 80-120%), p-Terphenyl-d14 (124% @ 80-120%), Pyrene (125% @ 80-120%)

CYH0125-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
Benzoic Acid (69% @ 80-120%)

CYH0125-CCV1 **Initial Calibration Verification recovery is below lower control limit (ICV-).**
Hexachlorocyclopentadiene

CYH0126-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (113% @ 80-120%), 4,6-Dinitro-2-Methylphenol (116% @ 80-120%), Benzoic Acid (93% @ 80-120%), Pentachlorophenol (114% @ 80-120%)

CYH0126-CCV1 **Continuing Calibration recovery is above upper control limit (C+).**
2,4,6-Tribromophenol (121% @ 80-120%)

CYH0126-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
N-Nitrosodimethylamine (63% @ 80-120%), Pyridine (63% @ 80-120%)

CYH0126-CCV1 **Initial Calibration Verification recovery is below lower control limit (ICV-).**
Hexachlorocyclopentadiene

CYH0136-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (95% @ 80-120%), 4,6-Dinitro-2-Methylphenol (105% @ 80-120%), Benzoic Acid (78% @ 80-120%), Pentachlorophenol (108% @ 80-120%)

CYH0136-CCV1 **Continuing Calibration recovery is below lower control limit (C-).**
4-Nitrophenol (73% @ 80-120%), Benzoic Acid (78% @ 80-120%), N-Nitrosodimethylamine (62% @ 80-120%), Pyridine (63% @ 80-120%)

CYH0136-CCV1 **Initial Calibration Verification recovery is below lower control limit (ICV-).**
Hexachlorocyclopentadiene

Total Metals

CH51351-BSD1 **Blank Spike recovery is below lower control limit (B-).**
Cadmium (76% @ 80-120%)



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015D - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-741
Date Sampled: 08/07/15 17:00
Percent Solids: 92

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.35)		6010C		1	KJK	08/14/15 18:35	2.3	100	CH51351
Barium	12.9 (2.35)		6010C		1	KJK	08/14/15 18:35	2.3	100	CH51351
Cadmium	ND (0.47)		6010C		1	KJK	08/14/15 18:35	2.3	100	CH51351
Chromium	3.61 (0.94)		6010C		1	KJK	08/14/15 18:35	2.3	100	CH51351
Lead	4.82 (4.71)		6010C		1	KJK	08/14/15 18:35	2.3	100	CH51351
Mercury	ND (0.032)		7471B		1	BJV	08/14/15 13:28	0.68	40	CH51350
Selenium	ND (4.71)		6010C		1	KJK	08/14/15 18:35	2.3	100	CH51351
Silver	ND (0.47)		6010C		1	KJK	08/14/15 18:35	2.3	100	CH51351



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-741
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 6.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,1,1-Trichloroethane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,1,2,2-Tetrachloroethane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,1,2-Trichloroethane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,1-Dichloroethane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,1-Dichloroethene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,1-Dichloropropene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,2,3-Trichlorobenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,2,3-Trichloropropane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,2,4-Trichlorobenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,2,4-Trimethylbenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,2-Dibromo-3-Chloropropane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,2-Dibromoethane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,2-Dichlorobenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,2-Dichloroethane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,2-Dichloropropane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,3,5-Trimethylbenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,3-Dichlorobenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,3-Dichloropropane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,4-Dichlorobenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1,4-Dioxane	ND (0.0859)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
1-Chlorohexane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
2,2-Dichloropropane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
2-Butanone	ND (0.0430)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
2-Chlorotoluene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
2-Hexanone	ND (0.0430)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
4-Chlorotoluene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
4-Isopropyltoluene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
4-Methyl-2-Pentanone	ND (0.0430)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Acetone	ND (0.0430)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Benzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Bromobenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-741
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 6.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Bromodichloromethane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Bromoform	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Bromomethane	ND (0.0086)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Carbon Disulfide	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Carbon Tetrachloride	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Chlorobenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Chloroethane	ND (0.0086)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Chloroform	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Chloromethane	ND (0.0086)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
cis-1,2-Dichloroethene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
cis-1,3-Dichloropropene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Dibromochloromethane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Dibromomethane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Dichlorodifluoromethane	ND (0.0086)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Diethyl Ether	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Di-isopropyl ether	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Ethyl tertiary-butyl ether	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Ethylbenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Hexachlorobutadiene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Isopropylbenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Methyl tert-Butyl Ether	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Methylene Chloride	ND (0.0215)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Naphthalene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
n-Butylbenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
n-Propylbenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
sec-Butylbenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Styrene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
tert-Butylbenzene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Tertiary-amyl methyl ether	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Tetrachloroethene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Tetrahydrofuran	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-741
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 6.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
trans-1,2-Dichloroethene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
trans-1,3-Dichloropropene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Trichloroethene	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Trichlorofluoromethane	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Vinyl Acetate	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Vinyl Chloride	ND (0.0086)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Xylene O	ND (0.0043)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Xylene P,M	ND (0.0086)		8260B Low		1	08/13/15 20:03	CYH0145	CH51340
Xylenes (Total)	ND (0.0086)		8260B Low		1	08/13/15 20:03		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>116 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>91 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>103 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>104 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-741
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 19.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/12/15 12:32

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	87.6 (42.3)		8100M		1	08/13/15 5:03	CYH0188	CH51226
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>102 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-741
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 14.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
1,2,4-Trichlorobenzene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
1,2-Dichlorobenzene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
1,3-Dichlorobenzene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
1,4-Dichlorobenzene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2,3,4,6-Tetrachlorophenol	ND (1.88)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2,4,5-Trichlorophenol	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2,4,6-Trichlorophenol	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2,4-Dichlorophenol	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2,4-Dimethylphenol	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2,4-Dinitrophenol	ND (1.88)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2,4-Dinitrotoluene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2,6-Dinitrotoluene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2-Chloronaphthalene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2-Chlorophenol	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2-Methylnaphthalene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2-Methylphenol	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2-Nitroaniline	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
2-Nitrophenol	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
3,3'-Dichlorobenzidine	ND (0.752)		8270D		1	08/12/15 20:47	CYH0125	CH51228
3+4-Methylphenol	ND (0.752)		8270D		1	08/12/15 20:47	CYH0125	CH51228
3-Nitroaniline	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
4,6-Dinitro-2-Methylphenol	ND (1.88)		8270D		1	08/12/15 20:47	CYH0125	CH51228
4-Bromophenyl-phenylether	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
4-Chloro-3-Methylphenol	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
4-Chloroaniline	ND (0.752)		8270D		1	08/12/15 20:47	CYH0125	CH51228
4-Chloro-phenyl-phenyl ether	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
4-Nitroaniline	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
4-Nitrophenol	ND (1.88)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Acenaphthene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Acenaphthylene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Acetophenone	ND (0.752)		8270D		1	08/12/15 20:47	CYH0125	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-741
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 14.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.752)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Anthracene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Azobenzene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Benzo(a)anthracene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Benzo(a)pyrene	ND (0.188)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Benzo(b)fluoranthene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Benzo(g,h,i)perylene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Benzo(k)fluoranthene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Benzoic Acid	ND (1.88)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Benzyl Alcohol	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
bis(2-Chloroethoxy)methane	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
bis(2-Chloroethyl)ether	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
bis(2-chloroisopropyl)Ether	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
bis(2-Ethylhexyl)phthalate	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Butylbenzylphthalate	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Carbazole	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Chrysene	ND (0.188)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Dibenzo(a,h)Anthracene	ND (0.188)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Dibenzofuran	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Diethylphthalate	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Dimethylphthalate	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Di-n-butylphthalate	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Di-n-octylphthalate	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Fluoranthene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Fluorene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Hexachlorobenzene	ND (0.188)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Hexachlorobutadiene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Hexachlorocyclopentadiene	ND (1.88)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Hexachloroethane	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Indeno(1,2,3-cd)Pyrene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Isophorone	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Naphthalene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
 Client Project ID: Textron
 Client Sample ID: L-741
 Date Sampled: 08/07/15 17:00
 Percent Solids: 92
 Initial Volume: 14.4
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1508190
 ESS Laboratory Sample ID: 1508190-01
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: IBM
 Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
N-Nitrosodimethylamine	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
N-Nitroso-Di-n-Propylamine	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
N-nitrosodiphenylamine	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Pentachlorophenol	ND (1.88)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Phenanthrene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Phenol	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Pyrene	ND (0.376)		8270D		1	08/12/15 20:47	CYH0125	CH51228
Pyridine	ND (1.88)		8270D		1	08/12/15 20:47	CYH0125	CH51228

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	53 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	102 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	57 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	64 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	52 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	57 %		30-130
<i>Surrogate: Phenol-d6</i>	58 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	93 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-741
Date Sampled: 08/07/15 17:00
Percent Solids: 92

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-01
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	4.71 (N/A)		9045		1	MJV	08/08/15 10:40	S.U.	CH50808
Corrosivity (pH) Sample Temp	Soil pH measured in water at 22.4 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-742
Date Sampled: 08/07/15 17:00
Percent Solids: 92

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-02
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.52)		6010C		1	KJK	08/14/15 18:55	2.15	100	CH51351
Barium	11.5 (2.52)		6010C		1	KJK	08/14/15 18:55	2.15	100	CH51351
Cadmium	ND (0.50)		6010C		1	KJK	08/14/15 18:55	2.15	100	CH51351
Chromium	3.16 (1.01)		6010C		1	KJK	08/14/15 18:55	2.15	100	CH51351
Lead	ND (5.04)		6010C		1	KJK	08/14/15 18:55	2.15	100	CH51351
Mercury	ND (0.034)		7471B		1	BJV	08/14/15 13:37	0.63	40	CH51350
Selenium	ND (5.04)		6010C		1	KJK	08/14/15 18:55	2.15	100	CH51351
Silver	ND (0.50)		6010C		1	KJK	08/14/15 18:55	2.15	100	CH51351



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-742
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 6.7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,1,1-Trichloroethane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,1,2,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,1,2-Trichloroethane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,1-Dichloroethane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,1-Dichloroethene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,1-Dichloropropene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,2,3-Trichlorobenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,2,3-Trichloropropane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,2,4-Trichlorobenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,2,4-Trimethylbenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,2-Dibromo-3-Chloropropane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,2-Dibromoethane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,2-Dichlorobenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,2-Dichloroethane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,2-Dichloropropane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,3,5-Trimethylbenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,3-Dichlorobenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,3-Dichloropropane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,4-Dichlorobenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1,4-Dioxane	ND (0.0808)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
1-Chlorohexane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
2,2-Dichloropropane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
2-Butanone	ND (0.0404)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
2-Chlorotoluene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
2-Hexanone	ND (0.0404)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
4-Chlorotoluene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
4-Isopropyltoluene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
4-Methyl-2-Pentanone	ND (0.0404)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Acetone	ND (0.0404)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Benzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Bromobenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-742
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 6.7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Bromodichloromethane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Bromoform	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Bromomethane	ND (0.0081)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Carbon Disulfide	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Carbon Tetrachloride	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Chlorobenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Chloroethane	ND (0.0081)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Chloroform	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Chloromethane	ND (0.0081)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
cis-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
cis-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Dibromochloromethane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Dibromomethane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Dichlorodifluoromethane	ND (0.0081)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Diethyl Ether	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Di-isopropyl ether	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Ethyl tertiary-butyl ether	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Ethylbenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Hexachlorobutadiene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Isopropylbenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Methyl tert-Butyl Ether	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Methylene Chloride	ND (0.0202)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Naphthalene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
n-Butylbenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
n-Propylbenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
sec-Butylbenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Styrene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
tert-Butylbenzene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Tertiary-amyl methyl ether	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Tetrachloroethene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Tetrahydrofuran	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
 Client Project ID: Textron
 Client Sample ID: L-742
 Date Sampled: 08/07/15 17:00
 Percent Solids: 92
 Initial Volume: 6.7
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1508190
 ESS Laboratory Sample ID: 1508190-02
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
trans-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
trans-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Trichloroethene	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Trichlorofluoromethane	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Vinyl Acetate	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Vinyl Chloride	ND (0.0081)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Xylene O	ND (0.0040)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Xylene P,M	ND (0.0081)		8260B Low		1	08/13/15 20:31	CYH0145	CH51340
Xylenes (Total)	ND (0.0081)		8260B Low		1	08/13/15 20:31		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>111 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>92 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>103 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>104 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-742
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 19.6
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/12/15 12:32

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	45.6 (41.4)		8100M		1	08/13/15 7:39	CYH0188	CH51226
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>106 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-742
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 14.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
1,2,4-Trichlorobenzene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
1,2-Dichlorobenzene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
1,3-Dichlorobenzene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
1,4-Dichlorobenzene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2,3,4,6-Tetrachlorophenol	ND (1.86)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2,4,5-Trichlorophenol	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2,4,6-Trichlorophenol	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2,4-Dichlorophenol	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2,4-Dimethylphenol	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2,4-Dinitrophenol	ND (1.86)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2,4-Dinitrotoluene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2,6-Dinitrotoluene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2-Chloronaphthalene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2-Chlorophenol	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2-Methylnaphthalene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2-Methylphenol	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2-Nitroaniline	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
2-Nitrophenol	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
3,3'-Dichlorobenzidine	ND (0.742)		8270D		1	08/12/15 21:21	CYH0125	CH51228
3+4-Methylphenol	ND (0.742)		8270D		1	08/12/15 21:21	CYH0125	CH51228
3-Nitroaniline	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
4,6-Dinitro-2-Methylphenol	ND (1.86)		8270D		1	08/12/15 21:21	CYH0125	CH51228
4-Bromophenyl-phenylether	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
4-Chloro-3-Methylphenol	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
4-Chloroaniline	ND (0.742)		8270D		1	08/12/15 21:21	CYH0125	CH51228
4-Chloro-phenyl-phenyl ether	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
4-Nitroaniline	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
4-Nitrophenol	ND (1.86)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Acenaphthene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Acenaphthylene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Acetophenone	ND (0.742)		8270D		1	08/12/15 21:21	CYH0125	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-742
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 14.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.742)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Anthracene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Azobenzene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Benzo(a)anthracene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Benzo(a)pyrene	ND (0.186)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Benzo(b)fluoranthene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Benzo(g,h,i)perylene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Benzo(k)fluoranthene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Benzoic Acid	ND (1.86)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Benzyl Alcohol	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
bis(2-Chloroethoxy)methane	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
bis(2-Chloroethyl)ether	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
bis(2-chloroisopropyl)Ether	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
bis(2-Ethylhexyl)phthalate	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Butylbenzylphthalate	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Carbazole	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Chrysene	ND (0.186)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Dibenzo(a,h)Anthracene	ND (0.186)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Dibenzofuran	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Diethylphthalate	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Dimethylphthalate	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Di-n-butylphthalate	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Di-n-octylphthalate	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Fluoranthene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Fluorene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Hexachlorobenzene	ND (0.186)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Hexachlorobutadiene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Hexachlorocyclopentadiene	ND (1.86)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Hexachloroethane	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Indeno(1,2,3-cd)Pyrene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Isophorone	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Naphthalene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
 Client Project ID: Textron
 Client Sample ID: L-742
 Date Sampled: 08/07/15 17:00
 Percent Solids: 92
 Initial Volume: 14.6
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1508190
 ESS Laboratory Sample ID: 1508190-02
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: IBM
 Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
N-Nitrosodimethylamine	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
N-Nitroso-Di-n-Propylamine	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
N-nitrosodiphenylamine	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Pentachlorophenol	ND (1.86)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Phenanthrene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Phenol	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Pyrene	ND (0.370)		8270D		1	08/12/15 21:21	CYH0125	CH51228
Pyridine	ND (1.86)		8270D		1	08/12/15 21:21	CYH0125	CH51228

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>57 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>103 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>61 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>69 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>57 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>60 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>63 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>89 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-742
Date Sampled: 08/07/15 17:00
Percent Solids: 92

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-02
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	4.72 (N/A)		9045		1	MJV	08/08/15 10:40	S.U.	CH50808
Corrosivity (pH) Sample Temp	Soil pH measured in water at 22.5 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-743
Date Sampled: 08/07/15 17:00
Percent Solids: 92

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-03
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.40)		6010C		1	KJK	08/14/15 23:30	2.26	100	CH51351
Barium	12.5 (2.40)		6010C		1	KJK	08/14/15 23:30	2.26	100	CH51351
Cadmium	ND (0.48)		6010C		1	KJK	08/14/15 23:30	2.26	100	CH51351
Chromium	3.67 (0.96)		6010C		1	KJK	08/14/15 23:30	2.26	100	CH51351
Lead	5.22 (4.80)		6010C		1	KJK	08/14/15 23:30	2.26	100	CH51351
Mercury	ND (0.036)		7471B		1	BJV	08/14/15 13:48	0.6	40	CH51350
Selenium	ND (4.80)		6010C		1	KJK	08/14/15 23:30	2.26	100	CH51351
Silver	ND (0.48)		6010C		1	KJK	08/14/15 23:30	2.26	100	CH51351



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-743
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 6.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,1,1-Trichloroethane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,1,2,2-Tetrachloroethane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,1,2-Trichloroethane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,1-Dichloroethane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,1-Dichloroethene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,1-Dichloropropene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,2,3-Trichlorobenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,2,3-Trichloropropane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,2,4-Trichlorobenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,2,4-Trimethylbenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,2-Dibromo-3-Chloropropane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,2-Dibromoethane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,2-Dichlorobenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,2-Dichloroethane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,2-Dichloropropane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,3,5-Trimethylbenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,3-Dichlorobenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,3-Dichloropropane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,4-Dichlorobenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1,4-Dioxane	ND (0.0786)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
1-Chlorohexane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
2,2-Dichloropropane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
2-Butanone	ND (0.0393)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
2-Chlorotoluene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
2-Hexanone	ND (0.0393)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
4-Chlorotoluene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
4-Isopropyltoluene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
4-Methyl-2-Pentanone	ND (0.0393)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Acetone	ND (0.0393)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Benzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Bromobenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-743
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 6.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Bromodichloromethane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Bromoform	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Bromomethane	ND (0.0079)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Carbon Disulfide	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Carbon Tetrachloride	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Chlorobenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Chloroethane	ND (0.0079)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Chloroform	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Chloromethane	ND (0.0079)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
cis-1,2-Dichloroethene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
cis-1,3-Dichloropropene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Dibromochloromethane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Dibromomethane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Dichlorodifluoromethane	ND (0.0079)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Diethyl Ether	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Di-isopropyl ether	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Ethyl tertiary-butyl ether	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Ethylbenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Hexachlorobutadiene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Isopropylbenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Methyl tert-Butyl Ether	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Methylene Chloride	ND (0.0197)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Naphthalene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
n-Butylbenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
n-Propylbenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
sec-Butylbenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Styrene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
tert-Butylbenzene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Tertiary-amyl methyl ether	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Tetrachloroethene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Tetrahydrofuran	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-743
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 6.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
trans-1,2-Dichloroethene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
trans-1,3-Dichloropropene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Trichloroethene	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Trichlorofluoromethane	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Vinyl Acetate	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Vinyl Chloride	ND (0.0079)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Xylene O	ND (0.0039)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Xylene P,M	ND (0.0079)		8260B Low		1	08/13/15 21:00	CYH0145	CH51340
Xylenes (Total)	ND (0.0079)		8260B Low		1	08/13/15 21:00		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>114 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>86 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>105 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>103 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-743
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 19.8
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/12/15 12:32

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	48.8 (41.1)		8100M		1	08/13/15 8:18	CYH0188	CH51226
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>106 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-743
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 14.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
1,2,4-Trichlorobenzene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
1,2-Dichlorobenzene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
1,3-Dichlorobenzene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
1,4-Dichlorobenzene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2,3,4,6-Tetrachlorophenol	ND (1.89)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2,4,5-Trichlorophenol	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2,4,6-Trichlorophenol	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2,4-Dichlorophenol	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2,4-Dimethylphenol	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2,4-Dinitrophenol	ND (1.89)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2,4-Dinitrotoluene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2,6-Dinitrotoluene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2-Chloronaphthalene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2-Chlorophenol	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2-Methylnaphthalene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2-Methylphenol	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2-Nitroaniline	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
2-Nitrophenol	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
3,3'-Dichlorobenzidine	ND (0.754)		8270D		1	08/12/15 21:56	CYH0125	CH51228
3+4-Methylphenol	ND (0.754)		8270D		1	08/12/15 21:56	CYH0125	CH51228
3-Nitroaniline	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
4,6-Dinitro-2-Methylphenol	ND (1.89)		8270D		1	08/12/15 21:56	CYH0125	CH51228
4-Bromophenyl-phenylether	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
4-Chloro-3-Methylphenol	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
4-Chloroaniline	ND (0.754)		8270D		1	08/12/15 21:56	CYH0125	CH51228
4-Chloro-phenyl-phenyl ether	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
4-Nitroaniline	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
4-Nitrophenol	ND (1.89)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Acenaphthene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Acenaphthylene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Acetophenone	ND (0.754)		8270D		1	08/12/15 21:56	CYH0125	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-743
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 14.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.754)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Anthracene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Azobenzene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Benzo(a)anthracene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Benzo(a)pyrene	ND (0.189)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Benzo(b)fluoranthene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Benzo(g,h,i)perylene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Benzo(k)fluoranthene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Benzoic Acid	ND (1.89)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Benzyl Alcohol	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
bis(2-Chloroethoxy)methane	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
bis(2-Chloroethyl)ether	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
bis(2-chloroisopropyl)Ether	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
bis(2-Ethylhexyl)phthalate	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Butylbenzylphthalate	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Carbazole	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Chrysene	ND (0.189)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Dibenzo(a,h)Anthracene	ND (0.189)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Dibenzofuran	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Diethylphthalate	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Dimethylphthalate	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Di-n-butylphthalate	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Di-n-octylphthalate	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Fluoranthene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Fluorene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Hexachlorobenzene	ND (0.189)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Hexachlorobutadiene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Hexachlorocyclopentadiene	ND (1.89)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Hexachloroethane	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Indeno(1,2,3-cd)Pyrene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Isophorone	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Naphthalene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
 Client Project ID: Textron
 Client Sample ID: L-743
 Date Sampled: 08/07/15 17:00
 Percent Solids: 92
 Initial Volume: 14.4
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1508190
 ESS Laboratory Sample ID: 1508190-03
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: IBM
 Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
N-Nitrosodimethylamine	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
N-Nitroso-Di-n-Propylamine	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
N-nitrosodiphenylamine	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Pentachlorophenol	ND (1.89)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Phenanthrene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Phenol	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Pyrene	ND (0.376)		8270D		1	08/12/15 21:56	CYH0125	CH51228
Pyridine	ND (1.89)		8270D		1	08/12/15 21:56	CYH0125	CH51228

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>55 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>98 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>58 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>64 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>53 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>56 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>58 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>87 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-743
Date Sampled: 08/07/15 17:00
Percent Solids: 92

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-03
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	4.78 (N/A)		9045		1	MJV	08/08/15 10:40	S.U.	CH50808
Corrosivity (pH) Sample Temp	Soil pH measured in water at 22.4 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-744
Date Sampled: 08/07/15 17:00
Percent Solids: 92

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-04
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.62)		6010C		1	KJK	08/14/15 23:34	2.07	100	CH51351
Barium	12.1 (2.62)		6010C		1	KJK	08/14/15 23:34	2.07	100	CH51351
Cadmium	ND (0.52)		6010C		1	KJK	08/14/15 23:34	2.07	100	CH51351
Chromium	3.50 (1.05)		6010C		1	KJK	08/14/15 23:34	2.07	100	CH51351
Lead	ND (5.25)		6010C		1	KJK	08/14/15 23:34	2.07	100	CH51351
Mercury	ND (0.033)		7471B		1	BJV	08/14/15 13:50	0.66	40	CH51350
Selenium	ND (5.25)		6010C		1	KJK	08/14/15 23:34	2.07	100	CH51351
Silver	ND (0.52)		6010C		1	KJK	08/14/15 23:34	2.07	100	CH51351



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-744
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 6.5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,1,1-Trichloroethane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,1,2,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,1,2-Trichloroethane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,1-Dichloroethane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,1-Dichloroethene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,1-Dichloropropene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,2,3-Trichlorobenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,2,3-Trichloropropane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,2,4-Trichlorobenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,2,4-Trimethylbenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,2-Dibromo-3-Chloropropane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,2-Dibromoethane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,2-Dichlorobenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,2-Dichloroethane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,2-Dichloropropane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,3,5-Trimethylbenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,3-Dichlorobenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,3-Dichloropropane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,4-Dichlorobenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1,4-Dioxane	ND (0.0835)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
1-Chlorohexane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
2,2-Dichloropropane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
2-Butanone	ND (0.0418)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
2-Chlorotoluene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
2-Hexanone	ND (0.0418)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
4-Chlorotoluene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
4-Isopropyltoluene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
4-Methyl-2-Pentanone	ND (0.0418)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Acetone	ND (0.0418)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Benzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Bromobenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-744
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 6.5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Bromodichloromethane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Bromoform	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Bromomethane	ND (0.0084)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Carbon Disulfide	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Carbon Tetrachloride	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Chlorobenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Chloroethane	ND (0.0084)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Chloroform	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Chloromethane	ND (0.0084)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
cis-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
cis-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Dibromochloromethane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Dibromomethane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Dichlorodifluoromethane	ND (0.0084)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Diethyl Ether	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Di-isopropyl ether	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Ethyl tertiary-butyl ether	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Ethylbenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Hexachlorobutadiene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Isopropylbenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Methyl tert-Butyl Ether	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Methylene Chloride	ND (0.0209)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Naphthalene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
n-Butylbenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
n-Propylbenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
sec-Butylbenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Styrene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
tert-Butylbenzene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Tertiary-amyl methyl ether	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Tetrachloroethene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Tetrahydrofuran	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
 Client Project ID: Textron
 Client Sample ID: L-744
 Date Sampled: 08/07/15 17:00
 Percent Solids: 92
 Initial Volume: 6.5
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1508190
 ESS Laboratory Sample ID: 1508190-04
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
trans-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
trans-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Trichloroethene	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Trichlorofluoromethane	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Vinyl Acetate	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Vinyl Chloride	ND (0.0084)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Xylene O	ND (0.0042)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Xylene P,M	ND (0.0084)		8260B Low		1	08/13/15 21:28	CYH0145	CH51340
Xylenes (Total)	ND (0.0084)		8260B Low		1	08/13/15 21:28		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	114 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	92 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	101 %		70-130
<i>Surrogate: Toluene-d8</i>	104 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-744
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 19.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/12/15 12:32

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (41.3)		8100M		1	08/13/15 8:57	CYH0188	CH51226
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>107 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-744
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 14.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
1,2,4-Trichlorobenzene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
1,2-Dichlorobenzene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
1,3-Dichlorobenzene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
1,4-Dichlorobenzene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2,3,4,6-Tetrachlorophenol	ND (1.92)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2,4,5-Trichlorophenol	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2,4,6-Trichlorophenol	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2,4-Dichlorophenol	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2,4-Dimethylphenol	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2,4-Dinitrophenol	ND (1.92)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2,4-Dinitrotoluene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2,6-Dinitrotoluene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2-Chloronaphthalene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2-Chlorophenol	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2-Methylnaphthalene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2-Methylphenol	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2-Nitroaniline	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
2-Nitrophenol	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
3,3'-Dichlorobenzidine	ND (0.765)		8270D		1	08/12/15 22:31	CYH0125	CH51228
3+4-Methylphenol	ND (0.765)		8270D		1	08/12/15 22:31	CYH0125	CH51228
3-Nitroaniline	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
4,6-Dinitro-2-Methylphenol	ND (1.92)		8270D		1	08/12/15 22:31	CYH0125	CH51228
4-Bromophenyl-phenylether	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
4-Chloro-3-Methylphenol	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
4-Chloroaniline	ND (0.765)		8270D		1	08/12/15 22:31	CYH0125	CH51228
4-Chloro-phenyl-phenyl ether	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
4-Nitroaniline	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
4-Nitrophenol	ND (1.92)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Acenaphthene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Acenaphthylene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Acetophenone	ND (0.765)		8270D		1	08/12/15 22:31	CYH0125	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-744
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 14.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.765)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Anthracene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Azobenzene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Benzo(a)anthracene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Benzo(a)pyrene	ND (0.192)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Benzo(b)fluoranthene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Benzo(g,h,i)perylene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Benzo(k)fluoranthene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Benzoic Acid	ND (1.92)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Benzyl Alcohol	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
bis(2-Chloroethoxy)methane	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
bis(2-Chloroethyl)ether	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
bis(2-chloroisopropyl)Ether	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
bis(2-Ethylhexyl)phthalate	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Butylbenzylphthalate	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Carbazole	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Chrysene	ND (0.192)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Dibenzo(a,h)Anthracene	ND (0.192)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Dibenzofuran	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Diethylphthalate	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Dimethylphthalate	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Di-n-butylphthalate	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Di-n-octylphthalate	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Fluoranthene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Fluorene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Hexachlorobenzene	ND (0.192)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Hexachlorobutadiene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Hexachlorocyclopentadiene	ND (1.92)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Hexachloroethane	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Indeno(1,2,3-cd)Pyrene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Isophorone	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Naphthalene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-744
Date Sampled: 08/07/15 17:00
Percent Solids: 92
Initial Volume: 14.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
N-Nitrosodimethylamine	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
N-Nitroso-Di-n-Propylamine	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
N-nitrosodiphenylamine	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Pentachlorophenol	ND (1.92)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Phenanthrene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Phenol	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Pyrene	ND (0.382)		8270D		1	08/12/15 22:31	CYH0125	CH51228
Pyridine	ND (1.92)		8270D		1	08/12/15 22:31	CYH0125	CH51228

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>48 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>93 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>51 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>55 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>46 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>50 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>52 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>82 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-744
Date Sampled: 08/07/15 17:00
Percent Solids: 92

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-04
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	4.75 (N/A)		9045		1	MJV	08/08/15 10:40	S.U.	CH50808
Corrosivity (pH) Sample Temp	Soil pH measured in water at 22.2 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-745
Date Sampled: 08/07/15 17:00
Percent Solids: 93

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-05
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.19)		6010C		1	KJK	08/14/15 23:38	2.47	100	CH51351
Barium	11.3 (2.19)		6010C		1	KJK	08/14/15 23:38	2.47	100	CH51351
Cadmium	ND (0.44)		6010C		1	KJK	08/14/15 23:38	2.47	100	CH51351
Chromium	3.38 (0.87)		6010C		1	KJK	08/14/15 23:38	2.47	100	CH51351
Lead	4.75 (4.37)		6010C		1	KJK	08/14/15 23:38	2.47	100	CH51351
Mercury	ND (0.031)		7471B		1	BJV	08/14/15 13:51	0.7	40	CH51350
Selenium	ND (4.37)		6010C		1	KJK	08/14/15 23:38	2.47	100	CH51351
Silver	ND (0.44)		6010C		1	KJK	08/14/15 23:38	2.47	100	CH51351



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-745
Date Sampled: 08/07/15 17:00
Percent Solids: 93
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,1,1-Trichloroethane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,1,2,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,1,2-Trichloroethane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,1-Dichloroethane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,1-Dichloroethene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,1-Dichloropropene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,2,3-Trichlorobenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,2,3-Trichloropropane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,2,4-Trichlorobenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,2,4-Trimethylbenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,2-Dibromo-3-Chloropropane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,2-Dibromoethane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,2-Dichlorobenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,2-Dichloroethane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,2-Dichloropropane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,3,5-Trimethylbenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,3-Dichlorobenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,3-Dichloropropane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,4-Dichlorobenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1,4-Dioxane	ND (0.0794)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
1-Chlorohexane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
2,2-Dichloropropane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
2-Butanone	ND (0.0397)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
2-Chlorotoluene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
2-Hexanone	ND (0.0397)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
4-Chlorotoluene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
4-Isopropyltoluene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
4-Methyl-2-Pentanone	ND (0.0397)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Acetone	0.0638 (0.0397)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Benzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Bromobenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-745
Date Sampled: 08/07/15 17:00
Percent Solids: 93
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Bromodichloromethane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Bromoform	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Bromomethane	ND (0.0079)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Carbon Disulfide	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Carbon Tetrachloride	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Chlorobenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Chloroethane	ND (0.0079)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Chloroform	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Chloromethane	ND (0.0079)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
cis-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
cis-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Dibromochloromethane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Dibromomethane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Dichlorodifluoromethane	ND (0.0079)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Diethyl Ether	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Di-isopropyl ether	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Ethyl tertiary-butyl ether	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Ethylbenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Hexachlorobutadiene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Isopropylbenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Methyl tert-Butyl Ether	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Methylene Chloride	ND (0.0199)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Naphthalene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
n-Butylbenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
n-Propylbenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
sec-Butylbenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Styrene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
tert-Butylbenzene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Tertiary-amyl methyl ether	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Tetrachloroethene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Tetrahydrofuran	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-745
Date Sampled: 08/07/15 17:00
Percent Solids: 93
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
trans-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
trans-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Trichloroethene	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Trichlorofluoromethane	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Vinyl Acetate	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Vinyl Chloride	ND (0.0079)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Xylene O	ND (0.0040)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Xylene P,M	ND (0.0079)		8260B Low		1	08/14/15 13:55	CYH0178	CH51703
Xylenes (Total)	ND (0.0079)		8260B Low		1	08/14/15 13:55		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>93 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>82 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>97 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>103 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-745
Date Sampled: 08/07/15 17:00
Percent Solids: 93
Initial Volume: 19.8
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/12/15 12:32

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (40.9)		8100M		1	08/13/15 9:36	CYH0188	CH51226
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>101 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-745
Date Sampled: 08/07/15 17:00
Percent Solids: 93
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
1,2,4-Trichlorobenzene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
1,2-Dichlorobenzene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
1,3-Dichlorobenzene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
1,4-Dichlorobenzene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2,3,4,6-Tetrachlorophenol	ND (1.80)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2,4,5-Trichlorophenol	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2,4,6-Trichlorophenol	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2,4-Dichlorophenol	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2,4-Dimethylphenol	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2,4-Dinitrophenol	ND (1.80)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2,4-Dinitrotoluene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2,6-Dinitrotoluene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2-Chloronaphthalene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2-Chlorophenol	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2-Methylnaphthalene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2-Methylphenol	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2-Nitroaniline	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
2-Nitrophenol	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
3,3'-Dichlorobenzidine	ND (0.721)		8270D		1	08/13/15 17:08	CYH0136	CH51228
3+4-Methylphenol	ND (0.721)		8270D		1	08/13/15 17:08	CYH0136	CH51228
3-Nitroaniline	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
4,6-Dinitro-2-Methylphenol	ND (1.80)		8270D		1	08/13/15 17:08	CYH0136	CH51228
4-Bromophenyl-phenylether	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
4-Chloro-3-Methylphenol	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
4-Chloroaniline	ND (0.721)		8270D		1	08/13/15 17:08	CYH0136	CH51228
4-Chloro-phenyl-phenyl ether	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
4-Nitroaniline	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
4-Nitrophenol	ND (1.80)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Acenaphthene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Acenaphthylene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Acetophenone	ND (0.721)		8270D		1	08/13/15 17:08	CYH0136	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-745
Date Sampled: 08/07/15 17:00
Percent Solids: 93
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.721)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Anthracene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Azobenzene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Benzo(a)anthracene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Benzo(a)pyrene	ND (0.180)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Benzo(b)fluoranthene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Benzo(g,h,i)perylene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Benzo(k)fluoranthene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Benzoic Acid	ND (1.80)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Benzyl Alcohol	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
bis(2-Chloroethoxy)methane	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
bis(2-Chloroethyl)ether	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
bis(2-chloroisopropyl)Ether	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
bis(2-Ethylhexyl)phthalate	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Butylbenzylphthalate	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Carbazole	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Chrysene	ND (0.180)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Dibenzo(a,h)Anthracene	ND (0.180)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Dibenzofuran	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Diethylphthalate	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Dimethylphthalate	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Di-n-butylphthalate	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Di-n-octylphthalate	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Fluoranthene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Fluorene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Hexachlorobenzene	ND (0.180)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Hexachlorobutadiene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Hexachlorocyclopentadiene	ND (1.80)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Hexachloroethane	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Indeno(1,2,3-cd)Pyrene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Isophorone	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Naphthalene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
 Client Project ID: Textron
 Client Sample ID: L-745
 Date Sampled: 08/07/15 17:00
 Percent Solids: 93
 Initial Volume: 15
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1508190
 ESS Laboratory Sample ID: 1508190-05
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: IBM
 Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
N-Nitrosodimethylamine	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
N-Nitroso-Di-n-Propylamine	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
N-nitrosodiphenylamine	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Pentachlorophenol	ND (1.80)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Phenanthrene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Phenol	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Pyrene	ND (0.360)		8270D		1	08/13/15 17:08	CYH0136	CH51228
Pyridine	ND (1.80)		8270D		1	08/13/15 17:08	CYH0136	CH51228

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	59 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	38 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	40 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	58 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	35 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	53 %		30-130
<i>Surrogate: Phenol-d6</i>	39 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	96 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-745
Date Sampled: 08/07/15 17:00
Percent Solids: 93

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-05
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	4.82 (N/A)		9045		1	MJV	08/08/15 10:40	S.U.	CH50808
Corrosivity (pH) Sample Temp	Soil pH measured in water at 22.2 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-736
Date Sampled: 08/07/15 17:00
Percent Solids: 96

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-06
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.43)		6010C		1	KJK	08/14/15 23:42	2.14	100	CH51351
Barium	16.7 (2.43)		6010C		1	KJK	08/14/15 23:42	2.14	100	CH51351
Cadmium	ND (0.49)		6010C		1	KJK	08/14/15 23:42	2.14	100	CH51351
Chromium	2.31 (0.97)		6010C		1	KJK	08/14/15 23:42	2.14	100	CH51351
Lead	ND (4.86)		6010C		1	KJK	08/14/15 23:42	2.14	100	CH51351
Mercury	ND (0.031)		7471B		1	BJV	08/14/15 13:53	0.67	40	CH51350
Selenium	ND (4.86)		6010C		1	KJK	08/14/15 23:42	2.14	100	CH51351
Silver	ND (0.49)		6010C		1	KJK	08/14/15 23:42	2.14	100	CH51351



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-736
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 6.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,1,1-Trichloroethane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,1,2,2-Tetrachloroethane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,1,2-Trichloroethane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,1-Dichloroethane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,1-Dichloroethene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,1-Dichloropropene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,2,3-Trichlorobenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,2,3-Trichloropropane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,2,4-Trichlorobenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,2,4-Trimethylbenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,2-Dibromo-3-Chloropropane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,2-Dibromoethane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,2-Dichlorobenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,2-Dichloroethane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,2-Dichloropropane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,3,5-Trimethylbenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,3-Dichlorobenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,3-Dichloropropane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,4-Dichlorobenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1,4-Dioxane	ND (0.0852)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
1-Chlorohexane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
2,2-Dichloropropane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
2-Butanone	ND (0.0426)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
2-Chlorotoluene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
2-Hexanone	ND (0.0426)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
4-Chlorotoluene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
4-Isopropyltoluene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
4-Methyl-2-Pentanone	ND (0.0426)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Acetone	ND (0.0426)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Benzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Bromobenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-736
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 6.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Bromodichloromethane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Bromoform	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Bromomethane	ND (0.0085)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Carbon Disulfide	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Carbon Tetrachloride	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Chlorobenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Chloroethane	ND (0.0085)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Chloroform	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Chloromethane	ND (0.0085)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
cis-1,2-Dichloroethene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
cis-1,3-Dichloropropene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Dibromochloromethane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Dibromomethane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Dichlorodifluoromethane	ND (0.0085)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Diethyl Ether	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Di-isopropyl ether	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Ethyl tertiary-butyl ether	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Ethylbenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Hexachlorobutadiene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Isopropylbenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Methyl tert-Butyl Ether	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Methylene Chloride	ND (0.0213)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Naphthalene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
n-Butylbenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
n-Propylbenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
sec-Butylbenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Styrene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
tert-Butylbenzene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Tertiary-amyl methyl ether	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Tetrachloroethene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Tetrahydrofuran	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-736
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 6.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
trans-1,2-Dichloroethene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
trans-1,3-Dichloropropene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Trichloroethene	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Trichlorofluoromethane	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Vinyl Acetate	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Vinyl Chloride	ND (0.0085)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Xylene O	ND (0.0043)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Xylene P,M	ND (0.0085)		8260B Low		1	08/14/15 14:52	CYH0178	CH51703
Xylenes (Total)	ND (0.0085)		8260B Low		1	08/14/15 14:52		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>126 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>91 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>113 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>104 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-736
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 19.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/12/15 12:32

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (40.4)		8100M		1	08/12/15 20:36	CYH0188	CH51226
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>86 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-736
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 14.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
1,2,4-Trichlorobenzene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
1,2-Dichlorobenzene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
1,3-Dichlorobenzene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
1,4-Dichlorobenzene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2,3,4,6-Tetrachlorophenol	ND (1.83)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2,4,5-Trichlorophenol	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2,4,6-Trichlorophenol	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2,4-Dichlorophenol	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2,4-Dimethylphenol	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2,4-Dinitrophenol	ND (1.83)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2,4-Dinitrotoluene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2,6-Dinitrotoluene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2-Chloronaphthalene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2-Chlorophenol	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2-Methylnaphthalene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2-Methylphenol	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2-Nitroaniline	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
2-Nitrophenol	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
3,3'-Dichlorobenzidine	ND (0.732)		8270D		1	08/12/15 19:02	CYH0126	CH51228
3+4-Methylphenol	ND (0.732)		8270D		1	08/12/15 19:02	CYH0126	CH51228
3-Nitroaniline	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
4,6-Dinitro-2-Methylphenol	ND (1.83)		8270D		1	08/12/15 19:02	CYH0126	CH51228
4-Bromophenyl-phenylether	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
4-Chloro-3-Methylphenol	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
4-Chloroaniline	ND (0.732)		8270D		1	08/12/15 19:02	CYH0126	CH51228
4-Chloro-phenyl-phenyl ether	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
4-Nitroaniline	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
4-Nitrophenol	ND (1.83)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Acenaphthene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Acenaphthylene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Acetophenone	ND (0.732)		8270D		1	08/12/15 19:02	CYH0126	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-736
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 14.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.732)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Anthracene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Azobenzene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Benzo(a)anthracene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Benzo(a)pyrene	ND (0.183)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Benzo(b)fluoranthene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Benzo(g,h,i)perylene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Benzo(k)fluoranthene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Benzoic Acid	ND (1.83)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Benzyl Alcohol	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
bis(2-Chloroethoxy)methane	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
bis(2-Chloroethyl)ether	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
bis(2-chloroisopropyl)Ether	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
bis(2-Ethylhexyl)phthalate	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Butylbenzylphthalate	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Carbazole	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Chrysene	ND (0.183)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Dibenzo(a,h)Anthracene	ND (0.183)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Dibenzofuran	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Diethylphthalate	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Dimethylphthalate	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Di-n-butylphthalate	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Di-n-octylphthalate	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Fluoranthene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Fluorene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Hexachlorobenzene	ND (0.183)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Hexachlorobutadiene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Hexachlorocyclopentadiene	ND (1.83)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Hexachloroethane	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Indeno(1,2,3-cd)Pyrene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Isophorone	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Naphthalene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-736
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 14.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
N-Nitrosodimethylamine	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
N-Nitroso-Di-n-Propylamine	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
N-nitrosodiphenylamine	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Pentachlorophenol	ND (1.83)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Phenanthrene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Phenol	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Pyrene	ND (0.366)		8270D		1	08/12/15 19:02	CYH0126	CH51228
Pyridine	ND (1.83)		8270D		1	08/12/15 19:02	CYH0126	CH51228

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>54 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>76 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>52 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>51 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>47 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>47 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>53 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>86 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-736
Date Sampled: 08/07/15 17:00
Percent Solids: 96

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-06
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.22 (N/A)		9045		1	MJV	08/08/15 10:40	S.U.	CH50808
Corrosivity (pH) Sample Temp	Soil pH measured in water at 22.1 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-737
Date Sampled: 08/07/15 17:00
Percent Solids: 96

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-07
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.11)		6010C		1	KJK	08/14/15 23:46	2.48	100	CH51351
Barium	14.6 (2.11)		6010C		1	KJK	08/14/15 23:46	2.48	100	CH51351
Cadmium	ND (0.42)		6010C		1	KJK	08/14/15 23:46	2.48	100	CH51351
Chromium	1.92 (0.84)		6010C		1	KJK	08/14/15 23:46	2.48	100	CH51351
Lead	ND (4.21)		6010C		1	KJK	08/14/15 23:46	2.48	100	CH51351
Mercury	ND (0.033)		7471B		1	BJV	08/14/15 13:55	0.63	40	CH51350
Selenium	ND (4.21)		6010C		1	KJK	08/14/15 23:46	2.48	100	CH51351
Silver	ND (0.42)		6010C		1	KJK	08/14/15 23:46	2.48	100	CH51351



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-737
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 6.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,1,1-Trichloroethane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,1,2,2-Tetrachloroethane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,1,2-Trichloroethane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,1-Dichloroethane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,1-Dichloroethene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,1-Dichloropropene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,2,3-Trichlorobenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,2,3-Trichloropropane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,2,4-Trichlorobenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,2,4-Trimethylbenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,2-Dibromo-3-Chloropropane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,2-Dibromoethane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,2-Dichlorobenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,2-Dichloroethane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,2-Dichloropropane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,3,5-Trimethylbenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,3-Dichlorobenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,3-Dichloropropane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,4-Dichlorobenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1,4-Dioxane	ND (0.0829)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
1-Chlorohexane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
2,2-Dichloropropane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
2-Butanone	ND (0.0415)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
2-Chlorotoluene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
2-Hexanone	ND (0.0415)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
4-Chlorotoluene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
4-Isopropyltoluene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
4-Methyl-2-Pentanone	ND (0.0415)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Acetone	ND (0.0415)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Benzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Bromobenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-737
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 6.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Bromodichloromethane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Bromoform	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Bromomethane	ND (0.0083)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Carbon Disulfide	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Carbon Tetrachloride	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Chlorobenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Chloroethane	ND (0.0083)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Chloroform	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Chloromethane	ND (0.0083)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
cis-1,2-Dichloroethene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
cis-1,3-Dichloropropene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Dibromochloromethane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Dibromomethane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Dichlorodifluoromethane	ND (0.0083)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Diethyl Ether	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Di-isopropyl ether	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Ethyl tertiary-butyl ether	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Ethylbenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Hexachlorobutadiene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Isopropylbenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Methyl tert-Butyl Ether	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Methylene Chloride	ND (0.0207)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Naphthalene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
n-Butylbenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
n-Propylbenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
sec-Butylbenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Styrene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
tert-Butylbenzene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Tertiary-amyl methyl ether	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Tetrachloroethene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Tetrahydrofuran	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
 Client Project ID: Textron
 Client Sample ID: L-737
 Date Sampled: 08/07/15 17:00
 Percent Solids: 96
 Initial Volume: 6.3
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1508190
 ESS Laboratory Sample ID: 1508190-07
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
trans-1,2-Dichloroethene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
trans-1,3-Dichloropropene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Trichloroethene	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Trichlorofluoromethane	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Vinyl Acetate	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Vinyl Chloride	ND (0.0083)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Xylene O	ND (0.0041)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Xylene P,M	ND (0.0083)		8260B Low		1	08/14/15 15:20	CYH0178	CH51703
Xylenes (Total)	ND (0.0083)		8260B Low		1	08/14/15 15:20		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>121 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>89 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>115 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>103 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-737
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 19.6
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/12/15 12:32

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (40.0)		8100M		1	08/12/15 21:15	CYH0188	CH51226
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		83 %		40-140				



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-737
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 14.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
1,2,4-Trichlorobenzene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
1,2-Dichlorobenzene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
1,3-Dichlorobenzene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
1,4-Dichlorobenzene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2,3,4,6-Tetrachlorophenol	ND (1.78)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2,4,5-Trichlorophenol	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2,4,6-Trichlorophenol	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2,4-Dichlorophenol	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2,4-Dimethylphenol	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2,4-Dinitrophenol	ND (1.78)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2,4-Dinitrotoluene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2,6-Dinitrotoluene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2-Chloronaphthalene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2-Chlorophenol	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2-Methylnaphthalene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2-Methylphenol	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2-Nitroaniline	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
2-Nitrophenol	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
3,3'-Dichlorobenzidine	ND (0.711)		8270D		1	08/12/15 19:39	CYH0126	CH51228
3+4-Methylphenol	ND (0.711)		8270D		1	08/12/15 19:39	CYH0126	CH51228
3-Nitroaniline	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
4,6-Dinitro-2-Methylphenol	ND (1.78)		8270D		1	08/12/15 19:39	CYH0126	CH51228
4-Bromophenyl-phenylether	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
4-Chloro-3-Methylphenol	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
4-Chloroaniline	ND (0.711)		8270D		1	08/12/15 19:39	CYH0126	CH51228
4-Chloro-phenyl-phenyl ether	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
4-Nitroaniline	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
4-Nitrophenol	ND (1.78)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Acenaphthene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Acenaphthylene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Acetophenone	ND (0.711)		8270D		1	08/12/15 19:39	CYH0126	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-737
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 14.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.711)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Anthracene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Azobenzene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Benzo(a)anthracene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Benzo(a)pyrene	ND (0.178)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Benzo(b)fluoranthene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Benzo(g,h,i)perylene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Benzo(k)fluoranthene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Benzoic Acid	ND (1.78)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Benzyl Alcohol	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
bis(2-Chloroethoxy)methane	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
bis(2-Chloroethyl)ether	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
bis(2-chloroisopropyl)Ether	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
bis(2-Ethylhexyl)phthalate	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Butylbenzylphthalate	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Carbazole	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Chrysene	ND (0.178)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Dibenzo(a,h)Anthracene	ND (0.178)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Dibenzofuran	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Diethylphthalate	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Dimethylphthalate	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Di-n-butylphthalate	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Di-n-octylphthalate	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Fluoranthene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Fluorene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Hexachlorobenzene	ND (0.178)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Hexachlorobutadiene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Hexachlorocyclopentadiene	ND (1.78)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Hexachloroethane	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Indeno(1,2,3-cd)Pyrene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Isophorone	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Naphthalene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
 Client Project ID: Textron
 Client Sample ID: L-737
 Date Sampled: 08/07/15 17:00
 Percent Solids: 96
 Initial Volume: 14.7
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1508190
 ESS Laboratory Sample ID: 1508190-07
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: IBM
 Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
N-Nitrosodimethylamine	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
N-Nitroso-Di-n-Propylamine	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
N-nitrosodiphenylamine	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Pentachlorophenol	ND (1.78)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Phenanthrene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Phenol	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Pyrene	ND (0.355)		8270D		1	08/12/15 19:39	CYH0126	CH51228
Pyridine	ND (1.78)		8270D		1	08/12/15 19:39	CYH0126	CH51228

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	70 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	84 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	68 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	63 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	62 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	62 %		30-130
<i>Surrogate: Phenol-d6</i>	70 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	88 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-737
Date Sampled: 08/07/15 17:00
Percent Solids: 96

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-07
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.15 (N/A)		9045		1	MJV	08/08/15 10:40	S.U.	CH50808
Corrosivity (pH) Sample Temp	Soil pH measured in water at 21.8 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-738
Date Sampled: 08/07/15 17:00
Percent Solids: 96

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-08
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.25)		6010C		1	KJK	08/14/15 23:50	2.31	100	CH51351
Barium	16.1 (2.25)		6010C		1	KJK	08/14/15 23:50	2.31	100	CH51351
Cadmium	ND (0.45)		6010C		1	KJK	08/14/15 23:50	2.31	100	CH51351
Chromium	2.19 (0.90)		6010C		1	KJK	08/14/15 23:50	2.31	100	CH51351
Lead	ND (4.51)		6010C		1	KJK	08/14/15 23:50	2.31	100	CH51351
Mercury	ND (0.032)		7471B		1	BJV	08/14/15 13:56	0.64	40	CH51350
Selenium	ND (4.51)		6010C		1	KJK	08/14/15 23:50	2.31	100	CH51351
Silver	ND (0.45)		6010C		1	KJK	08/14/15 23:50	2.31	100	CH51351



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-738
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 5.7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,1,1-Trichloroethane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,1,2,2-Tetrachloroethane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,1,2-Trichloroethane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,1-Dichloroethane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,1-Dichloroethene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,1-Dichloropropene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,2,3-Trichlorobenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,2,3-Trichloropropane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,2,4-Trichlorobenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,2,4-Trimethylbenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,2-Dibromo-3-Chloropropane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,2-Dibromoethane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,2-Dichlorobenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,2-Dichloroethane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,2-Dichloropropane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,3,5-Trimethylbenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,3-Dichlorobenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,3-Dichloropropane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,4-Dichlorobenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1,4-Dioxane	ND (0.0914)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
1-Chlorohexane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
2,2-Dichloropropane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
2-Butanone	ND (0.0457)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
2-Chlorotoluene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
2-Hexanone	ND (0.0457)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
4-Chlorotoluene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
4-Isopropyltoluene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
4-Methyl-2-Pentanone	ND (0.0457)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Acetone	ND (0.0457)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Benzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Bromobenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-738
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 5.7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Bromodichloromethane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Bromoform	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Bromomethane	ND (0.0091)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Carbon Disulfide	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Carbon Tetrachloride	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Chlorobenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Chloroethane	ND (0.0091)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Chloroform	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Chloromethane	ND (0.0091)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
cis-1,2-Dichloroethene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
cis-1,3-Dichloropropene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Dibromochloromethane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Dibromomethane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Dichlorodifluoromethane	ND (0.0091)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Diethyl Ether	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Di-isopropyl ether	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Ethyl tertiary-butyl ether	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Ethylbenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Hexachlorobutadiene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Isopropylbenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Methyl tert-Butyl Ether	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Methylene Chloride	ND (0.0228)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Naphthalene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
n-Butylbenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
n-Propylbenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
sec-Butylbenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Styrene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
tert-Butylbenzene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Tertiary-amyl methyl ether	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Tetrachloroethene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Tetrahydrofuran	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-738
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 5.7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
trans-1,2-Dichloroethene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
trans-1,3-Dichloropropene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Trichloroethene	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Trichlorofluoromethane	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Vinyl Acetate	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Vinyl Chloride	ND (0.0091)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Xylene O	ND (0.0046)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Xylene P,M	ND (0.0091)		8260B Low		1	08/14/15 15:48	CYH0178	CH51703
Xylenes (Total)	ND (0.0091)		8260B Low		1	08/14/15 15:48		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>125 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>91 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>117 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>102 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-738
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 19.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/12/15 12:32

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (39.7)		8100M		1	08/12/15 21:54	CYH0188	CH51226
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>90 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-738
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 14.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
1,2,4-Trichlorobenzene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
1,2-Dichlorobenzene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
1,3-Dichlorobenzene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
1,4-Dichlorobenzene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2,3,4,6-Tetrachlorophenol	ND (1.84)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2,4,5-Trichlorophenol	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2,4,6-Trichlorophenol	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2,4-Dichlorophenol	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2,4-Dimethylphenol	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2,4-Dinitrophenol	ND (1.84)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2,4-Dinitrotoluene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2,6-Dinitrotoluene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2-Chloronaphthalene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2-Chlorophenol	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2-Methylnaphthalene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2-Methylphenol	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2-Nitroaniline	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
2-Nitrophenol	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
3,3'-Dichlorobenzidine	ND (0.734)		8270D		1	08/12/15 20:15	CYH0126	CH51228
3+4-Methylphenol	ND (0.734)		8270D		1	08/12/15 20:15	CYH0126	CH51228
3-Nitroaniline	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
4,6-Dinitro-2-Methylphenol	ND (1.84)		8270D		1	08/12/15 20:15	CYH0126	CH51228
4-Bromophenyl-phenylether	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
4-Chloro-3-Methylphenol	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
4-Chloroaniline	ND (0.734)		8270D		1	08/12/15 20:15	CYH0126	CH51228
4-Chloro-phenyl-phenyl ether	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
4-Nitroaniline	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
4-Nitrophenol	ND (1.84)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Acenaphthene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Acenaphthylene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Acetophenone	ND (0.734)		8270D		1	08/12/15 20:15	CYH0126	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-738
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 14.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.734)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Anthracene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Azobenzene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Benzo(a)anthracene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Benzo(a)pyrene	ND (0.184)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Benzo(b)fluoranthene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Benzo(g,h,i)perylene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Benzo(k)fluoranthene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Benzoic Acid	ND (1.84)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Benzyl Alcohol	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
bis(2-Chloroethoxy)methane	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
bis(2-Chloroethyl)ether	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
bis(2-chloroisopropyl)Ether	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
bis(2-Ethylhexyl)phthalate	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Butylbenzylphthalate	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Carbazole	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Chrysene	ND (0.184)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Dibenzo(a,h)Anthracene	ND (0.184)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Dibenzofuran	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Diethylphthalate	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Dimethylphthalate	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Di-n-butylphthalate	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Di-n-octylphthalate	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Fluoranthene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Fluorene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Hexachlorobenzene	ND (0.184)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Hexachlorobutadiene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Hexachlorocyclopentadiene	ND (1.84)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Hexachloroethane	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Indeno(1,2,3-cd)Pyrene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Isophorone	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Naphthalene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-738
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 14.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
N-Nitrosodimethylamine	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
N-Nitroso-Di-n-Propylamine	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
N-nitrosodiphenylamine	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Pentachlorophenol	ND (1.84)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Phenanthrene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Phenol	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Pyrene	ND (0.366)		8270D		1	08/12/15 20:15	CYH0126	CH51228
Pyridine	ND (1.84)		8270D		1	08/12/15 20:15	CYH0126	CH51228

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>71 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>84 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>68 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>65 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>62 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>63 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>69 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>88 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-738
Date Sampled: 08/07/15 17:00
Percent Solids: 96

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-08
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.15 (N/A)		9045		1	MJV	08/08/15 10:40	S.U.	CH50808
Corrosivity (pH) Sample Temp	Soil pH measured in water at 22 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-739
Date Sampled: 08/07/15 17:00
Percent Solids: 96

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-09
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.22)		6010C		1	KJK	08/14/15 23:54	2.35	100	CH51351
Barium	13.5 (2.22)		6010C		1	KJK	08/14/15 23:54	2.35	100	CH51351
Cadmium	ND (0.44)		6010C		1	KJK	08/14/15 23:54	2.35	100	CH51351
Chromium	1.82 (0.89)		6010C		1	KJK	08/14/15 23:54	2.35	100	CH51351
Lead	ND (4.44)		6010C		1	KJK	08/14/15 23:54	2.35	100	CH51351
Mercury	ND (0.030)		7471B		1	BJV	08/14/15 13:58	0.68	40	CH51350
Selenium	ND (4.44)		6010C		1	KJK	08/14/15 23:54	2.35	100	CH51351
Silver	ND (0.44)		6010C		1	KJK	08/14/15 23:54	2.35	100	CH51351



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-739
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,1,1-Trichloroethane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,1,2,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,1,2-Trichloroethane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,1-Dichloroethane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,1-Dichloroethene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,1-Dichloropropene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,2,3-Trichlorobenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,2,3-Trichloropropane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,2,4-Trichlorobenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,2,4-Trimethylbenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,2-Dibromo-3-Chloropropane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,2-Dibromoethane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,2-Dichlorobenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,2-Dichloroethane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,2-Dichloropropane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,3,5-Trimethylbenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,3-Dichlorobenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,3-Dichloropropane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,4-Dichlorobenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1,4-Dioxane	ND (0.0841)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
1-Chlorohexane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
2,2-Dichloropropane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
2-Butanone	ND (0.0421)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
2-Chlorotoluene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
2-Hexanone	ND (0.0421)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
4-Chlorotoluene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
4-Isopropyltoluene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
4-Methyl-2-Pentanone	ND (0.0421)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Acetone	ND (0.0421)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Benzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Bromobenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-739
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Bromodichloromethane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Bromoform	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Bromomethane	ND (0.0084)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Carbon Disulfide	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Carbon Tetrachloride	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Chlorobenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Chloroethane	ND (0.0084)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Chloroform	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Chloromethane	ND (0.0084)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
cis-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
cis-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Dibromochloromethane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Dibromomethane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Dichlorodifluoromethane	ND (0.0084)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Diethyl Ether	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Di-isopropyl ether	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Ethyl tertiary-butyl ether	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Ethylbenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Hexachlorobutadiene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Isopropylbenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Methyl tert-Butyl Ether	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Methylene Chloride	ND (0.0210)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Naphthalene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
n-Butylbenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
n-Propylbenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
sec-Butylbenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Styrene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
tert-Butylbenzene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Tertiary-amyl methyl ether	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Tetrachloroethene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Tetrahydrofuran	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-739
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
trans-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
trans-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Trichloroethene	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Trichlorofluoromethane	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Vinyl Acetate	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Vinyl Chloride	ND (0.0084)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Xylene O	ND (0.0042)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Xylene P,M	ND (0.0084)		8260B Low		1	08/14/15 16:17	CYH0178	CH51703
Xylenes (Total)	ND (0.0084)		8260B Low		1	08/14/15 16:17		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>121 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>90 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>113 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>102 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-739
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 19.9
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/12/15 12:32

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (39.3)		8100M		1	08/12/15 22:33	CYH0188	CH51226
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>86 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-739
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 14.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
1,2,4-Trichlorobenzene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
1,2-Dichlorobenzene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
1,3-Dichlorobenzene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
1,4-Dichlorobenzene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2,3,4,6-Tetrachlorophenol	ND (1.80)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2,4,5-Trichlorophenol	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2,4,6-Trichlorophenol	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2,4-Dichlorophenol	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2,4-Dimethylphenol	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2,4-Dinitrophenol	ND (1.80)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2,4-Dinitrotoluene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2,6-Dinitrotoluene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2-Chloronaphthalene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2-Chlorophenol	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2-Methylnaphthalene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2-Methylphenol	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2-Nitroaniline	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
2-Nitrophenol	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
3,3'-Dichlorobenzidine	ND (0.720)		8270D		1	08/12/15 20:52	CYH0126	CH51228
3+4-Methylphenol	ND (0.720)		8270D		1	08/12/15 20:52	CYH0126	CH51228
3-Nitroaniline	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
4,6-Dinitro-2-Methylphenol	ND (1.80)		8270D		1	08/12/15 20:52	CYH0126	CH51228
4-Bromophenyl-phenylether	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
4-Chloro-3-Methylphenol	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
4-Chloroaniline	ND (0.720)		8270D		1	08/12/15 20:52	CYH0126	CH51228
4-Chloro-phenyl-phenyl ether	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
4-Nitroaniline	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
4-Nitrophenol	ND (1.80)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Acenaphthene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Acenaphthylene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Acetophenone	ND (0.720)		8270D		1	08/12/15 20:52	CYH0126	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-739
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 14.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.720)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Anthracene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Azobenzene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Benzo(a)anthracene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Benzo(a)pyrene	ND (0.180)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Benzo(b)fluoranthene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Benzo(g,h,i)perylene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Benzo(k)fluoranthene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Benzoic Acid	ND (1.80)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Benzyl Alcohol	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
bis(2-Chloroethoxy)methane	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
bis(2-Chloroethyl)ether	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
bis(2-chloroisopropyl)Ether	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
bis(2-Ethylhexyl)phthalate	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Butylbenzylphthalate	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Carbazole	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Chrysene	ND (0.180)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Dibenzo(a,h)Anthracene	ND (0.180)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Dibenzofuran	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Diethylphthalate	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Dimethylphthalate	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Di-n-butylphthalate	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Di-n-octylphthalate	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Fluoranthene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Fluorene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Hexachlorobenzene	ND (0.180)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Hexachlorobutadiene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Hexachlorocyclopentadiene	ND (1.80)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Hexachloroethane	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Indeno(1,2,3-cd)Pyrene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Isophorone	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Naphthalene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-739
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 14.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
N-Nitrosodimethylamine	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
N-Nitroso-Di-n-Propylamine	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
N-nitrosodiphenylamine	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Pentachlorophenol	ND (1.80)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Phenanthrene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Phenol	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Pyrene	ND (0.359)		8270D		1	08/12/15 20:52	CYH0126	CH51228
Pyridine	ND (1.80)		8270D		1	08/12/15 20:52	CYH0126	CH51228

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>60 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>73 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>60 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>62 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>54 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>54 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>62 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>82 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-739
Date Sampled: 08/07/15 17:00
Percent Solids: 96

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-09
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.21 (N/A)		9045		1	MJV	08/08/15 10:40	S.U.	CH50808
Corrosivity (pH) Sample Temp	Soil pH measured in water at 22.8 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-740
Date Sampled: 08/07/15 17:00
Percent Solids: 96

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-10
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.41)		6010C		1	KJK	08/15/15 0:11	2.16	100	CH51351
Barium	14.3 (2.41)		6010C		1	KJK	08/15/15 0:11	2.16	100	CH51351
Cadmium	ND (0.48)		6010C		1	KJK	08/15/15 0:11	2.16	100	CH51351
Chromium	2.07 (0.96)		6010C		1	KJK	08/15/15 0:11	2.16	100	CH51351
Lead	ND (4.82)		6010C		1	KJK	08/15/15 0:11	2.16	100	CH51351
Mercury	ND (0.031)		7471B		1	BJV	08/14/15 14:00	0.67	40	CH51350
Selenium	ND (4.82)		6010C		1	KJK	08/15/15 0:11	2.16	100	CH51351
Silver	ND (0.48)		6010C		1	KJK	08/15/15 0:11	2.16	100	CH51351



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-740
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 5.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,1,1-Trichloroethane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,1,2,2-Tetrachloroethane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,1,2-Trichloroethane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,1-Dichloroethane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,1-Dichloroethene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,1-Dichloropropene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,2,3-Trichlorobenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,2,3-Trichloropropane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,2,4-Trichlorobenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,2,4-Trimethylbenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,2-Dibromo-3-Chloropropane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,2-Dibromoethane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,2-Dichlorobenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,2-Dichloroethane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,2-Dichloropropane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,3,5-Trimethylbenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,3-Dichlorobenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,3-Dichloropropane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,4-Dichlorobenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1,4-Dioxane	ND (0.0883)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
1-Chlorohexane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
2,2-Dichloropropane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
2-Butanone	ND (0.0441)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
2-Chlorotoluene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
2-Hexanone	ND (0.0441)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
4-Chlorotoluene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
4-Isopropyltoluene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
4-Methyl-2-Pentanone	ND (0.0441)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Acetone	ND (0.0441)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Benzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Bromobenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-740
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 5.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Bromodichloromethane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Bromoform	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Bromomethane	ND (0.0088)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Carbon Disulfide	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Carbon Tetrachloride	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Chlorobenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Chloroethane	ND (0.0088)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Chloroform	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Chloromethane	ND (0.0088)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
cis-1,2-Dichloroethene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
cis-1,3-Dichloropropene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Dibromochloromethane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Dibromomethane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Dichlorodifluoromethane	ND (0.0088)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Diethyl Ether	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Di-isopropyl ether	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Ethyl tertiary-butyl ether	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Ethylbenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Hexachlorobutadiene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Isopropylbenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Methyl tert-Butyl Ether	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Methylene Chloride	ND (0.0221)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Naphthalene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
n-Butylbenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
n-Propylbenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
sec-Butylbenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Styrene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
tert-Butylbenzene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Tertiary-amyl methyl ether	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Tetrachloroethene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Tetrahydrofuran	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-740
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 5.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
trans-1,2-Dichloroethene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
trans-1,3-Dichloropropene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Trichloroethene	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Trichlorofluoromethane	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Vinyl Acetate	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Vinyl Chloride	ND (0.0088)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Xylene O	ND (0.0044)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Xylene P,M	ND (0.0088)		8260B Low		1	08/14/15 16:45	CYH0178	CH51703
Xylenes (Total)	ND (0.0088)		8260B Low		1	08/14/15 16:45		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>122 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>91 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>111 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>102 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-740
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 19.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/12/15 12:32

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (40.5)		8100M		1	08/12/15 23:12	CYH0188	CH51226
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>87 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-740
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 14.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
1,2,4-Trichlorobenzene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
1,2-Dichlorobenzene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
1,3-Dichlorobenzene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
1,4-Dichlorobenzene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2,3,4,6-Tetrachlorophenol	ND (1.79)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2,4,5-Trichlorophenol	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2,4,6-Trichlorophenol	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2,4-Dichlorophenol	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2,4-Dimethylphenol	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2,4-Dinitrophenol	ND (1.79)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2,4-Dinitrotoluene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2,6-Dinitrotoluene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2-Chloronaphthalene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2-Chlorophenol	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2-Methylnaphthalene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2-Methylphenol	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2-Nitroaniline	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
2-Nitrophenol	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
3,3'-Dichlorobenzidine	ND (0.714)		8270D		1	08/12/15 21:28	CYH0126	CH51228
3+4-Methylphenol	ND (0.714)		8270D		1	08/12/15 21:28	CYH0126	CH51228
3-Nitroaniline	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
4,6-Dinitro-2-Methylphenol	ND (1.79)		8270D		1	08/12/15 21:28	CYH0126	CH51228
4-Bromophenyl-phenylether	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
4-Chloro-3-Methylphenol	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
4-Chloroaniline	ND (0.714)		8270D		1	08/12/15 21:28	CYH0126	CH51228
4-Chloro-phenyl-phenyl ether	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
4-Nitroaniline	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
4-Nitrophenol	ND (1.79)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Acenaphthene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Acenaphthylene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Acetophenone	ND (0.714)		8270D		1	08/12/15 21:28	CYH0126	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-740
Date Sampled: 08/07/15 17:00
Percent Solids: 96
Initial Volume: 14.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-10
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.714)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Anthracene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Azobenzene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Benzo(a)anthracene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Benzo(a)pyrene	ND (0.179)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Benzo(b)fluoranthene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Benzo(g,h,i)perylene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Benzo(k)fluoranthene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Benzoic Acid	ND (1.79)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Benzyl Alcohol	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
bis(2-Chloroethoxy)methane	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
bis(2-Chloroethyl)ether	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
bis(2-chloroisopropyl)Ether	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
bis(2-Ethylhexyl)phthalate	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Butylbenzylphthalate	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Carbazole	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Chrysene	ND (0.179)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Dibenzo(a,h)Anthracene	ND (0.179)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Dibenzofuran	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Diethylphthalate	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Dimethylphthalate	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Di-n-butylphthalate	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Di-n-octylphthalate	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Fluoranthene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Fluorene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Hexachlorobenzene	ND (0.179)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Hexachlorobutadiene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Hexachlorocyclopentadiene	ND (1.79)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Hexachloroethane	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Indeno(1,2,3-cd)Pyrene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Isophorone	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Naphthalene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
 Client Project ID: Textron
 Client Sample ID: L-740
 Date Sampled: 08/07/15 17:00
 Percent Solids: 96
 Initial Volume: 14.6
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1508190
 ESS Laboratory Sample ID: 1508190-10
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: IBM
 Prepared: 8/12/15 14:32

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
N-Nitrosodimethylamine	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
N-Nitroso-Di-n-Propylamine	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
N-nitrosodiphenylamine	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Pentachlorophenol	ND (1.79)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Phenanthrene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Phenol	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Pyrene	ND (0.356)		8270D		1	08/12/15 21:28	CYH0126	CH51228
Pyridine	ND (1.79)		8270D		1	08/12/15 21:28	CYH0126	CH51228

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	69 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	82 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	67 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	63 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	61 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	60 %		30-130
<i>Surrogate: Phenol-d6</i>	68 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	90 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron
Client Sample ID: L-740
Date Sampled: 08/07/15 17:00
Percent Solids: 96

ESS Laboratory Work Order: 1508190
ESS Laboratory Sample ID: 1508190-10
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.22 (N/A)		9045		1	MJV	08/08/15 10:40	S.U.	CH50808
Corrosivity (pH) Sample Temp	Soil pH measured in water at 21.8 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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Total Metals

Batch CH51350 - 7471A

Blank

Mercury	ND	0.033	mg/kg wet							
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LCS

Mercury	5.37	1.90	mg/kg wet	5.760		93	80-120			
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LCS Dup

Mercury	5.23	1.94	mg/kg wet	5.760		91	80-120	3	20	
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Batch CH51351 - 3050B

Blank

Arsenic	ND	2.50	mg/kg wet							
Barium	ND	2.50	mg/kg wet							
Cadmium	ND	0.50	mg/kg wet							
Chromium	ND	1.00	mg/kg wet							
Lead	ND	5.00	mg/kg wet							
Selenium	ND	5.00	mg/kg wet							
Silver	ND	0.50	mg/kg wet							

LCS

Arsenic	131	8.93	mg/kg wet	151.0		87	80-120			
Barium	236	8.93	mg/kg wet	262.0		90	80-120			
Cadmium	123	1.79	mg/kg wet	152.0		81	80-120			
Chromium	106	3.57	mg/kg wet	117.0		90	80-120			
Lead	224	17.9	mg/kg wet	254.0		88	80-120			
Selenium	130	17.9	mg/kg wet	162.0		80	77-123			
Silver	39.7	1.79	mg/kg wet	44.30		90	80-120			

LCS Dup

Arsenic	123	9.26	mg/kg wet	151.0		82	80-120	7	20	
Barium	228	9.26	mg/kg wet	262.0		87	80-120	4	20	
Cadmium	115	1.85	mg/kg wet	152.0		76	80-120	6	20	B-
Chromium	98.4	3.70	mg/kg wet	117.0		84	80-120	7	20	
Lead	212	18.5	mg/kg wet	254.0		83	80-120	5	20	
Selenium	124	18.5	mg/kg wet	162.0		77	77-123	4	20	
Silver	36.7	1.85	mg/kg wet	44.30		83	80-120	8	20	

5035/8260B Volatile Organic Compounds / Low Level

Batch CH51340 - 5035

Blank

1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH51340 - 5035

1,2,3-Trichloropropane	ND	0.0050	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet
1,2-Dibromoethane	ND	0.0050	mg/kg wet
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet
1,2-Dichloroethane	ND	0.0050	mg/kg wet
1,2-Dichloropropane	ND	0.0050	mg/kg wet
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet
1,3-Dichloropropane	ND	0.0050	mg/kg wet
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet
1,4-Dioxane	ND	0.100	mg/kg wet
1-Chlorohexane	ND	0.0050	mg/kg wet
2,2-Dichloropropane	ND	0.0050	mg/kg wet
2-Butanone	ND	0.0500	mg/kg wet
2-Chlorotoluene	ND	0.0050	mg/kg wet
2-Hexanone	ND	0.0500	mg/kg wet
4-Chlorotoluene	ND	0.0050	mg/kg wet
4-Isopropyltoluene	ND	0.0050	mg/kg wet
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet
Acetone	ND	0.0500	mg/kg wet
Benzene	ND	0.0050	mg/kg wet
Bromobenzene	ND	0.0050	mg/kg wet
Bromochloromethane	ND	0.0050	mg/kg wet
Bromodichloromethane	ND	0.0050	mg/kg wet
Bromoform	ND	0.0050	mg/kg wet
Bromomethane	ND	0.0100	mg/kg wet
Carbon Disulfide	ND	0.0050	mg/kg wet
Carbon Tetrachloride	ND	0.0050	mg/kg wet
Chlorobenzene	ND	0.0050	mg/kg wet
Chloroethane	ND	0.0100	mg/kg wet
Chloroform	ND	0.0050	mg/kg wet
Chloromethane	ND	0.0100	mg/kg wet
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet
Dibromochloromethane	ND	0.0050	mg/kg wet
Dibromomethane	ND	0.0050	mg/kg wet
Dichlorodifluoromethane	ND	0.0100	mg/kg wet
Diethyl Ether	ND	0.0050	mg/kg wet
Di-isopropyl ether	ND	0.0050	mg/kg wet
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet
Ethylbenzene	ND	0.0050	mg/kg wet
Hexachlorobutadiene	ND	0.0050	mg/kg wet
Isopropylbenzene	ND	0.0050	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH51340 - 5035

Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0250	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0521		mg/kg wet	0.05000		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.0477		mg/kg wet	0.05000		95	70-130			
Surrogate: Dibromofluoromethane	0.0490		mg/kg wet	0.05000		98	70-130			
Surrogate: Toluene-d8	0.0521		mg/kg wet	0.05000		104	70-130			

LCS

1,1,1,2-Tetrachloroethane	0.0536	0.0050	mg/kg wet	0.05000		107	70-130			
1,1,1-Trichloroethane	0.0531	0.0050	mg/kg wet	0.05000		106	70-130			
1,1,2,2-Tetrachloroethane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			
1,1,2-Trichloroethane	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
1,1-Dichloroethane	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
1,1-Dichloroethene	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
1,1-Dichloropropene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
1,2,3-Trichlorobenzene	0.0532	0.0050	mg/kg wet	0.05000		106	70-130			
1,2,3-Trichloropropane	0.0513	0.0050	mg/kg wet	0.05000		103	70-130			
1,2,4-Trichlorobenzene	0.0543	0.0050	mg/kg wet	0.05000		109	70-130			
1,2,4-Trimethylbenzene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130			
1,2-Dibromo-3-Chloropropane	0.0570	0.0050	mg/kg wet	0.05000		114	70-130			
1,2-Dibromoethane	0.0532	0.0050	mg/kg wet	0.05000		106	70-130			
1,2-Dichlorobenzene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
1,2-Dichloroethane	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
1,2-Dichloropropane	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
1,3,5-Trimethylbenzene	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
1,3-Dichlorobenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
1,3-Dichloropropane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH51340 - 5035

1,4-Dichlorobenzene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
1,4-Dioxane	0.999	0.100	mg/kg wet	1.000		100	70-130			
1-Chlorohexane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
2,2-Dichloropropane	0.0583	0.0050	mg/kg wet	0.05000		117	70-130			
2-Butanone	0.282	0.0500	mg/kg wet	0.2500		113	70-130			
2-Chlorotoluene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130			
2-Hexanone	0.302	0.0500	mg/kg wet	0.2500		121	70-130			
4-Chlorotoluene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
4-Isopropyltoluene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
4-Methyl-2-Pentanone	0.230	0.0500	mg/kg wet	0.2500		92	70-130			
Acetone	0.493	0.0500	mg/kg wet	0.2500		197	70-130			B+
Benzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
Bromobenzene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
Bromochloromethane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			
Bromodichloromethane	0.0532	0.0050	mg/kg wet	0.05000		106	70-130			
Bromoform	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Bromomethane	0.0493	0.0100	mg/kg wet	0.05000		99	70-130			
Carbon Disulfide	0.0554	0.0050	mg/kg wet	0.05000		111	70-130			
Carbon Tetrachloride	0.0542	0.0050	mg/kg wet	0.05000		108	70-130			
Chlorobenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Chloroethane	0.0442	0.0100	mg/kg wet	0.05000		88	70-130			
Chloroform	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
Chloromethane	0.0441	0.0100	mg/kg wet	0.05000		88	70-130			
cis-1,2-Dichloroethene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
cis-1,3-Dichloropropene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
Dibromochloromethane	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
Dibromomethane	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Dichlorodifluoromethane	0.0542	0.0100	mg/kg wet	0.05000		108	70-130			
Diethyl Ether	0.0515	0.0050	mg/kg wet	0.05000		103	70-130			
Di-isopropyl ether	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
Ethyl tertiary-butyl ether	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
Ethylbenzene	0.0528	0.0050	mg/kg wet	0.05000		106	70-130			
Hexachlorobutadiene	0.0544	0.0050	mg/kg wet	0.05000		109	70-130			
Isopropylbenzene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
Methyl tert-Butyl Ether	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			
Methylene Chloride	0.0517	0.0250	mg/kg wet	0.05000		103	70-130			
Naphthalene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130			
n-Butylbenzene	0.0541	0.0050	mg/kg wet	0.05000		108	70-130			
n-Propylbenzene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130			
sec-Butylbenzene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130			
Styrene	0.0521	0.0050	mg/kg wet	0.05000		104	70-130			
tert-Butylbenzene	0.0534	0.0050	mg/kg wet	0.05000		107	70-130			
Tertiary-amyl methyl ether	0.0558	0.0050	mg/kg wet	0.05000		112	70-130			
Tetrachloroethene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
Tetrahydrofuran	0.0440	0.0050	mg/kg wet	0.05000		88	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH51340 - 5035

Toluene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
trans-1,2-Dichloroethene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
trans-1,3-Dichloropropene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
Trichloroethene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Trichlorofluoromethane	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
Vinyl Acetate	0.0680	0.0050	mg/kg wet	0.05000		136	70-130			B+
Vinyl Chloride	0.0540	0.0100	mg/kg wet	0.05000		108	70-130			
Xylene O	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Xylene P,M	0.107	0.0100	mg/kg wet	0.1000		107	70-130			
Xylenes (Total)	0.157	0.0100	mg/kg wet							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0492</i>		mg/kg wet	<i>0.05000</i>		<i>98</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0519</i>		mg/kg wet	<i>0.05000</i>		<i>104</i>	<i>70-130</i>			
<i>Surrogate: Dibromofluoromethane</i>	<i>0.0515</i>		mg/kg wet	<i>0.05000</i>		<i>103</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0512</i>		mg/kg wet	<i>0.05000</i>		<i>102</i>	<i>70-130</i>			

LCS Dup

1,1,1,2-Tetrachloroethane	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	1	25	
1,1,1-Trichloroethane	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	1	25	
1,1,2,2-Tetrachloroethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	1	25	
1,1,2-Trichloroethane	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	0.4	25	
1,1-Dichloroethane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	2	25	
1,1-Dichloroethene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	2	25	
1,1-Dichloropropene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
1,2,3-Trichlorobenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	2	25	
1,2,3-Trichloropropane	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
1,2,4-Trichlorobenzene	0.0544	0.0050	mg/kg wet	0.05000		109	70-130	0.04	25	
1,2,4-Trimethylbenzene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	3	25	
1,2-Dibromo-3-Chloropropane	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	10	25	
1,2-Dibromoethane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	4	25	
1,2-Dichlorobenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	3	25	
1,2-Dichloroethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
1,2-Dichloropropane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	1	25	
1,3,5-Trimethylbenzene	0.0529	0.0050	mg/kg wet	0.05000		106	70-130	4	25	
1,3-Dichlorobenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	4	25	
1,3-Dichloropropane	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	2	25	
1,4-Dichlorobenzene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	0.2	25	
1,4-Dioxane	0.946	0.100	mg/kg wet	1.000		95	70-130	5	20	
1-Chlorohexane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	2	25	
2,2-Dichloropropane	0.0575	0.0050	mg/kg wet	0.05000		115	70-130	2	25	
2-Butanone	0.252	0.0500	mg/kg wet	0.2500		101	70-130	11	25	
2-Chlorotoluene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	3	25	
2-Hexanone	0.259	0.0500	mg/kg wet	0.2500		104	70-130	15	25	
4-Chlorotoluene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	4	25	
4-Isopropyltoluene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	2	25	
4-Methyl-2-Pentanone	0.234	0.0500	mg/kg wet	0.2500		94	70-130	2	25	
Acetone	0.332	0.0500	mg/kg wet	0.2500		133	70-130	39	25	B+, D+



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH51340 - 5035

Benzene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	1	25	
Bromobenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
Bromochloromethane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	0	25	
Bromodichloromethane	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	3	25	
Bromoform	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	0.3	25	
Bromomethane	0.0476	0.0100	mg/kg wet	0.05000		95	70-130	4	25	
Carbon Disulfide	0.0547	0.0050	mg/kg wet	0.05000		109	70-130	1	25	
Carbon Tetrachloride	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	3	25	
Chlorobenzene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	0.7	25	
Chloroethane	0.0630	0.0100	mg/kg wet	0.05000		126	70-130	35	25	D+
Chloroform	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	3	25	
Chloromethane	0.0441	0.0100	mg/kg wet	0.05000		88	70-130	0	25	
cis-1,2-Dichloroethene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	3	25	
cis-1,3-Dichloropropene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
Dibromochloromethane	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	2	25	
Dibromomethane	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	5	25	
Dichlorodifluoromethane	0.0545	0.0100	mg/kg wet	0.05000		109	70-130	0.6	25	
Diethyl Ether	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	0.04	25	
Di-isopropyl ether	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	4	25	
Ethyl tertiary-butyl ether	0.0543	0.0050	mg/kg wet	0.05000		109	70-130	0.9	25	
Ethylbenzene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	0.3	25	
Hexachlorobutadiene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	5	25	
Isopropylbenzene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	2	25	
Methyl tert-Butyl Ether	0.0531	0.0050	mg/kg wet	0.05000		106	70-130	0.8	25	
Methylene Chloride	0.0502	0.0250	mg/kg wet	0.05000		100	70-130	3	25	
Naphthalene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	0.04	25	
n-Butylbenzene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	3	25	
n-Propylbenzene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	3	25	
sec-Butylbenzene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
Styrene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	1	25	
tert-Butylbenzene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	2	25	
Tertiary-amyl methyl ether	0.0560	0.0050	mg/kg wet	0.05000		112	70-130	0.3	25	
Tetrachloroethene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
Tetrahydrofuran	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	11	25	
Toluene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	2	25	
trans-1,2-Dichloroethene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	0.4	25	
trans-1,3-Dichloropropene	0.0450	0.0050	mg/kg wet	0.05000		90	70-130	0.4	25	
Trichloroethene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	0.2	25	
Trichlorofluoromethane	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	2	25	
Vinyl Acetate	0.0702	0.0050	mg/kg wet	0.05000		140	70-130	3	25	B+
Vinyl Chloride	0.0517	0.0100	mg/kg wet	0.05000		103	70-130	4	25	
Xylene O	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	0.4	25	
Xylene P,M	0.106	0.0100	mg/kg wet	0.1000		106	70-130	0.6	25	
Xylenes (Total)	0.156	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0506		mg/kg wet	0.05000		101	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH51340 - 5035

Surrogate: 4-Bromofluorobenzene	0.0505		mg/kg wet	0.05000		101	70-130			
Surrogate: Dibromofluoromethane	0.0511		mg/kg wet	0.05000		102	70-130			
Surrogate: Toluene-d8	0.0517		mg/kg wet	0.05000		103	70-130			

Batch CH51703 - 5035

Blank

1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
1-Chlorohexane	ND	0.0050	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH51703 - 5035

Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0050	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0250	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0539		mg/kg wet	0.05000		108	70-130			
Surrogate: 4-Bromofluorobenzene	0.0458		mg/kg wet	0.05000		92	70-130			
Surrogate: Dibromofluoromethane	0.0482		mg/kg wet	0.05000		96	70-130			
Surrogate: Toluene-d8	0.0516		mg/kg wet	0.05000		103	70-130			

LCS

1,1,1,2-Tetrachloroethane	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
1,1,1-Trichloroethane	0.0515	0.0050	mg/kg wet	0.05000		103	70-130			
1,1,2,2-Tetrachloroethane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			
1,1,2-Trichloroethane	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
1,1-Dichloroethane	0.0445	0.0050	mg/kg wet	0.05000		89	70-130			



CERTIFICATE OF ANALYSIS

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ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH51703 - 5035

1,1-Dichloroethene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
1,1-Dichloropropene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,3-Trichlorobenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
1,2,3-Trichloropropane	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,2,4-Trichlorobenzene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
1,2,4-Trimethylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
1,2-Dibromo-3-Chloropropane	0.0581	0.0050	mg/kg wet	0.05000		116	70-130			
1,2-Dibromoethane	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			
1,2-Dichlorobenzene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
1,2-Dichloroethane	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
1,2-Dichloropropane	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
1,3,5-Trimethylbenzene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
1,3-Dichlorobenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
1,3-Dichloropropane	0.0513	0.0050	mg/kg wet	0.05000		103	70-130			
1,4-Dichlorobenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,4-Dioxane	1.02	0.100	mg/kg wet	1.000		102	70-130			
1-Chlorohexane	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
2,2-Dichloropropane	0.0552	0.0050	mg/kg wet	0.05000		110	70-130			
2-Butanone	0.241	0.0500	mg/kg wet	0.2500		97	70-130			
2-Chlorotoluene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
2-Hexanone	0.255	0.0500	mg/kg wet	0.2500		102	70-130			
4-Chlorotoluene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
4-Isopropyltoluene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
4-Methyl-2-Pentanone	0.234	0.0500	mg/kg wet	0.2500		94	70-130			
Acetone	0.270	0.0500	mg/kg wet	0.2500		108	70-130			
Benzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
Bromobenzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
Bromochloromethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Bromodichloromethane	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			
Bromoform	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
Bromomethane	0.0468	0.0100	mg/kg wet	0.05000		94	70-130			
Carbon Disulfide	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
Carbon Tetrachloride	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
Chlorobenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Chloroethane	0.0394	0.0100	mg/kg wet	0.05000		79	70-130			
Chloroform	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
Chloromethane	0.0410	0.0100	mg/kg wet	0.05000		82	70-130			
cis-1,2-Dichloroethene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
cis-1,3-Dichloropropene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
Dibromochloromethane	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
Dibromomethane	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
Dichlorodifluoromethane	0.0512	0.0100	mg/kg wet	0.05000		102	70-130			
Diethyl Ether	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
Di-isopropyl ether	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Ethyl tertiary-butyl ether	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH51703 - 5035

Ethylbenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Hexachlorobutadiene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
Isopropylbenzene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
Methyl tert-Butyl Ether	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			
Methylene Chloride	0.0483	0.0250	mg/kg wet	0.05000		97	70-130			
Naphthalene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
n-Butylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
n-Propylbenzene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
sec-Butylbenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
Styrene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
tert-Butylbenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Tertiary-amyl methyl ether	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
Tetrachloroethene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
Tetrahydrofuran	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
Toluene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
trans-1,2-Dichloroethene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130			
trans-1,3-Dichloropropene	0.0437	0.0050	mg/kg wet	0.05000		87	70-130			
Trichloroethene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
Trichlorofluoromethane	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Vinyl Acetate	0.0644	0.0050	mg/kg wet	0.05000		129	70-130			
Vinyl Chloride	0.0528	0.0100	mg/kg wet	0.05000		106	70-130			
Xylene O	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Xylene P,M	0.101	0.0100	mg/kg wet	0.1000		101	70-130			
Xylenes (Total)	0.148	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0523		mg/kg wet	0.05000		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.0503		mg/kg wet	0.05000		101	70-130			
Surrogate: Dibromofluoromethane	0.0503		mg/kg wet	0.05000		101	70-130			
Surrogate: Toluene-d8	0.0506		mg/kg wet	0.05000		101	70-130			

LCS Dup

1,1,1,2-Tetrachloroethane	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	3	25	
1,1,1-Trichloroethane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	5	25	
1,1,2,2-Tetrachloroethane	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	4	25	
1,1,2-Trichloroethane	0.0447	0.0050	mg/kg wet	0.05000		89	70-130	3	25	
1,1-Dichloroethane	0.0439	0.0050	mg/kg wet	0.05000		88	70-130	1	25	
1,1-Dichloroethene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	2	25	
1,1-Dichloropropene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	1	25	
1,2,3-Trichlorobenzene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	1	25	
1,2,3-Trichloropropane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	0.4	25	
1,2,4-Trichlorobenzene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	3	25	
1,2,4-Trimethylbenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	0.8	25	
1,2-Dibromo-3-Chloropropane	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	15	25	
1,2-Dibromoethane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
1,2-Dichlorobenzene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130	2	25	
1,2-Dichloroethane	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	7	25	
1,2-Dichloropropane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	3	25	



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH51703 - 5035

1,3,5-Trimethylbenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
1,3-Dichlorobenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	0.4	25	
1,3-Dichloropropane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	0.2	25	
1,4-Dichlorobenzene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	0.3	25	
1,4-Dioxane	0.930	0.100	mg/kg wet	1.000		93	70-130	9	20	
1-Chlorohexane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	0.8	25	
2,2-Dichloropropane	0.0525	0.0050	mg/kg wet	0.05000		105	70-130	5	25	
2-Butanone	0.231	0.0500	mg/kg wet	0.2500		92	70-130	4	25	
2-Chlorotoluene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	3	25	
2-Hexanone	0.248	0.0500	mg/kg wet	0.2500		99	70-130	3	25	
4-Chlorotoluene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
4-Isopropyltoluene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	1	25	
4-Methyl-2-Pentanone	0.220	0.0500	mg/kg wet	0.2500		88	70-130	6	25	
Acetone	0.246	0.0500	mg/kg wet	0.2500		99	70-130	9	25	
Benzene	0.0440	0.0050	mg/kg wet	0.05000		88	70-130	3	25	
Bromobenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	1	25	
Bromochloromethane	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
Bromodichloromethane	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
Bromoform	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	0.1	25	
Bromomethane	0.0449	0.0100	mg/kg wet	0.05000		90	70-130	4	25	
Carbon Disulfide	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	3	25	
Carbon Tetrachloride	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	0.5	25	
Chlorobenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	0.6	25	
Chloroethane	0.0488	0.0100	mg/kg wet	0.05000		98	70-130	21	25	
Chloroform	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	5	25	
Chloromethane	0.0402	0.0100	mg/kg wet	0.05000		80	70-130	2	25	
cis-1,2-Dichloroethene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	4	25	
cis-1,3-Dichloropropene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	2	25	
Dibromochloromethane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	2	25	
Dibromomethane	0.0441	0.0050	mg/kg wet	0.05000		88	70-130	4	25	
Dichlorodifluoromethane	0.0503	0.0100	mg/kg wet	0.05000		101	70-130	2	25	
Diethyl Ether	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	1	25	
Di-isopropyl ether	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	0	25	
Ethyl tertiary-butyl ether	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	0.2	25	
Ethylbenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	0.04	25	
Hexachlorobutadiene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
Isopropylbenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	1	25	
Methyl tert-Butyl Ether	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.1	25	
Methylene Chloride	0.0476	0.0250	mg/kg wet	0.05000		95	70-130	2	25	
Naphthalene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
n-Butylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	2	25	
n-Propylbenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	2	25	
sec-Butylbenzene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	1	25	
Styrene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	0.6	25	
tert-Butylbenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	0.5	25	



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
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ESS Laboratory Work Order: 1508190

Quality Control Data

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5035/8260B Volatile Organic Compounds / Low Level

Batch CH51703 - 5035

Tertiary-amyl methyl ether	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	3	25	
Tetrachloroethene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	3	25	
Tetrahydrofuran	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	8	25	
Toluene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	3	25	
trans-1,2-Dichloroethene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130	3	25	
trans-1,3-Dichloropropene	0.0428	0.0050	mg/kg wet	0.05000		86	70-130	2	25	
Trichloroethene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130	0.4	25	
Trichlorofluoromethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	3	25	
Vinyl Acetate	0.0648	0.0050	mg/kg wet	0.05000		130	70-130	0.6	25	
Vinyl Chloride	0.0498	0.0100	mg/kg wet	0.05000		100	70-130	6	25	
Xylene O	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	0.8	25	
Xylene P,M	0.102	0.0100	mg/kg wet	0.1000		102	70-130	1	25	
Xylenes (Total)	0.150	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0505		mg/kg wet	0.05000		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.0514		mg/kg wet	0.05000		103	70-130			
Surrogate: Dibromofluoromethane	0.0497		mg/kg wet	0.05000		99	70-130			
Surrogate: Toluene-d8	0.0520		mg/kg wet	0.05000		104	70-130			

8100M Total Petroleum Hydrocarbons

Batch CH51226 - 3546

Blank

Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacotane (C30)	ND	0.2	mg/kg wet							

Surrogate: O-Terphenyl	5.41		mg/kg wet	5.000		108	40-140			
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LCS

Decane (C10)	2.2	0.2	mg/kg wet	2.500		88	40-140			
Docosane (C22)	2.5	0.2	mg/kg wet	2.500		100	40-140			
Dodecane (C12)	2.5	0.2	mg/kg wet	2.500		101	40-140			
Eicosane (C20)	2.5	0.2	mg/kg wet	2.500		100	40-140			
Hexacosane (C26)	2.6	0.2	mg/kg wet	2.500		102	40-140			
Hexadecane (C16)	2.6	0.2	mg/kg wet	2.500		106	40-140			
Nonadecane (C19)	2.5	0.2	mg/kg wet	2.500		98	40-140			



CERTIFICATE OF ANALYSIS

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8100M Total Petroleum Hydrocarbons

Batch CH51226 - 3546

Nonane (C9)	1.9	0.2	mg/kg wet	2.500		75	30-140			
Octacosane (C28)	2.5	0.2	mg/kg wet	2.500		100	40-140			
Octadecane (C18)	2.5	0.2	mg/kg wet	2.500		99	40-140			
Tetracosane (C24)	2.4	0.2	mg/kg wet	2.500		94	40-140			
Tetradecane (C14)	2.6	0.2	mg/kg wet	2.500		104	40-140			
Total Petroleum Hydrocarbons	34.1	37.5	mg/kg wet	35.00		97	40-140			
Triacontane (C30)	2.5	0.2	mg/kg wet	2.500		101	40-140			

Surrogate: O-Terphenyl

5.14 mg/kg wet 5.000 103 40-140

LCS Dup

Decane (C10)	2.4	0.2	mg/kg wet	2.500		97	40-140	9	25	
Docosane (C22)	2.7	0.2	mg/kg wet	2.500		109	40-140	9	25	
Dodecane (C12)	2.8	0.2	mg/kg wet	2.500		112	40-140	10	25	
Eicosane (C20)	2.7	0.2	mg/kg wet	2.500		109	40-140	9	25	
Hexacosane (C26)	2.8	0.2	mg/kg wet	2.500		112	40-140	9	25	
Hexadecane (C16)	2.9	0.2	mg/kg wet	2.500		116	40-140	10	25	
Nonadecane (C19)	2.7	0.2	mg/kg wet	2.500		108	40-140	9	25	
Nonane (C9)	2.0	0.2	mg/kg wet	2.500		82	30-140	9	25	
Octacosane (C28)	2.7	0.2	mg/kg wet	2.500		109	40-140	9	25	
Octadecane (C18)	2.7	0.2	mg/kg wet	2.500		109	40-140	10	25	
Tetracosane (C24)	2.6	0.2	mg/kg wet	2.500		104	40-140	9	25	
Tetradecane (C14)	2.9	0.2	mg/kg wet	2.500		115	40-140	10	25	
Total Petroleum Hydrocarbons	37.4	37.5	mg/kg wet	35.00		107	40-140	9	25	
Triacontane (C30)	2.7	0.2	mg/kg wet	2.500		110	40-140	9	25	

Surrogate: O-Terphenyl

5.61 mg/kg wet 5.000 112 40-140

8270D Semi-Volatile Organic Compounds

Batch CH51228 - 3546

Blank

1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,3,4,6-Tetrachlorophenol	ND	1.67	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							



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8270D Semi-Volatile Organic Compounds

Batch CH51228 - 3546

2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitroaniline	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3'-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
3-Nitroaniline	ND	0.333	mg/kg wet							
4,6-Dinitro-2-Methylphenol	ND	1.67	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloro-3-Methylphenol	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Chloro-phenyl-phenyl ether	ND	0.333	mg/kg wet							
4-Nitroaniline	ND	0.333	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	0.667	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
Benzoic Acid	ND	1.67	mg/kg wet							
Benzyl Alcohol	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.167	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							



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8270D Semi-Volatile Organic Compounds

Batch CH51228 - 3546

Hexachloroethane	ND	0.333	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
N-Nitroso-Di-n-Propylamine	ND	0.333	mg/kg wet							
N-nitrosodiphenylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	2.84		mg/kg wet	3.333		85	30-130			
Surrogate: 2,4,6-Tribromophenol	5.42		mg/kg wet	5.000		108	30-130			
Surrogate: 2-Chlorophenol-d4	4.29		mg/kg wet	5.000		86	30-130			
Surrogate: 2-Fluorobiphenyl	2.90		mg/kg wet	3.333		87	30-130			
Surrogate: 2-Fluorophenol	4.11		mg/kg wet	5.000		82	30-130			
Surrogate: Nitrobenzene-d5	2.71		mg/kg wet	3.333		81	30-130			
Surrogate: Phenol-d6	4.43		mg/kg wet	5.000		89	30-130			
Surrogate: p-Terphenyl-d14	3.29		mg/kg wet	3.333		99	30-130			

LCS

1,1-Biphenyl	2.44	0.333	mg/kg wet	3.333		73	40-140			
1,2,4-Trichlorobenzene	2.82	0.333	mg/kg wet	3.333		85	40-140			
1,2-Dichlorobenzene	2.61	0.333	mg/kg wet	3.333		78	40-140			
1,3-Dichlorobenzene	2.63	0.333	mg/kg wet	3.333		79	40-140			
1,4-Dichlorobenzene	2.61	0.333	mg/kg wet	3.333		78	40-140			
2,3,4,6-Tetrachlorophenol	2.88	1.67	mg/kg wet	3.333		86	30-130			
2,4,5-Trichlorophenol	2.67	0.333	mg/kg wet	3.333		80	30-130			
2,4,6-Trichlorophenol	3.19	0.333	mg/kg wet	3.333		96	30-130			
2,4-Dichlorophenol	2.94	0.333	mg/kg wet	3.333		88	30-130			
2,4-Dimethylphenol	3.02	0.333	mg/kg wet	3.333		91	30-130			
2,4-Dinitrophenol	2.29	1.67	mg/kg wet	3.333		69	30-130			
2,4-Dinitrotoluene	2.50	0.333	mg/kg wet	3.333		75	40-140			
2,6-Dinitrotoluene	2.83	0.333	mg/kg wet	3.333		85	40-140			
2-Chloronaphthalene	2.17	0.333	mg/kg wet	3.333		65	40-140			
2-Chlorophenol	2.52	0.333	mg/kg wet	3.333		75	30-130			
2-Methylnaphthalene	2.65	0.333	mg/kg wet	3.333		79	40-140			
2-Methylphenol	2.72	0.333	mg/kg wet	3.333		82	30-130			
2-Nitroaniline	2.57	0.333	mg/kg wet	3.333		77	40-140			
2-Nitrophenol	3.00	0.333	mg/kg wet	3.333		90	30-130			
3,3'-Dichlorobenzidine	2.38	0.667	mg/kg wet	3.333		71	40-140			
3+4-Methylphenol	4.47	0.667	mg/kg wet	6.667		67	30-130			
3-Nitroaniline	2.63	0.333	mg/kg wet	3.333		79	40-140			
4,6-Dinitro-2-Methylphenol	2.72	1.67	mg/kg wet	3.333		82	30-130			



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8270D Semi-Volatile Organic Compounds

Batch CH51228 - 3546

4-Bromophenyl-phenylether	3.46	0.333	mg/kg wet	3.333		104	40-140			
4-Chloro-3-Methylphenol	3.10	0.333	mg/kg wet	3.333		93	30-130			
4-Chloroaniline	2.62	0.667	mg/kg wet	3.333		79	40-140			
4-Chloro-phenyl-phenyl ether	2.67	0.333	mg/kg wet	3.333		80	40-140			
4-Nitroaniline	2.29	0.333	mg/kg wet	3.333		69	40-140			
4-Nitrophenol	2.30	1.67	mg/kg wet	3.333		69	30-130			
Acenaphthene	2.61	0.333	mg/kg wet	3.333		78	40-140			
Acenaphthylene	2.56	0.333	mg/kg wet	3.333		77	40-140			
Acetophenone	2.63	0.667	mg/kg wet	3.333		79	40-140			
Aniline	2.61	0.667	mg/kg wet	3.333		78	40-140			
Anthracene	2.62	0.333	mg/kg wet	3.333		79	40-140			
Azobenzene	2.74	0.333	mg/kg wet	3.333		82	40-140			
Benzo(a)anthracene	2.82	0.333	mg/kg wet	3.333		85	40-140			
Benzo(a)pyrene	2.81	0.167	mg/kg wet	3.333		84	40-140			
Benzo(b)fluoranthene	2.99	0.333	mg/kg wet	3.333		90	40-140			
Benzo(g,h,i)perylene	2.63	0.333	mg/kg wet	3.333		79	40-140			
Benzo(k)fluoranthene	2.71	0.333	mg/kg wet	3.333		81	40-140			
Benzoic Acid	2.30	1.67	mg/kg wet	3.333		69	40-140			
Benzyl Alcohol	2.54	0.333	mg/kg wet	3.333		76	40-140			
bis(2-Chloroethoxy)methane	2.80	0.333	mg/kg wet	3.333		84	40-140			
bis(2-Chloroethyl)ether	2.57	0.333	mg/kg wet	3.333		77	40-140			
bis(2-chloroisopropyl)Ether	2.75	0.333	mg/kg wet	3.333		82	40-140			
bis(2-Ethylhexyl)phthalate	2.91	0.333	mg/kg wet	3.333		87	40-140			
Butylbenzylphthalate	3.12	0.333	mg/kg wet	3.333		93	40-140			
Carbazole	2.45	0.333	mg/kg wet	3.333		73	40-140			
Chrysene	2.80	0.167	mg/kg wet	3.333		84	40-140			
Dibenzo(a,h)Anthracene	2.77	0.167	mg/kg wet	3.333		83	40-140			
Dibenzofuran	2.59	0.333	mg/kg wet	3.333		78	40-140			
Diethylphthalate	2.40	0.333	mg/kg wet	3.333		72	40-140			
Dimethylphthalate	2.69	0.333	mg/kg wet	3.333		81	40-140			
Di-n-butylphthalate	2.65	0.333	mg/kg wet	3.333		80	40-140			
Di-n-octylphthalate	3.11	0.333	mg/kg wet	3.333		93	40-140			
Fluoranthene	2.43	0.333	mg/kg wet	3.333		73	40-140			
Fluorene	2.51	0.333	mg/kg wet	3.333		75	40-140			
Hexachlorobenzene	3.22	0.167	mg/kg wet	3.333		97	40-140			
Hexachlorobutadiene	2.74	0.333	mg/kg wet	3.333		82	40-140			
Hexachlorocyclopentadiene	2.49	1.67	mg/kg wet	3.333		75	40-140			
Hexachloroethane	2.25	0.333	mg/kg wet	3.333		67	40-140			
Indeno(1,2,3-cd)Pyrene	2.77	0.333	mg/kg wet	3.333		83	40-140			
Isophorone	2.72	0.333	mg/kg wet	3.333		82	40-140			
Naphthalene	2.70	0.333	mg/kg wet	3.333		81	40-140			
Nitrobenzene	2.63	0.333	mg/kg wet	3.333		79	40-140			
N-Nitrosodimethylamine	3.22	0.333	mg/kg wet	3.333		96	40-140			
N-Nitroso-Di-n-Propylamine	2.38	0.333	mg/kg wet	3.333		71	40-140			
N-nitrosodiphenylamine	2.91	0.333	mg/kg wet	3.333		87	40-140			



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CH51228 - 3546

Pentachlorophenol	2.70	1.67	mg/kg wet	3.333		81	30-130			
Phenanthrene	2.77	0.333	mg/kg wet	3.333		83	40-140			
Phenol	2.51	0.333	mg/kg wet	3.333		75	30-130			
Pyrene	3.04	0.333	mg/kg wet	3.333		91	40-140			
Pyridine	2.67	1.67	mg/kg wet	3.333		80	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	2.68		mg/kg wet	3.333		80	30-130			
Surrogate: 2,4,6-Tribromophenol	5.06		mg/kg wet	5.000		101	30-130			
Surrogate: 2-Chlorophenol-d4	3.82		mg/kg wet	5.000		76	30-130			
Surrogate: 2-Fluorobiphenyl	2.47		mg/kg wet	3.333		74	30-130			
Surrogate: 2-Fluorophenol	3.98		mg/kg wet	5.000		80	30-130			
Surrogate: Nitrobenzene-d5	2.63		mg/kg wet	3.333		79	30-130			
Surrogate: Phenol-d6	4.03		mg/kg wet	5.000		81	30-130			
Surrogate: p-Terphenyl-d14	3.18		mg/kg wet	3.333		95	30-130			

LCS Dup

1,1-Biphenyl	2.37	0.333	mg/kg wet	3.333		71	40-140	3	30	
1,2,4-Trichlorobenzene	2.75	0.333	mg/kg wet	3.333		83	40-140	2	30	
1,2-Dichlorobenzene	2.52	0.333	mg/kg wet	3.333		76	40-140	3	30	
1,3-Dichlorobenzene	2.53	0.333	mg/kg wet	3.333		76	40-140	4	30	
1,4-Dichlorobenzene	2.52	0.333	mg/kg wet	3.333		76	40-140	3	30	
2,3,4,6-Tetrachlorophenol	2.67	1.67	mg/kg wet	3.333		80	30-130	8	30	
2,4,5-Trichlorophenol	2.63	0.333	mg/kg wet	3.333		79	30-130	2	30	
2,4,6-Trichlorophenol	2.87	0.333	mg/kg wet	3.333		86	30-130	10	30	
2,4-Dichlorophenol	2.69	0.333	mg/kg wet	3.333		81	30-130	9	30	
2,4-Dimethylphenol	2.81	0.333	mg/kg wet	3.333		84	30-130	7	30	
2,4-Dinitrophenol	2.08	1.67	mg/kg wet	3.333		62	30-130	10	30	
2,4-Dinitrotoluene	2.44	0.333	mg/kg wet	3.333		73	40-140	3	30	
2,6-Dinitrotoluene	2.69	0.333	mg/kg wet	3.333		81	40-140	5	30	
2-Chloronaphthalene	2.17	0.333	mg/kg wet	3.333		65	40-140	0.1	30	
2-Chlorophenol	2.38	0.333	mg/kg wet	3.333		71	30-130	6	30	
2-Methylnaphthalene	2.50	0.333	mg/kg wet	3.333		75	40-140	6	30	
2-Methylphenol	2.50	0.333	mg/kg wet	3.333		75	30-130	8	30	
2-Nitroaniline	2.37	0.333	mg/kg wet	3.333		71	40-140	8	30	
2-Nitrophenol	2.82	0.333	mg/kg wet	3.333		85	30-130	6	30	
3,3'-Dichlorobenzidine	2.23	0.667	mg/kg wet	3.333		67	40-140	7	30	
3+4-Methylphenol	4.18	0.667	mg/kg wet	6.667		63	30-130	7	30	
3-Nitroaniline	2.43	0.333	mg/kg wet	3.333		73	40-140	8	30	
4,6-Dinitro-2-Methylphenol	2.58	1.67	mg/kg wet	3.333		78	30-130	5	30	
4-Bromophenyl-phenylether	3.31	0.333	mg/kg wet	3.333		99	40-140	4	30	
4-Chloro-3-Methylphenol	2.78	0.333	mg/kg wet	3.333		83	30-130	11	30	
4-Chloroaniline	2.37	0.667	mg/kg wet	3.333		71	40-140	10	30	
4-Chloro-phenyl-phenyl ether	2.57	0.333	mg/kg wet	3.333		77	40-140	4	30	
4-Nitroaniline	2.24	0.333	mg/kg wet	3.333		67	40-140	2	30	
4-Nitrophenol	2.13	1.67	mg/kg wet	3.333		64	30-130	8	30	
Acenaphthene	2.49	0.333	mg/kg wet	3.333		75	40-140	5	30	
Acenaphthylene	2.44	0.333	mg/kg wet	3.333		73	40-140	5	30	



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CH51228 - 3546

Acetophenone	2.45	0.667	mg/kg wet	3.333		74	40-140	7	30	
Aniline	2.41	0.667	mg/kg wet	3.333		72	40-140	8	30	
Anthracene	2.57	0.333	mg/kg wet	3.333		77	40-140	2	30	
Azobenzene	2.72	0.333	mg/kg wet	3.333		82	40-140	0.6	30	
Benzo(a)anthracene	2.69	0.333	mg/kg wet	3.333		81	40-140	5	30	
Benzo(a)pyrene	2.68	0.167	mg/kg wet	3.333		80	40-140	5	30	
Benzo(b)fluoranthene	2.76	0.333	mg/kg wet	3.333		83	40-140	8	30	
Benzo(g,h,i)perylene	2.69	0.333	mg/kg wet	3.333		81	40-140	2	30	
Benzo(k)fluoranthene	2.71	0.333	mg/kg wet	3.333		81	40-140	0.2	30	
Benzoic Acid	2.02	1.67	mg/kg wet	3.333		60	40-140	13	30	
Benzyl Alcohol	2.34	0.333	mg/kg wet	3.333		70	40-140	8	30	
bis(2-Chloroethoxy)methane	2.66	0.333	mg/kg wet	3.333		80	40-140	5	30	
bis(2-Chloroethyl)ether	2.47	0.333	mg/kg wet	3.333		74	40-140	4	30	
bis(2-chloroisopropyl)Ether	2.58	0.333	mg/kg wet	3.333		77	40-140	6	30	
bis(2-Ethylhexyl)phthalate	2.82	0.333	mg/kg wet	3.333		85	40-140	3	30	
Butylbenzylphthalate	2.97	0.333	mg/kg wet	3.333		89	40-140	5	30	
Carbazole	2.38	0.333	mg/kg wet	3.333		71	40-140	3	30	
Chrysene	2.76	0.167	mg/kg wet	3.333		83	40-140	2	30	
Dibenzo(a,h)Anthracene	2.77	0.167	mg/kg wet	3.333		83	40-140	0.1	30	
Dibenzofuran	2.47	0.333	mg/kg wet	3.333		74	40-140	5	30	
Diethylphthalate	2.32	0.333	mg/kg wet	3.333		70	40-140	3	30	
Dimethylphthalate	2.60	0.333	mg/kg wet	3.333		78	40-140	3	30	
Di-n-butylphthalate	2.56	0.333	mg/kg wet	3.333		77	40-140	4	30	
Di-n-octylphthalate	2.84	0.333	mg/kg wet	3.333		85	40-140	9	30	
Fluoranthene	2.39	0.333	mg/kg wet	3.333		72	40-140	2	30	
Fluorene	2.42	0.333	mg/kg wet	3.333		73	40-140	4	30	
Hexachlorobenzene	3.12	0.167	mg/kg wet	3.333		94	40-140	3	30	
Hexachlorobutadiene	2.67	0.333	mg/kg wet	3.333		80	40-140	2	30	
Hexachlorocyclopentadiene	2.44	1.67	mg/kg wet	3.333		73	40-140	2	30	
Hexachloroethane	2.22	0.333	mg/kg wet	3.333		67	40-140	1	30	
Indeno(1,2,3-cd)Pyrene	2.80	0.333	mg/kg wet	3.333		84	40-140	0.8	30	
Isophorone	2.53	0.333	mg/kg wet	3.333		76	40-140	7	30	
Naphthalene	2.59	0.333	mg/kg wet	3.333		78	40-140	4	30	
Nitrobenzene	2.55	0.333	mg/kg wet	3.333		76	40-140	3	30	
N-Nitrosodimethylamine	3.10	0.333	mg/kg wet	3.333		93	40-140	4	30	
N-Nitroso-Di-n-Propylamine	2.24	0.333	mg/kg wet	3.333		67	40-140	6	30	
N-nitrosodiphenylamine	2.79	0.333	mg/kg wet	3.333		84	40-140	4	30	
Pentachlorophenol	2.53	1.67	mg/kg wet	3.333		76	30-130	6	30	
Phenanthrene	2.67	0.333	mg/kg wet	3.333		80	40-140	4	30	
Phenol	2.36	0.333	mg/kg wet	3.333		71	30-130	6	30	
Pyrene	2.95	0.333	mg/kg wet	3.333		88	40-140	3	30	
Pyridine	2.69	1.67	mg/kg wet	3.333		81	40-140	0.9	30	
Surrogate: 1,2-Dichlorobenzene-d4	2.49		mg/kg wet	3.333		75	30-130			
Surrogate: 2,4,6-Tribromophenol	4.62		mg/kg wet	5.000		92	30-130			
Surrogate: 2-Chlorophenol-d4	3.50		mg/kg wet	5.000		70	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CH51228 - 3546

<i>Surrogate: 2-Fluorobiphenyl</i>	2.33		mg/kg wet	3.333		70	30-130			
<i>Surrogate: 2-Fluorophenol</i>	3.66		mg/kg wet	5.000		73	30-130			
<i>Surrogate: Nitrobenzene-d5</i>	2.42		mg/kg wet	3.333		73	30-130			
<i>Surrogate: Phenol-d6</i>	3.65		mg/kg wet	5.000		73	30-130			
<i>Surrogate: p-Terphenyl-d14</i>	2.95		mg/kg wet	3.333		89	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

Notes and Definitions

- U Analyte included in the analysis, but not detected
- B+ Blank Spike recovery is above upper control limit (B+).
- C- Continuing Calibration recovery is below lower control limit (C-).
- C+ Continuing Calibration recovery is above upper control limit (C+).
- D Diluted.
- D+ Relative percent difference for duplicate is outside of criteria (D+).
- ICV- Initial Calibration Verification recovery is below lower control limit (ICV-).
- B- Blank Spike recovery is below lower control limit (B-).
- Q Calibration required quadratic regression (Q).
- Z-10f Soil pH measured in water at 22.8 °C.
- Z-10 Soil pH measured in water at 21.8 °C.
- Z-10a Soil pH measured in water at 22 °C.
- Z-10b Soil pH measured in water at 22.1 °C.
- Z-10c Soil pH measured in water at 22.2 °C.
- Z-10d Soil pH measured in water at 22.4 °C.
- Z-10e Soil pH measured in water at 22.5 °C.
- IS Internal Standard(s) outside criteria. Insufficient sample for reanalysis (IS).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report



CERTIFICATE OF ANALYSIS

Client Name: Thielsch Engineering, Inc.
Client Project ID: Textron

ESS Laboratory Work Order: 1508190

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

1 JE 8/7/15
2042

ESS Laboratory

Division of Thielsch Engineering, Inc.
185 Frances Avenue, Cranston RI 02910-2211
Tel. (401)461-7181 Fax (401)461-4486
www.esslaboratory.com

CHAIN OF CUSTODY

Turn Time _____ Standard _____ Other _____
Reporting Limits - _____
Regulatory State: MA RI CT NH NJ NY ME Other _____
is this project for any of the following: (please circle)
MA-MCP Navy USACE CT DEP Other _____

ESS Lab # 1508190

Electronic Deliverables *Excel Access PDF

Co. Name ETS
Contact Person MAT Palskey
Address Cranston, RI City, State
Tel. EXT-3064 email:
Project # 7415002.134 Project Name TextTron
Proj. Location Providence, RI Zip _____ PO # _____

ESS Lab ID	Date	Collection Time	Grab-G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis
1	8-7-15	5:00 PM	G	S	L-741	169	5	AG		X RCRA8 X SVOC X TPH X PH
2			G	S	L-742			V-Vol		X X X X
3			G	S	L-743					X X X X
4			G	S	L-744					X X X X
5			G	S	L-745					X X X X
6	8/7/15			

Container Type: P-Poly G-Glass AG-Ambly Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present Yes No
Seals Intact Yes No NA: _____
Cooler Temperature: 5.6 FOL 8/7/15
Internal Use Only Pickup Technician (P)

Sampled by: _____
Comments: _____

Relinquished by: (Signature, Date & Time) <u>Joseph Giffert 8-7-15</u>	Relinquished by: (Signature, Date & Time) <u>Bob [Signature] 8/7/15 18:50 PM</u>	Relinquished by: (Signature, Date & Time)	Relinquished by: (Signature, Date & Time)
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* By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VIII A
Please fax to the laboratory all changes to Chain of Custody
Report Method Blank & Laboratory Control Sample Results

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston RI 02910-2211
 Tel. (401)461-7181 Fax (401)461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

Turn Time _____ Standard _____ Other _____
 Regulatory State: MA RI CT NH NJ NY ME Other _____
 Is this project for any of the following: (please circle)
 MA-MCP Navy USACE CT DEP Other _____

ESS Lab # **1508190**

Reporting Limits - _____

Electronic Deliverables *Excel Access PDF

Co. Name **CTS**
 Contact Person **MATJ Polisky**
 Address _____
 City, State **Cranston, RI**
 Zip _____
 email: _____

Project # **Teston**
 Project Name **74-15-0002.134**
 Proj. Location **Providence, RI**
 PO # _____

ESS Lab ID	Date	Collection Time	Grab-G Composite-C	Matrix	Sample ID	Pres Code	# of Containers	Type of Container	Vol of Container	Analysis
6	8-7-15	5:00pm	G	S	L-736	1,6,9	5	AG V-Voa		RCR48 METALS SVOC VOC TPH HP
7			G	S	L-737					
8			G	S	L-738					
9			G	S	L-739					
10			G	S	L-740					

Container Type: P-Poly G-Glass AG-Amber Glass S-Sterile V-VOA
 Matrix: S-Soil SD-Solid D-Sludge WW-Wastewater GW-Groundwater SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filter

Cooler Present Yes No
 Seals Intact Yes No NA: _____
 Cooler Temperature: **5.6 Ice** 8/7/16
 Internal Use Only Pickup Technician **DO**

Sampled by: **George Gilbert**
 Comments: _____

Relinquished by: (Signature, Date & Time) George Gilbert 8-7-15 18:50 PM	Relinquished by: (Signature, Date & Time) George Gilbert 8/7/15 1850	Received by: (Signature, Date & Time)	Received by: (Signature, Date & Time)
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* By circling MA-MCP, client acknowledges samples were collected in accordance with MADEP CAM VIII

Report Method Blank & Laboratory Control Sample Results

Please fax to the laboratory all changes to Chain of Custody



CERTIFICATE OF ANALYSIS

Paul J. Leofanti, Jr.
Charter Environmental, Inc.
500 Harrison Avenue, Suite 4R
Boston, MA 02118

RE: Textron Providence (74-15-0002.134)
ESS Laboratory Work Order Number: 1508737

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED

By ESS Laboratory at 5:03 pm, Sep 01, 2015

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

SAMPLE RECEIPT

The following samples were received on August 25, 2015 for the analyses specified on the enclosed Chain of Custody Record.

Low Level VOA vials were frozen by ESS Laboratory on August 25, 2015 at 18:21.

The cooler temperature was not within the acceptance limit of <6°C, however, samples were delivered on ice.

Lab Number	Sample Name	Matrix	Analysis
1508737-01	Material S+S - Sandy Fill - A	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508737-02	Material S+S - Sandy Fill - B	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508737-03	Material S+S - Sandy Fill - C	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508737-04	Material S+S - Sandy Fill - D	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508737-05	Material S+S - Sandy Fill - E	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1508737-06	Material S+S - Top Soil - A	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D
1508737-07	Material S+S - Top Soil - B	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D
1508737-08	Material S+S - Top Soil - C	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D
1508737-09	Material S+S - Top Soil - D	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

- 1508737-06 Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).
1,4-Dichlorobenzene-D4 (47% @ 50-200%)
- 1508737-07 Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).
1,4-Dichlorobenzene-D4 (34% @ 50-200%)
- 1508737-08 Internal Standard(s) outside of criteria (I).
Chlorobenzene-d5 (48% @ 50-200%)
- 1508737-08 Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).
1,4-Dichlorobenzene-D4 (27% @ 50-200%)
- 1508737-08 Surrogate recovery(ies) above upper control limit (S+).
1,2-Dichloroethane-d4 (132% @ 70-130%)
- CH52614-BLK1 Internal Standard(s) outside of criteria (I).
1,4-Dichlorobenzene-D4 (45% @ 50-200%)
- CH52614-BS1 Blank Spike recovery is above upper control limit (B+).
2,2-Dichloropropane (135% @ 70-130%), Vinyl Acetate (147% @ 70-130%)
- CH52614-BSD1 Blank Spike recovery is above upper control limit (B+).
Vinyl Acetate (133% @ 70-130%)
- CH52721-BS1 Blank Spike recovery is above upper control limit (B+).
Chloroethane (131% @ 70-130%)
- CH52721-BSD1 Blank Spike recovery is below lower control limit (B-).
Chloromethane (64% @ 70-130%), Vinyl Chloride (67% @ 70-130%)
- CH52721-BSD1 Relative percent difference for duplicate is outside of criteria (D+).
Acetone (30% @ 25%), Diethyl Ether (27% @ 25%), Ethyl tertiary-butyl ether (26% @ 25%), Methyl tert-Butyl Ether (30% @ 25%), Vinyl Acetate (28% @ 25%)
- CYH0359-CCV1 Continuing Calibration %Diff/Drift is above control limit (CD+).
Chloroethane (48% @ 30%)
- CYH0359-CCV1 Continuing Calibration %Diff/Drift is below control limit (CD-).
Vinyl Chloride (21% @ 20%)

8270D Semi-Volatile Organic Compounds

- CH52513-BS1 Blank Spike recovery is below lower control limit (B-).
Benzoic Acid (35% @ 40-140%)
- CYH0326-CCV1 Calibration required quadratic regression (Q).
2,4-Dinitrophenol (78% @ 80-120%), Benzoic Acid (47% @ 80-120%)
- CYH0326-CCV1 Continuing Calibration %Diff/Drift is above control limit (CD+).
3,3'-Dichlorobenzidine (4% @ 20%), bis(2-Ethylhexyl)phthalate (22% @ 20%), Di-n-octylphthalate (11% @ 20%)
- CYH0326-CCV1 Continuing Calibration %Diff/Drift is below control limit (CD-).
2,4-Dinitrophenol (22% @ 20%), Benzoic Acid (53% @ 20%)
- CYH0326-CCV1 Initial Calibration Verification recovery is below lower control limit (ICV-).
3,3'-Dichlorobenzidine
- CYH0346-CCV1 Calibration required quadratic regression (Q).



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.

Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

CYH0346-CCV1 2,4-Dinitrophenol (84% @ 80-120%), Benzoic Acid (84% @ 80-120%)

Continuing Calibration %Diff/Drift is above control limit (CD+).

CYH0346-CCV1 3,3'-Dichlorobenzidine (4% @ 20%), Di-n-octylphthalate (5% @ 20%)

Continuing Calibration %Diff/Drift is below control limit (CD-).

CYH0346-CCV1 2,4-Dinitrophenol (16% @ 20%), Benzoic Acid (16% @ 20%)

Initial Calibration Verification recovery is below lower control limit (ICV-).

3,3'-Dichlorobenzidine

CYH0352-CCV1 **Calibration required quadratic regression (Q).**

2,4-Dinitrophenol (99% @ 80-120%), Benzoic Acid (96% @ 80-120%)

CYH0352-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**

3,3'-Dichlorobenzidine (1% @ 20%), Benzoic Acid (4% @ 20%)

CYH0352-CCV1 **Initial Calibration Verification recovery is below lower control limit (ICV-).**

3,3'-Dichlorobenzidine

Total Metals

CH52539-BSD1 **Blank Spike recovery is above upper control limit (B+).**

Arsenic (191% @ 43-169%)

CH52539-BSD1 **Blank Spike recovery is below lower control limit (B-).**

Lead (66% @ 69-131%)

CH52539-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**

Arsenic (31% @ 20%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015D - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - A
Date Sampled: 08/24/15 15:00
Percent Solids: 100

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.37)		6010C		1	KJK	08/26/15 18:04	2.11	100	CH52539
Barium	9.39 (2.37)		6010C		1	KJK	08/26/15 18:04	2.11	100	CH52539
Cadmium	ND (0.47)		6010C		1	KJK	08/26/15 18:04	2.11	100	CH52539
Chromium	1.62 (0.95)		6010C		1	KJK	08/26/15 18:04	2.11	100	CH52539
Lead	ND (4.75)		6010C		1	KJK	08/26/15 18:04	2.11	100	CH52539
Mercury	ND (0.029)		7471B		1	BJV	08/26/15 14:44	0.69	40	CH52541
Selenium	ND (4.75)		6010C		1	KJK	08/26/15 18:04	2.11	100	CH52539
Silver	ND (0.47)		6010C		1	KJK	08/26/15 18:04	2.11	100	CH52539



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - A
Date Sampled: 08/24/15 15:00
Percent Solids: 100
Initial Volume: 6.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,1,1-Trichloroethane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,1,2,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,1,2-Trichloroethane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,1-Dichloroethane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,1-Dichloroethene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,1-Dichloropropene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,2,3-Trichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,2,3-Trichloropropane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,2,4-Trichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,2,4-Trimethylbenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,2-Dibromo-3-Chloropropane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,2-Dibromoethane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,2-Dichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,2-Dichloroethane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,2-Dichloropropane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,3,5-Trimethylbenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,3-Dichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,3-Dichloropropane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,4-Dichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1,4-Dioxane	ND (0.0759)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
1-Chlorohexane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
2,2-Dichloropropane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
2-Butanone	ND (0.0379)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
2-Chlorotoluene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
2-Hexanone	ND (0.0379)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
4-Chlorotoluene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
4-Isopropyltoluene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
4-Methyl-2-Pentanone	ND (0.0379)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Acetone	ND (0.0379)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Benzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Bromobenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - A
Date Sampled: 08/24/15 15:00
Percent Solids: 100
Initial Volume: 6.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Bromodichloromethane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Bromoform	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Bromomethane	ND (0.0076)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Carbon Disulfide	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Carbon Tetrachloride	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Chlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Chloroethane	ND (0.0076)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Chloroform	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Chloromethane	ND (0.0076)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
cis-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
cis-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Dibromochloromethane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Dibromomethane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Dichlorodifluoromethane	ND (0.0076)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Diethyl Ether	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Di-isopropyl ether	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Ethyl tertiary-butyl ether	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Ethylbenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Hexachlorobutadiene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Isopropylbenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Methyl tert-Butyl Ether	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Methylene Chloride	ND (0.0190)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Naphthalene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
n-Butylbenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
n-Propylbenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
sec-Butylbenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Styrene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
tert-Butylbenzene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Tertiary-amyl methyl ether	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Tetrachloroethene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Tetrahydrofuran	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - A
Date Sampled: 08/24/15 15:00
Percent Solids: 100
Initial Volume: 6.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
trans-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
trans-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Trichloroethene	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Trichlorofluoromethane	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Vinyl Acetate	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Vinyl Chloride	ND (0.0076)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Xylene O	ND (0.0038)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Xylene P,M	ND (0.0076)		8260B Low		1	08/26/15 15:33	CYH0342	CH52614
Xylenes (Total)	ND (0.0076)		8260B Low		1	08/26/15 15:33		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>122 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>90 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>109 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>103 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - A
Date Sampled: 08/24/15 15:00
Percent Solids: 100
Initial Volume: 19.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/26/15 12:48

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (38.9)		8100M		1	08/27/15 10:43	CYH0360	CH52610
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		95 %		40-140				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - A
Date Sampled: 08/24/15 15:00
Percent Solids: 100
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
1,2,4-Trichlorobenzene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
1,2-Dichlorobenzene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
1,3-Dichlorobenzene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
1,4-Dichlorobenzene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2,3,4,6-Tetrachlorophenol	ND (1.67)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2,4,5-Trichlorophenol	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2,4,6-Trichlorophenol	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2,4-Dichlorophenol	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2,4-Dimethylphenol	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2,4-Dinitrophenol	ND (1.67)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2,4-Dinitrotoluene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2,6-Dinitrotoluene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2-Chloronaphthalene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2-Chlorophenol	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2-Methylnaphthalene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2-Methylphenol	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2-Nitroaniline	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
2-Nitrophenol	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
3,3'-Dichlorobenzidine	ND (0.668)		8270D		1	08/27/15 8:30	CYH0352	CH52513
3+4-Methylphenol	ND (0.668)		8270D		1	08/27/15 8:30	CYH0352	CH52513
3-Nitroaniline	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
4,6-Dinitro-2-Methylphenol	ND (1.67)		8270D		1	08/27/15 8:30	CYH0352	CH52513
4-Bromophenyl-phenylether	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
4-Chloro-3-Methylphenol	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
4-Chloroaniline	ND (0.668)		8270D		1	08/27/15 8:30	CYH0352	CH52513
4-Chloro-phenyl-phenyl ether	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
4-Nitroaniline	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
4-Nitrophenol	ND (1.67)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Acenaphthene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Acenaphthylene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Acetophenone	ND (0.668)		8270D		1	08/27/15 8:30	CYH0352	CH52513



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - A
Date Sampled: 08/24/15 15:00
Percent Solids: 100
Initial Volume: 15
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.668)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Anthracene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Azobenzene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Benzo(a)anthracene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Benzo(a)pyrene	ND (0.167)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Benzo(b)fluoranthene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Benzo(g,h,i)perylene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Benzo(k)fluoranthene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Benzoic Acid	ND (1.67)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Benzyl Alcohol	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
bis(2-Chloroethoxy)methane	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
bis(2-Chloroethyl)ether	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
bis(2-chloroisopropyl)Ether	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
bis(2-Ethylhexyl)phthalate	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Butylbenzylphthalate	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Carbazole	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Chrysene	ND (0.167)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Dibenzo(a,h)Anthracene	ND (0.167)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Dibenzofuran	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Diethylphthalate	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Dimethylphthalate	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Di-n-butylphthalate	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Di-n-octylphthalate	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Fluoranthene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Fluorene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Hexachlorobenzene	ND (0.167)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Hexachlorobutadiene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Hexachlorocyclopentadiene	ND (1.67)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Hexachloroethane	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Indeno(1,2,3-cd)Pyrene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Isophorone	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Naphthalene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S+S - Sandy Fill - A
 Date Sampled: 08/24/15 15:00
 Percent Solids: 100
 Initial Volume: 15
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1508737
 ESS Laboratory Sample ID: 1508737-01
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: IBM
 Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
N-Nitrosodimethylamine	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
N-Nitroso-Di-n-Propylamine	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
N-nitrosodiphenylamine	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Pentachlorophenol	ND (1.67)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Phenanthrene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Phenol	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Pyrene	ND (0.334)		8270D		1	08/27/15 8:30	CYH0352	CH52513
Pyridine	ND (1.67)		8270D		1	08/27/15 8:30	CYH0352	CH52513

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>79 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>72 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>84 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>84 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>82 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>81 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>86 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>92 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - A
Date Sampled: 08/24/15 15:00
Percent Solids: 100

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-01
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	6.02 (N/A)		9045		1	MJV	08/26/15 10:45	S.U.	CH52626
Corrosivity (pH) Sample Temp	Soil pH measured in water at 24.3 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - B
Date Sampled: 08/24/15 15:20
Percent Solids: 100

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-02
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.43)		6010C		1	KJK	08/26/15 18:25	2.06	100	CH52539
Barium	9.68 (2.43)		6010C		1	KJK	08/26/15 18:25	2.06	100	CH52539
Cadmium	ND (0.49)		6010C		1	KJK	08/26/15 18:25	2.06	100	CH52539
Chromium	1.74 (0.97)		6010C		1	KJK	08/26/15 18:25	2.06	100	CH52539
Lead	ND (4.87)		6010C		1	KJK	08/26/15 18:25	2.06	100	CH52539
Mercury	ND (0.028)		7471B		1	BJV	08/26/15 14:55	0.7	40	CH52541
Selenium	ND (4.87)		6010C		1	KJK	08/26/15 18:25	2.06	100	CH52539
Silver	ND (0.49)		6010C		1	KJK	08/26/15 18:25	2.06	100	CH52539



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - B
Date Sampled: 08/24/15 15:20
Percent Solids: 100
Initial Volume: 6.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,1,1-Trichloroethane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,1,2,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,1,2-Trichloroethane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,1-Dichloroethane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,1-Dichloroethene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,1-Dichloropropene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,2,3-Trichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,2,3-Trichloropropane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,2,4-Trichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,2,4-Trimethylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,2-Dibromo-3-Chloropropane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,2-Dibromoethane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,2-Dichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,2-Dichloroethane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,2-Dichloropropane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,3,5-Trimethylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,3-Dichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,3-Dichloropropane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,4-Dichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1,4-Dioxane	ND (0.0759)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
1-Chlorohexane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
2,2-Dichloropropane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
2-Butanone	ND (0.0380)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
2-Chlorotoluene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
2-Hexanone	ND (0.0380)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
4-Chlorotoluene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
4-Isopropyltoluene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
4-Methyl-2-Pentanone	ND (0.0380)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Acetone	ND (0.0380)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Benzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Bromobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - B
Date Sampled: 08/24/15 15:20
Percent Solids: 100
Initial Volume: 6.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Bromodichloromethane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Bromoform	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Bromomethane	ND (0.0076)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Carbon Disulfide	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Carbon Tetrachloride	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Chlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Chloroethane	ND (0.0076)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Chloroform	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Chloromethane	ND (0.0076)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
cis-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
cis-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Dibromochloromethane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Dibromomethane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Dichlorodifluoromethane	ND (0.0076)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Diethyl Ether	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Di-isopropyl ether	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Ethyl tertiary-butyl ether	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Ethylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Hexachlorobutadiene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Isopropylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Methyl tert-Butyl Ether	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Methylene Chloride	ND (0.0190)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Naphthalene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
n-Butylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
n-Propylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
sec-Butylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Styrene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
tert-Butylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Tertiary-amyl methyl ether	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Tetrachloroethene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Tetrahydrofuran	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - B
Date Sampled: 08/24/15 15:20
Percent Solids: 100
Initial Volume: 6.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
trans-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
trans-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Trichloroethene	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Trichlorofluoromethane	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Vinyl Acetate	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Vinyl Chloride	ND (0.0076)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Xylene O	ND (0.0038)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Xylene P,M	ND (0.0076)		8260B Low		1	08/26/15 16:01	CYH0342	CH52614
Xylenes (Total)	ND (0.0076)		8260B Low		1	08/26/15 16:01		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>123 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>88 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>109 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>103 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - B
Date Sampled: 08/24/15 15:20
Percent Solids: 100
Initial Volume: 20.2
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/26/15 12:48

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (37.2)		8100M		1	08/27/15 11:22	CYH0360	CH52610
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>100 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - B
Date Sampled: 08/24/15 15:20
Percent Solids: 100
Initial Volume: 14.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
1,2,4-Trichlorobenzene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
1,2-Dichlorobenzene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
1,3-Dichlorobenzene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
1,4-Dichlorobenzene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2,3,4,6-Tetrachlorophenol	ND (1.69)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2,4,5-Trichlorophenol	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2,4,6-Trichlorophenol	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2,4-Dichlorophenol	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2,4-Dimethylphenol	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2,4-Dinitrophenol	ND (1.69)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2,4-Dinitrotoluene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2,6-Dinitrotoluene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2-Chloronaphthalene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2-Chlorophenol	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2-Methylnaphthalene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2-Methylphenol	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2-Nitroaniline	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
2-Nitrophenol	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
3,3'-Dichlorobenzidine	ND (0.673)		8270D		1	08/27/15 9:07	CYH0352	CH52513
3+4-Methylphenol	ND (0.673)		8270D		1	08/27/15 9:07	CYH0352	CH52513
3-Nitroaniline	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
4,6-Dinitro-2-Methylphenol	ND (1.69)		8270D		1	08/27/15 9:07	CYH0352	CH52513
4-Bromophenyl-phenylether	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
4-Chloro-3-Methylphenol	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
4-Chloroaniline	ND (0.673)		8270D		1	08/27/15 9:07	CYH0352	CH52513
4-Chloro-phenyl-phenyl ether	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
4-Nitroaniline	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
4-Nitrophenol	ND (1.69)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Acenaphthene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Acenaphthylene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Acetophenone	ND (0.673)		8270D		1	08/27/15 9:07	CYH0352	CH52513



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S+S - Sandy Fill - B
 Date Sampled: 08/24/15 15:20
 Percent Solids: 100
 Initial Volume: 14.9
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1508737
 ESS Laboratory Sample ID: 1508737-02
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: IBM
 Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.673)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Anthracene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Azobenzene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Benzo(a)anthracene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Benzo(a)pyrene	ND (0.169)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Benzo(b)fluoranthene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Benzo(g,h,i)perylene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Benzo(k)fluoranthene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Benzoic Acid	ND (1.69)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Benzyl Alcohol	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
bis(2-Chloroethoxy)methane	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
bis(2-Chloroethyl)ether	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
bis(2-chloroisopropyl)Ether	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
bis(2-Ethylhexyl)phthalate	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Butylbenzylphthalate	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Carbazole	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Chrysene	ND (0.169)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Dibenzo(a,h)Anthracene	ND (0.169)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Dibenzofuran	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Diethylphthalate	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Dimethylphthalate	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Di-n-butylphthalate	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Di-n-octylphthalate	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Fluoranthene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Fluorene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Hexachlorobenzene	ND (0.169)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Hexachlorobutadiene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Hexachlorocyclopentadiene	ND (1.69)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Hexachloroethane	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Indeno(1,2,3-cd)Pyrene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Isophorone	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Naphthalene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S+S - Sandy Fill - B
 Date Sampled: 08/24/15 15:20
 Percent Solids: 100
 Initial Volume: 14.9
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1508737
 ESS Laboratory Sample ID: 1508737-02
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: IBM
 Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
N-Nitrosodimethylamine	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
N-Nitroso-Di-n-Propylamine	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
N-nitrosodiphenylamine	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Pentachlorophenol	ND (1.69)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Phenanthrene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Phenol	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Pyrene	ND (0.336)		8270D		1	08/27/15 9:07	CYH0352	CH52513
Pyridine	ND (1.69)		8270D		1	08/27/15 9:07	CYH0352	CH52513

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	63 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	60 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	68 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	67 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	66 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	66 %		30-130
<i>Surrogate: Phenol-d6</i>	70 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	73 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - B
Date Sampled: 08/24/15 15:20
Percent Solids: 100

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-02
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.54 (N/A)		9045		1	MJV	08/26/15 10:45	S.U.	CH52626
Corrosivity (pH) Sample Temp	Soil pH measured in water at 24.4 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - C
Date Sampled: 08/24/15 15:40
Percent Solids: 100

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-03
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.22)		6010C		1	KJK	08/26/15 18:28	2.26	100	CH52539
Barium	10.9 (2.22)		6010C		1	KJK	08/26/15 18:28	2.26	100	CH52539
Cadmium	ND (0.44)		6010C		1	KJK	08/26/15 18:28	2.26	100	CH52539
Chromium	1.78 (0.89)		6010C		1	KJK	08/26/15 18:28	2.26	100	CH52539
Lead	ND (4.43)		6010C		1	KJK	08/26/15 18:28	2.26	100	CH52539
Mercury	ND (0.032)		7471B		1	BJV	08/26/15 14:57	0.62	40	CH52541
Selenium	ND (4.43)		6010C		1	KJK	08/26/15 18:28	2.26	100	CH52539
Silver	ND (0.44)		6010C		1	KJK	08/26/15 18:28	2.26	100	CH52539



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - C
Date Sampled: 08/24/15 15:40
Percent Solids: 100
Initial Volume: 6.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,1,1-Trichloroethane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,1,2,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,1,2-Trichloroethane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,1-Dichloroethane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,1-Dichloroethene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,1-Dichloropropene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,2,3-Trichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,2,3-Trichloropropane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,2,4-Trichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,2,4-Trimethylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,2-Dibromo-3-Chloropropane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,2-Dibromoethane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,2-Dichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,2-Dichloroethane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,2-Dichloropropane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,3,5-Trimethylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,3-Dichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,3-Dichloropropane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,4-Dichlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1,4-Dioxane	ND (0.0759)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
1-Chlorohexane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
2,2-Dichloropropane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
2-Butanone	ND (0.0379)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
2-Chlorotoluene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
2-Hexanone	ND (0.0379)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
4-Chlorotoluene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
4-Isopropyltoluene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
4-Methyl-2-Pentanone	ND (0.0379)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Acetone	ND (0.0379)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Benzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Bromobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - C
Date Sampled: 08/24/15 15:40
Percent Solids: 100
Initial Volume: 6.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Bromodichloromethane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Bromoform	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Bromomethane	ND (0.0076)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Carbon Disulfide	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Carbon Tetrachloride	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Chlorobenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Chloroethane	ND (0.0076)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Chloroform	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Chloromethane	ND (0.0076)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
cis-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
cis-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Dibromochloromethane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Dibromomethane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Dichlorodifluoromethane	ND (0.0076)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Diethyl Ether	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Di-isopropyl ether	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Ethyl tertiary-butyl ether	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Ethylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Hexachlorobutadiene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Isopropylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Methyl tert-Butyl Ether	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Methylene Chloride	ND (0.0190)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Naphthalene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
n-Butylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
n-Propylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
sec-Butylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Styrene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
tert-Butylbenzene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Tertiary-amyl methyl ether	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Tetrachloroethene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Tetrahydrofuran	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - C
Date Sampled: 08/24/15 15:40
Percent Solids: 100
Initial Volume: 6.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
trans-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
trans-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Trichloroethene	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Trichlorofluoromethane	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Vinyl Acetate	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Vinyl Chloride	ND (0.0076)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Xylene O	ND (0.0038)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Xylene P,M	ND (0.0076)		8260B Low		1	08/26/15 16:30	CYH0342	CH52614
Xylenes (Total)	ND (0.0076)		8260B Low		1	08/26/15 16:30		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>120 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>86 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>110 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>102 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - C
Date Sampled: 08/24/15 15:40
Percent Solids: 100
Initial Volume: 19.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/26/15 12:48

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (38.1)		8100M		1	08/27/15 12:01	CYH0360	CH52610
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		95 %		40-140				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - C
Date Sampled: 08/24/15 15:40
Percent Solids: 100
Initial Volume: 14
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
1,2,4-Trichlorobenzene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
1,2-Dichlorobenzene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
1,3-Dichlorobenzene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
1,4-Dichlorobenzene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2,3,4,6-Tetrachlorophenol	ND (1.79)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2,4,5-Trichlorophenol	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2,4,6-Trichlorophenol	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2,4-Dichlorophenol	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2,4-Dimethylphenol	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2,4-Dinitrophenol	ND (1.79)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2,4-Dinitrotoluene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2,6-Dinitrotoluene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2-Chloronaphthalene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2-Chlorophenol	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2-Methylnaphthalene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2-Methylphenol	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2-Nitroaniline	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
2-Nitrophenol	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
3,3'-Dichlorobenzidine	ND (0.716)		8270D		1	08/27/15 9:45	CYH0352	CH52513
3+4-Methylphenol	ND (0.716)		8270D		1	08/27/15 9:45	CYH0352	CH52513
3-Nitroaniline	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
4,6-Dinitro-2-Methylphenol	ND (1.79)		8270D		1	08/27/15 9:45	CYH0352	CH52513
4-Bromophenyl-phenylether	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
4-Chloro-3-Methylphenol	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
4-Chloroaniline	ND (0.716)		8270D		1	08/27/15 9:45	CYH0352	CH52513
4-Chloro-phenyl-phenyl ether	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
4-Nitroaniline	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
4-Nitrophenol	ND (1.79)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Acenaphthene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Acenaphthylene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Acetophenone	ND (0.716)		8270D		1	08/27/15 9:45	CYH0352	CH52513



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - C
Date Sampled: 08/24/15 15:40
Percent Solids: 100
Initial Volume: 14
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.716)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Anthracene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Azobenzene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Benzo(a)anthracene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Benzo(a)pyrene	ND (0.179)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Benzo(b)fluoranthene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Benzo(g,h,i)perylene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Benzo(k)fluoranthene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Benzoic Acid	ND (1.79)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Benzyl Alcohol	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
bis(2-Chloroethoxy)methane	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
bis(2-Chloroethyl)ether	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
bis(2-chloroisopropyl)Ether	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
bis(2-Ethylhexyl)phthalate	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Butylbenzylphthalate	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Carbazole	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Chrysene	ND (0.179)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Dibenzo(a,h)Anthracene	ND (0.179)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Dibenzofuran	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Diethylphthalate	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Dimethylphthalate	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Di-n-butylphthalate	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Di-n-octylphthalate	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Fluoranthene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Fluorene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Hexachlorobenzene	ND (0.179)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Hexachlorobutadiene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Hexachlorocyclopentadiene	ND (1.79)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Hexachloroethane	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Indeno(1,2,3-cd)Pyrene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Isophorone	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Naphthalene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - C
Date Sampled: 08/24/15 15:40
Percent Solids: 100
Initial Volume: 14
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
N-Nitrosodimethylamine	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
N-Nitroso-Di-n-Propylamine	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
N-nitrosodiphenylamine	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Pentachlorophenol	ND (1.79)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Phenanthrene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Phenol	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Pyrene	ND (0.357)		8270D		1	08/27/15 9:45	CYH0352	CH52513
Pyridine	ND (1.79)		8270D		1	08/27/15 9:45	CYH0352	CH52513

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	60 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	54 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	62 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	64 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	60 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	61 %		30-130
<i>Surrogate: Phenol-d6</i>	65 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	73 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - C
Date Sampled: 08/24/15 15:40
Percent Solids: 100

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-03
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.33 (N/A)		9045		1	MJV	08/26/15 10:45	S.U.	CH52626
Corrosivity (pH) Sample Temp	Soil pH measured in water at 24.3 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - D
Date Sampled: 08/24/15 15:50
Percent Solids: 100

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-04
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (1.88)		6010C		1	KJK	08/26/15 18:45	2.66	100	CH52539
Barium	10.1 (1.88)		6010C		1	KJK	08/26/15 18:45	2.66	100	CH52539
Cadmium	ND (0.38)		6010C		1	KJK	08/26/15 18:45	2.66	100	CH52539
Chromium	1.94 (0.75)		6010C		1	KJK	08/26/15 18:45	2.66	100	CH52539
Lead	ND (3.77)		6010C		1	KJK	08/26/15 18:45	2.66	100	CH52539
Mercury	ND (0.029)		7471B		1	BJV	08/26/15 14:59	0.68	40	CH52541
Selenium	ND (3.77)		6010C		1	KJK	08/26/15 18:45	2.66	100	CH52539
Silver	ND (0.38)		6010C		1	KJK	08/26/15 18:45	2.66	100	CH52539



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - D
Date Sampled: 08/24/15 15:50
Percent Solids: 100
Initial Volume: 6.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,1,1-Trichloroethane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,1,2,2-Tetrachloroethane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,1,2-Trichloroethane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,1-Dichloroethane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,1-Dichloroethene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,1-Dichloropropene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,2,3-Trichlorobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,2,3-Trichloropropane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,2,4-Trichlorobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,2,4-Trimethylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,2-Dibromo-3-Chloropropane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,2-Dibromoethane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,2-Dichlorobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,2-Dichloroethane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,2-Dichloropropane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,3,5-Trimethylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,3-Dichlorobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,3-Dichloropropane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,4-Dichlorobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1,4-Dioxane	ND (0.0726)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
1-Chlorohexane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
2,2-Dichloropropane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
2-Butanone	ND (0.0363)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
2-Chlorotoluene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
2-Hexanone	ND (0.0363)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
4-Chlorotoluene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
4-Isopropyltoluene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
4-Methyl-2-Pentanone	ND (0.0363)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Acetone	ND (0.0363)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Benzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Bromobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - D
Date Sampled: 08/24/15 15:50
Percent Solids: 100
Initial Volume: 6.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Bromodichloromethane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Bromoform	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Bromomethane	ND (0.0073)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Carbon Disulfide	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Carbon Tetrachloride	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Chlorobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Chloroethane	ND (0.0073)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Chloroform	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Chloromethane	ND (0.0073)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
cis-1,2-Dichloroethene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
cis-1,3-Dichloropropene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Dibromochloromethane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Dibromomethane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Dichlorodifluoromethane	ND (0.0073)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Diethyl Ether	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Di-isopropyl ether	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Ethyl tertiary-butyl ether	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Ethylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Hexachlorobutadiene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Isopropylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Methyl tert-Butyl Ether	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Methylene Chloride	ND (0.0182)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Naphthalene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
n-Butylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
n-Propylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
sec-Butylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Styrene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
tert-Butylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Tertiary-amyl methyl ether	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Tetrachloroethene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Tetrahydrofuran	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - D
Date Sampled: 08/24/15 15:50
Percent Solids: 100
Initial Volume: 6.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
trans-1,2-Dichloroethene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
trans-1,3-Dichloropropene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Trichloroethene	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Trichlorofluoromethane	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Vinyl Acetate	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Vinyl Chloride	ND (0.0073)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Xylene O	ND (0.0036)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Xylene P,M	ND (0.0073)		8260B Low		1	08/28/15 13:28	CYH0359	CH52721
Xylenes (Total)	ND (0.0073)		8260B Low		1	08/28/15 13:28		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>114 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>89 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>106 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>98 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - D
Date Sampled: 08/24/15 15:50
Percent Solids: 100
Initial Volume: 19.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/26/15 15:25

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (38.2)		8100M		1	08/27/15 15:27	CYH0360	CH52611
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>100 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - D
Date Sampled: 08/24/15 15:50
Percent Solids: 100
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
1,2,4-Trichlorobenzene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
1,2-Dichlorobenzene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
1,3-Dichlorobenzene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
1,4-Dichlorobenzene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2,3,4,6-Tetrachlorophenol	ND (1.65)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2,4,5-Trichlorophenol	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2,4,6-Trichlorophenol	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2,4-Dichlorophenol	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2,4-Dimethylphenol	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2,4-Dinitrophenol	ND (1.65)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2,4-Dinitrotoluene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2,6-Dinitrotoluene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2-Chloronaphthalene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2-Chlorophenol	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2-Methylnaphthalene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2-Methylphenol	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2-Nitroaniline	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
2-Nitrophenol	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
3,3'-Dichlorobenzidine	ND (0.660)		8270D		1	08/27/15 10:22	CYH0352	CH52513
3+4-Methylphenol	ND (0.660)		8270D		1	08/27/15 10:22	CYH0352	CH52513
3-Nitroaniline	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
4,6-Dinitro-2-Methylphenol	ND (1.65)		8270D		1	08/27/15 10:22	CYH0352	CH52513
4-Bromophenyl-phenylether	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
4-Chloro-3-Methylphenol	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
4-Chloroaniline	ND (0.660)		8270D		1	08/27/15 10:22	CYH0352	CH52513
4-Chloro-phenyl-phenyl ether	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
4-Nitroaniline	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
4-Nitrophenol	ND (1.65)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Acenaphthene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Acenaphthylene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Acetophenone	ND (0.660)		8270D		1	08/27/15 10:22	CYH0352	CH52513



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - D
Date Sampled: 08/24/15 15:50
Percent Solids: 100
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.660)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Anthracene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Azobenzene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Benzo(a)anthracene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Benzo(a)pyrene	ND (0.165)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Benzo(b)fluoranthene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Benzo(g,h,i)perylene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Benzo(k)fluoranthene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Benzoic Acid	ND (1.65)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Benzyl Alcohol	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
bis(2-Chloroethoxy)methane	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
bis(2-Chloroethyl)ether	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
bis(2-chloroisopropyl)Ether	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
bis(2-Ethylhexyl)phthalate	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Butylbenzylphthalate	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Carbazole	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Chrysene	ND (0.165)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Dibenzo(a,h)Anthracene	ND (0.165)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Dibenzofuran	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Diethylphthalate	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Dimethylphthalate	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Di-n-butylphthalate	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Di-n-octylphthalate	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Fluoranthene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Fluorene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Hexachlorobenzene	ND (0.165)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Hexachlorobutadiene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Hexachlorocyclopentadiene	ND (1.65)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Hexachloroethane	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Indeno(1,2,3-cd)Pyrene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Isophorone	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Naphthalene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - D
Date Sampled: 08/24/15 15:50
Percent Solids: 100
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
N-Nitrosodimethylamine	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
N-Nitroso-Di-n-Propylamine	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
N-nitrosodiphenylamine	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Pentachlorophenol	ND (1.65)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Phenanthrene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Phenol	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Pyrene	ND (0.329)		8270D		1	08/27/15 10:22	CYH0352	CH52513
Pyridine	ND (1.65)		8270D		1	08/27/15 10:22	CYH0352	CH52513

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>72 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>60 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>76 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>77 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>74 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>74 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>78 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>86 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - D
Date Sampled: 08/24/15 15:50
Percent Solids: 100

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-04
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.29 (N/A)		9045		1	MJV	08/26/15 10:45	S.U.	CH52626
Corrosivity (pH) Sample Temp	Soil pH measured in water at 24.4 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - E
Date Sampled: 08/24/15 16:00
Percent Solids: 100

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-05
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (1.72)		6010C		1	KJK	08/26/15 18:49	2.91	100	CH52539
Barium	10.8 (1.72)		6010C		1	KJK	08/26/15 18:49	2.91	100	CH52539
Cadmium	ND (0.34)		6010C		1	KJK	08/26/15 18:49	2.91	100	CH52539
Chromium	1.72 (0.69)		6010C		1	KJK	08/26/15 18:49	2.91	100	CH52539
Lead	ND (3.45)		6010C		1	KJK	08/26/15 18:49	2.91	100	CH52539
Mercury	ND (0.029)		7471B		1	BJV	08/26/15 15:00	0.69	40	CH52541
Selenium	ND (3.45)		6010C		1	KJK	08/26/15 18:49	2.91	100	CH52539
Silver	ND (0.34)		6010C		1	KJK	08/26/15 18:49	2.91	100	CH52539



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - E
Date Sampled: 08/24/15 16:00
Percent Solids: 100
Initial Volume: 7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,1,1-Trichloroethane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,1,2,2-Tetrachloroethane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,1,2-Trichloroethane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,1-Dichloroethane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,1-Dichloroethene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,1-Dichloropropene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,2,3-Trichlorobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,2,3-Trichloropropane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,2,4-Trichlorobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,2,4-Trimethylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,2-Dibromo-3-Chloropropane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,2-Dibromoethane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,2-Dichlorobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,2-Dichloroethane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,2-Dichloropropane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,3,5-Trimethylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,3-Dichlorobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,3-Dichloropropane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,4-Dichlorobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1,4-Dioxane	ND (0.0716)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
1-Chlorohexane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
2,2-Dichloropropane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
2-Butanone	ND (0.0358)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
2-Chlorotoluene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
2-Hexanone	ND (0.0358)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
4-Chlorotoluene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
4-Isopropyltoluene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
4-Methyl-2-Pentanone	ND (0.0358)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Acetone	ND (0.0358)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Benzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Bromobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - E
Date Sampled: 08/24/15 16:00
Percent Solids: 100
Initial Volume: 7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Bromodichloromethane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Bromoform	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Bromomethane	ND (0.0072)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Carbon Disulfide	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Carbon Tetrachloride	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Chlorobenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Chloroethane	ND (0.0072)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Chloroform	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Chloromethane	ND (0.0072)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
cis-1,2-Dichloroethene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
cis-1,3-Dichloropropene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Dibromochloromethane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Dibromomethane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Dichlorodifluoromethane	ND (0.0072)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Diethyl Ether	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Di-isopropyl ether	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Ethyl tertiary-butyl ether	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Ethylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Hexachlorobutadiene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Isopropylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Methyl tert-Butyl Ether	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Methylene Chloride	ND (0.0179)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Naphthalene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
n-Butylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
n-Propylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
sec-Butylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Styrene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
tert-Butylbenzene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Tertiary-amyl methyl ether	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Tetrachloroethene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Tetrahydrofuran	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - E
Date Sampled: 08/24/15 16:00
Percent Solids: 100
Initial Volume: 7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
trans-1,2-Dichloroethene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
trans-1,3-Dichloropropene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Trichloroethene	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Trichlorofluoromethane	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Vinyl Acetate	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Vinyl Chloride	ND (0.0072)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Xylene O	ND (0.0036)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Xylene P,M	ND (0.0072)		8260B Low		1	08/28/15 13:56	CYH0359	CH52721
Xylenes (Total)	ND (0.0072)		8260B Low		1	08/28/15 13:56		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>114 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>90 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>107 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>100 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - E
Date Sampled: 08/24/15 16:00
Percent Solids: 100
Initial Volume: 19.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/26/15 15:25

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (38.6)		8100M		1	08/27/15 16:06	CYH0360	CH52611
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>102 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - E
Date Sampled: 08/24/15 16:00
Percent Solids: 100
Initial Volume: 14.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
1,2,4-Trichlorobenzene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
1,2-Dichlorobenzene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
1,3-Dichlorobenzene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
1,4-Dichlorobenzene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2,3,4,6-Tetrachlorophenol	ND (1.76)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2,4,5-Trichlorophenol	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2,4,6-Trichlorophenol	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2,4-Dichlorophenol	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2,4-Dimethylphenol	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2,4-Dinitrophenol	ND (1.76)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2,4-Dinitrotoluene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2,6-Dinitrotoluene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2-Chloronaphthalene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2-Chlorophenol	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2-Methylnaphthalene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2-Methylphenol	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2-Nitroaniline	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
2-Nitrophenol	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
3,3'-Dichlorobenzidine	ND (0.702)		8270D		1	08/27/15 10:59	CYH0352	CH52513
3+4-Methylphenol	ND (0.702)		8270D		1	08/27/15 10:59	CYH0352	CH52513
3-Nitroaniline	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
4,6-Dinitro-2-Methylphenol	ND (1.76)		8270D		1	08/27/15 10:59	CYH0352	CH52513
4-Bromophenyl-phenylether	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
4-Chloro-3-Methylphenol	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
4-Chloroaniline	ND (0.702)		8270D		1	08/27/15 10:59	CYH0352	CH52513
4-Chloro-phenyl-phenyl ether	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
4-Nitroaniline	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
4-Nitrophenol	ND (1.76)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Acenaphthene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Acenaphthylene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Acetophenone	ND (0.702)		8270D		1	08/27/15 10:59	CYH0352	CH52513



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - E
Date Sampled: 08/24/15 16:00
Percent Solids: 100
Initial Volume: 14.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.702)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Anthracene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Azobenzene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Benzo(a)anthracene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Benzo(a)pyrene	ND (0.176)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Benzo(b)fluoranthene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Benzo(g,h,i)perylene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Benzo(k)fluoranthene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Benzoic Acid	ND (1.76)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Benzyl Alcohol	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
bis(2-Chloroethoxy)methane	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
bis(2-Chloroethyl)ether	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
bis(2-chloroisopropyl)Ether	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
bis(2-Ethylhexyl)phthalate	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Butylbenzylphthalate	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Carbazole	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Chrysene	ND (0.176)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Dibenzo(a,h)Anthracene	ND (0.176)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Dibenzofuran	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Diethylphthalate	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Dimethylphthalate	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Di-n-butylphthalate	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Di-n-octylphthalate	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Fluoranthene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Fluorene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Hexachlorobenzene	ND (0.176)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Hexachlorobutadiene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Hexachlorocyclopentadiene	ND (1.76)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Hexachloroethane	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Indeno(1,2,3-cd)Pyrene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Isophorone	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Naphthalene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S+S - Sandy Fill - E
 Date Sampled: 08/24/15 16:00
 Percent Solids: 100
 Initial Volume: 14.3
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1508737
 ESS Laboratory Sample ID: 1508737-05
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: IBM
 Prepared: 8/26/15 10:00

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
N-Nitrosodimethylamine	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
N-Nitroso-Di-n-Propylamine	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
N-nitrosodiphenylamine	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Pentachlorophenol	ND (1.76)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Phenanthrene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Phenol	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Pyrene	ND (0.350)		8270D		1	08/27/15 10:59	CYH0352	CH52513
Pyridine	ND (1.76)		8270D		1	08/27/15 10:59	CYH0352	CH52513

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	60 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	48 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	62 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	61 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	60 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	61 %		30-130
<i>Surrogate: Phenol-d6</i>	63 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	69 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Sandy Fill - E
Date Sampled: 08/24/15 16:00
Percent Solids: 100

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-05
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.43 (N/A)		9045		1	MJV	08/26/15 10:45	S.U.	CH52626
Corrosivity (pH) Sample Temp	Soil pH measured in water at 24.4 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - A
Date Sampled: 08/24/15 16:10
Percent Solids: 94

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-06
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	2.49 (2.17)		6010C		1	KJK	08/26/15 18:53	2.45	100	CH52539
Barium	29.8 (2.17)		6010C		1	KJK	08/26/15 18:53	2.45	100	CH52539
Cadmium	ND (0.43)		6010C		1	KJK	08/26/15 18:53	2.45	100	CH52539
Chromium	5.68 (0.87)		6010C		1	KJK	08/26/15 18:53	2.45	100	CH52539
Lead	13.2 (4.35)		6010C		1	KJK	08/26/15 18:53	2.45	100	CH52539
Mercury	0.039 (0.031)		7471B		1	BJV	08/26/15 15:02	0.67	40	CH52541
Selenium	ND (8.69)		6010C		2	KJK	08/27/15 14:46	2.45	100	CH52539
Silver	ND (0.43)		6010C		1	KJK	08/26/15 18:53	2.45	100	CH52539



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - A
Date Sampled: 08/24/15 16:10
Percent Solids: 94
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,1,1-Trichloroethane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,1,2,2-Tetrachloroethane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,1,2-Trichloroethane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,1-Dichloroethane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,1-Dichloroethene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,1-Dichloropropene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,2,3-Trichlorobenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,2,3-Trichloropropane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,2,4-Trichlorobenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,2,4-Trimethylbenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,2-Dibromo-3-Chloropropane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,2-Dibromoethane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,2-Dichlorobenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,2-Dichloroethane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,2-Dichloropropane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,3,5-Trimethylbenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,3-Dichlorobenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,3-Dichloropropane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,4-Dichlorobenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1,4-Dioxane	ND (0.0859)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
1-Chlorohexane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
2,2-Dichloropropane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
2-Butanone	ND (0.0429)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
2-Chlorotoluene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
2-Hexanone	ND (0.0429)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
4-Chlorotoluene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
4-Isopropyltoluene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
4-Methyl-2-Pentanone	ND (0.0429)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Acetone	ND (0.0429)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Benzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Bromobenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - A
Date Sampled: 08/24/15 16:10
Percent Solids: 94
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Bromodichloromethane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Bromoform	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Bromomethane	ND (0.0086)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Carbon Disulfide	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Carbon Tetrachloride	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Chlorobenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Chloroethane	ND (0.0086)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Chloroform	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Chloromethane	ND (0.0086)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
cis-1,2-Dichloroethene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
cis-1,3-Dichloropropene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Dibromochloromethane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Dibromomethane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Dichlorodifluoromethane	ND (0.0086)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Diethyl Ether	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Di-isopropyl ether	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Ethyl tertiary-butyl ether	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Ethylbenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Hexachlorobutadiene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Isopropylbenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Methyl tert-Butyl Ether	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Methylene Chloride	ND (0.0215)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Naphthalene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
n-Butylbenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
n-Propylbenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
sec-Butylbenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Styrene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
tert-Butylbenzene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Tertiary-amyl methyl ether	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Tetrachloroethene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Tetrahydrofuran	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - A
Date Sampled: 08/24/15 16:10
Percent Solids: 94
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
trans-1,2-Dichloroethene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
trans-1,3-Dichloropropene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Trichloroethene	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Trichlorofluoromethane	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Vinyl Acetate	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Vinyl Chloride	ND (0.0086)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Xylene O	ND (0.0043)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Xylene P,M	ND (0.0086)		8260B Low		1	08/26/15 17:55	CYH0342	CH52614
Xylenes (Total)	ND (0.0086)		8260B Low		1	08/26/15 17:55		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>123 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>85 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>108 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>106 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - A
Date Sampled: 08/24/15 16:10
Percent Solids: 94
Initial Volume: 19.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/26/15 15:25

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	194 (41.4)		8100M		1	08/27/15 16:45	CYH0360	CH52611
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		85 %		40-140				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - A
Date Sampled: 08/24/15 16:10
Percent Solids: 94
Initial Volume: 14.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 16:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
1,2,4-Trichlorobenzene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
1,2-Dichlorobenzene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
1,3-Dichlorobenzene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
1,4-Dichlorobenzene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2,3,4,6-Tetrachlorophenol	ND (1.81)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2,4,5-Trichlorophenol	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2,4,6-Trichlorophenol	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2,4-Dichlorophenol	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2,4-Dimethylphenol	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2,4-Dinitrophenol	ND (1.81)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2,4-Dinitrotoluene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2,6-Dinitrotoluene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2-Chloronaphthalene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2-Chlorophenol	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2-Methylnaphthalene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2-Methylphenol	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2-Nitroaniline	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
2-Nitrophenol	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
3,3'-Dichlorobenzidine	ND (0.725)		8270D		1	08/27/15 11:37	CYH0352	CH52613
3+4-Methylphenol	ND (0.725)		8270D		1	08/27/15 11:37	CYH0352	CH52613
3-Nitroaniline	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
4,6-Dinitro-2-Methylphenol	ND (1.81)		8270D		1	08/27/15 11:37	CYH0352	CH52613
4-Bromophenyl-phenylether	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
4-Chloro-3-Methylphenol	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
4-Chloroaniline	ND (0.725)		8270D		1	08/27/15 11:37	CYH0352	CH52613
4-Chloro-phenyl-phenyl ether	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
4-Nitroaniline	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
4-Nitrophenol	ND (1.81)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Acenaphthene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Acenaphthylene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Acetophenone	ND (0.725)		8270D		1	08/27/15 11:37	CYH0352	CH52613



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S+S - Top Soil - A
 Date Sampled: 08/24/15 16:10
 Percent Solids: 94
 Initial Volume: 14.7
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1508737
 ESS Laboratory Sample ID: 1508737-06
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: IBM
 Prepared: 8/26/15 16:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.725)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Anthracene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Azobenzene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Benzo(a)anthracene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Benzo(a)pyrene	ND (0.181)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Benzo(b)fluoranthene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Benzo(g,h,i)perylene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Benzo(k)fluoranthene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Benzoic Acid	ND (1.81)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Benzyl Alcohol	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
bis(2-Chloroethoxy)methane	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
bis(2-Chloroethyl)ether	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
bis(2-chloroisopropyl)Ether	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
bis(2-Ethylhexyl)phthalate	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Butylbenzylphthalate	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Carbazole	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Chrysene	ND (0.181)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Dibenzo(a,h)Anthracene	ND (0.181)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Dibenzofuran	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Diethylphthalate	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Dimethylphthalate	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Di-n-butylphthalate	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Di-n-octylphthalate	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Fluoranthene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Fluorene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Hexachlorobenzene	ND (0.181)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Hexachlorobutadiene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Hexachlorocyclopentadiene	ND (1.81)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Hexachloroethane	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Indeno(1,2,3-cd)Pyrene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Isophorone	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Naphthalene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - A
Date Sampled: 08/24/15 16:10
Percent Solids: 94
Initial Volume: 14.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-06
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 16:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
N-Nitrosodimethylamine	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
N-Nitroso-Di-n-Propylamine	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
N-nitrosodiphenylamine	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Pentachlorophenol	ND (1.81)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Phenanthrene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Phenol	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Pyrene	ND (0.362)		8270D		1	08/27/15 11:37	CYH0352	CH52613
Pyridine	ND (1.81)		8270D		1	08/27/15 11:37	CYH0352	CH52613

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>41 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>59 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>47 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>52 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>44 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>47 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>49 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>66 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - B
Date Sampled: 08/24/15 16:20
Percent Solids: 94

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-07
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	2.35 (1.94)		6010C		1	KJK	08/26/15 18:57	2.75	100	CH52539
Barium	28.5 (1.94)		6010C		1	KJK	08/26/15 18:57	2.75	100	CH52539
Cadmium	ND (0.39)		6010C		1	KJK	08/26/15 18:57	2.75	100	CH52539
Chromium	5.42 (0.77)		6010C		1	KJK	08/26/15 18:57	2.75	100	CH52539
Lead	13.0 (3.87)		6010C		1	KJK	08/26/15 18:57	2.75	100	CH52539
Mercury	ND (0.033)		7471B		1	BJV	08/26/15 15:04	0.64	40	CH52541
Selenium	ND (7.74)		6010C		2	KJK	08/27/15 14:50	2.75	100	CH52539
Silver	ND (0.39)		6010C		1	KJK	08/26/15 18:57	2.75	100	CH52539



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - B
Date Sampled: 08/24/15 16:20
Percent Solids: 94
Initial Volume: 6.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,1,1-Trichloroethane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,1,2,2-Tetrachloroethane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,1,2-Trichloroethane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,1-Dichloroethane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,1-Dichloroethene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,1-Dichloropropene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,2,3-Trichlorobenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,2,3-Trichloropropane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,2,4-Trichlorobenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,2,4-Trimethylbenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,2-Dibromo-3-Chloropropane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,2-Dibromoethane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,2-Dichlorobenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,2-Dichloroethane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,2-Dichloropropane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,3,5-Trimethylbenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,3-Dichlorobenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,3-Dichloropropane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,4-Dichlorobenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1,4-Dioxane	ND (0.0845)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
1-Chlorohexane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
2,2-Dichloropropane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
2-Butanone	ND (0.0422)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
2-Chlorotoluene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
2-Hexanone	ND (0.0422)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
4-Chlorotoluene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
4-Isopropyltoluene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
4-Methyl-2-Pentanone	ND (0.0422)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Acetone	ND (0.0422)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Benzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Bromobenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - B
Date Sampled: 08/24/15 16:20
Percent Solids: 94
Initial Volume: 6.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Bromodichloromethane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Bromoform	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Bromomethane	ND (0.0084)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Carbon Disulfide	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Carbon Tetrachloride	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Chlorobenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Chloroethane	ND (0.0084)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Chloroform	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Chloromethane	ND (0.0084)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
cis-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
cis-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Dibromochloromethane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Dibromomethane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Dichlorodifluoromethane	ND (0.0084)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Diethyl Ether	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Di-isopropyl ether	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Ethyl tertiary-butyl ether	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Ethylbenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Hexachlorobutadiene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Isopropylbenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Methyl tert-Butyl Ether	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Methylene Chloride	ND (0.0211)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Naphthalene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
n-Butylbenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
n-Propylbenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
sec-Butylbenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Styrene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
tert-Butylbenzene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Tertiary-amyl methyl ether	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Tetrachloroethene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Tetrahydrofuran	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - B
Date Sampled: 08/24/15 16:20
Percent Solids: 94
Initial Volume: 6.3
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
trans-1,2-Dichloroethene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
trans-1,3-Dichloropropene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Trichloroethene	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Trichlorofluoromethane	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Vinyl Acetate	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Vinyl Chloride	ND (0.0084)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Xylene O	ND (0.0042)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Xylene P,M	ND (0.0084)		8260B Low		1	08/26/15 18:23	CYH0342	CH52614
Xylenes (Total)	ND (0.0084)		8260B Low		1	08/26/15 18:23		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>118 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>77 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>110 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>114 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - B
Date Sampled: 08/24/15 16:20
Percent Solids: 94
Initial Volume: 19.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/26/15 15:25

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	181 (40.5)		8100M		1	08/27/15 17:24	CYH0360	CH52611
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		75 %		40-140				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - B
Date Sampled: 08/24/15 16:20
Percent Solids: 94
Initial Volume: 15.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 16:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
1,2,4-Trichlorobenzene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
1,2-Dichlorobenzene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
1,3-Dichlorobenzene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
1,4-Dichlorobenzene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2,3,4,6-Tetrachlorophenol	ND (1.69)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2,4,5-Trichlorophenol	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2,4,6-Trichlorophenol	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2,4-Dichlorophenol	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2,4-Dimethylphenol	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2,4-Dinitrophenol	ND (1.69)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2,4-Dinitrotoluene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2,6-Dinitrotoluene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2-Chloronaphthalene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2-Chlorophenol	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2-Methylnaphthalene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2-Methylphenol	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2-Nitroaniline	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
2-Nitrophenol	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
3,3'-Dichlorobenzidine	ND (0.674)		8270D		1	08/27/15 12:14	CYH0352	CH52613
3+4-Methylphenol	ND (0.674)		8270D		1	08/27/15 12:14	CYH0352	CH52613
3-Nitroaniline	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
4,6-Dinitro-2-Methylphenol	ND (1.69)		8270D		1	08/27/15 12:14	CYH0352	CH52613
4-Bromophenyl-phenylether	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
4-Chloro-3-Methylphenol	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
4-Chloroaniline	ND (0.674)		8270D		1	08/27/15 12:14	CYH0352	CH52613
4-Chloro-phenyl-phenyl ether	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
4-Nitroaniline	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
4-Nitrophenol	ND (1.69)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Acenaphthene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Acenaphthylene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Acetophenone	ND (0.674)		8270D		1	08/27/15 12:14	CYH0352	CH52613



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - B
Date Sampled: 08/24/15 16:20
Percent Solids: 94
Initial Volume: 15.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 16:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.674)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Anthracene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Azobenzene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Benzo(a)anthracene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Benzo(a)pyrene	ND (0.169)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Benzo(b)fluoranthene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Benzo(g,h,i)perylene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Benzo(k)fluoranthene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Benzoic Acid	ND (1.69)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Benzyl Alcohol	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
bis(2-Chloroethoxy)methane	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
bis(2-Chloroethyl)ether	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
bis(2-chloroisopropyl)Ether	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
bis(2-Ethylhexyl)phthalate	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Butylbenzylphthalate	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Carbazole	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Chrysene	ND (0.169)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Dibenzo(a,h)Anthracene	ND (0.169)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Dibenzofuran	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Diethylphthalate	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Dimethylphthalate	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Di-n-butylphthalate	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Di-n-octylphthalate	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Fluoranthene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Fluorene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Hexachlorobenzene	ND (0.169)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Hexachlorobutadiene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Hexachlorocyclopentadiene	ND (1.69)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Hexachloroethane	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Indeno(1,2,3-cd)Pyrene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Isophorone	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Naphthalene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - B
Date Sampled: 08/24/15 16:20
Percent Solids: 94
Initial Volume: 15.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-07
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 16:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
N-Nitrosodimethylamine	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
N-Nitroso-Di-n-Propylamine	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
N-nitrosodiphenylamine	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Pentachlorophenol	ND (1.69)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Phenanthrene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Phenol	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Pyrene	ND (0.337)		8270D		1	08/27/15 12:14	CYH0352	CH52613
Pyridine	ND (1.69)		8270D		1	08/27/15 12:14	CYH0352	CH52613

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>40 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>63 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>46 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>50 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>43 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>45 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>49 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>65 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - C
Date Sampled: 08/24/15 16:30
Percent Solids: 93

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-08
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	3.08 (2.58)		6010C		1	KJK	08/26/15 19:01	2.09	100	CH52539
Barium	29.4 (2.58)		6010C		1	KJK	08/26/15 19:01	2.09	100	CH52539
Cadmium	ND (0.52)		6010C		1	KJK	08/26/15 19:01	2.09	100	CH52539
Chromium	5.59 (1.03)		6010C		1	KJK	08/26/15 19:01	2.09	100	CH52539
Lead	17.7 (5.17)		6010C		1	KJK	08/26/15 19:01	2.09	100	CH52539
Mercury	0.040 (0.034)		7471B		1	BJV	08/26/15 15:05	0.63	40	CH52541
Selenium	ND (5.17)		6010C		1	KJK	08/26/15 19:01	2.09	100	CH52539
Silver	ND (0.52)		6010C		1	KJK	08/26/15 19:01	2.09	100	CH52539



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - C
Date Sampled: 08/24/15 16:30
Percent Solids: 93
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,1,1-Trichloroethane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,1,2,2-Tetrachloroethane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,1,2-Trichloroethane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,1-Dichloroethane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,1-Dichloroethene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,1-Dichloropropene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,2,3-Trichlorobenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,2,3-Trichloropropane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,2,4-Trichlorobenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,2,4-Trimethylbenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,2-Dibromo-3-Chloropropane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,2-Dibromoethane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,2-Dichlorobenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,2-Dichloroethane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,2-Dichloropropane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,3,5-Trimethylbenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,3-Dichlorobenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,3-Dichloropropane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,4-Dichlorobenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1,4-Dioxane	ND (0.0871)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
1-Chlorohexane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
2,2-Dichloropropane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
2-Butanone	ND (0.0435)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
2-Chlorotoluene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
2-Hexanone	ND (0.0435)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
4-Chlorotoluene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
4-Isopropyltoluene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
4-Methyl-2-Pentanone	ND (0.0435)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Acetone	ND (0.0435)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Benzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Bromobenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - C
Date Sampled: 08/24/15 16:30
Percent Solids: 93
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Bromodichloromethane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Bromoform	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Bromomethane	ND (0.0087)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Carbon Disulfide	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Carbon Tetrachloride	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Chlorobenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Chloroethane	ND (0.0087)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Chloroform	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Chloromethane	ND (0.0087)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
cis-1,2-Dichloroethene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
cis-1,3-Dichloropropene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Dibromochloromethane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Dibromomethane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Dichlorodifluoromethane	ND (0.0087)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Diethyl Ether	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Di-isopropyl ether	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Ethyl tertiary-butyl ether	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Ethylbenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Hexachlorobutadiene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Isopropylbenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Methyl tert-Butyl Ether	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Methylene Chloride	ND (0.0218)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Naphthalene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
n-Butylbenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
n-Propylbenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
sec-Butylbenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Styrene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
tert-Butylbenzene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Tertiary-amyl methyl ether	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Tetrachloroethene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Tetrahydrofuran	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S+S - Top Soil - C
 Date Sampled: 08/24/15 16:30
 Percent Solids: 93
 Initial Volume: 6.2
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1508737
 ESS Laboratory Sample ID: 1508737-08
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
trans-1,2-Dichloroethene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
trans-1,3-Dichloropropene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Trichloroethene	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Trichlorofluoromethane	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Vinyl Acetate	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Vinyl Chloride	ND (0.0087)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Xylene O	ND (0.0044)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Xylene P,M	ND (0.0087)		8260B Low		1	08/26/15 18:51	CYH0342	CH52614
Xylenes (Total)	ND (0.0087)		8260B Low		1	08/26/15 18:51		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	132 %	S+	70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	71 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	113 %		70-130
<i>Surrogate: Toluene-d8</i>	119 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - C
Date Sampled: 08/24/15 16:30
Percent Solids: 93
Initial Volume: 19.8
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/26/15 15:25

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	190 (40.9)		8100M		1	08/27/15 18:04	CYH0360	CH52611
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		79 %		40-140				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - C
Date Sampled: 08/24/15 16:30
Percent Solids: 93
Initial Volume: 14.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 16:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
1,2,4-Trichlorobenzene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
1,2-Dichlorobenzene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
1,3-Dichlorobenzene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
1,4-Dichlorobenzene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2,3,4,6-Tetrachlorophenol	ND (1.85)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2,4,5-Trichlorophenol	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2,4,6-Trichlorophenol	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2,4-Dichlorophenol	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2,4-Dimethylphenol	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2,4-Dinitrophenol	ND (1.85)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2,4-Dinitrotoluene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2,6-Dinitrotoluene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2-Chloronaphthalene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2-Chlorophenol	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2-Methylnaphthalene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2-Methylphenol	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2-Nitroaniline	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
2-Nitrophenol	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
3,3'-Dichlorobenzidine	ND (0.740)		8270D		1	08/27/15 12:51	CYH0352	CH52613
3+4-Methylphenol	ND (0.740)		8270D		1	08/27/15 12:51	CYH0352	CH52613
3-Nitroaniline	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
4,6-Dinitro-2-Methylphenol	ND (1.85)		8270D		1	08/27/15 12:51	CYH0352	CH52613
4-Bromophenyl-phenylether	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
4-Chloro-3-Methylphenol	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
4-Chloroaniline	ND (0.740)		8270D		1	08/27/15 12:51	CYH0352	CH52613
4-Chloro-phenyl-phenyl ether	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
4-Nitroaniline	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
4-Nitrophenol	ND (1.85)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Acenaphthene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Acenaphthylene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Acetophenone	ND (0.740)		8270D		1	08/27/15 12:51	CYH0352	CH52613



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - C
Date Sampled: 08/24/15 16:30
Percent Solids: 93
Initial Volume: 14.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 16:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.740)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Anthracene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Azobenzene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Benzo(a)anthracene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Benzo(a)pyrene	ND (0.185)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Benzo(b)fluoranthene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Benzo(g,h,i)perylene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Benzo(k)fluoranthene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Benzoic Acid	ND (1.85)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Benzyl Alcohol	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
bis(2-Chloroethoxy)methane	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
bis(2-Chloroethyl)ether	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
bis(2-chloroisopropyl)Ether	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
bis(2-Ethylhexyl)phthalate	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Butylbenzylphthalate	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Carbazole	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Chrysene	ND (0.185)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Dibenzo(a,h)Anthracene	ND (0.185)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Dibenzofuran	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Diethylphthalate	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Dimethylphthalate	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Di-n-butylphthalate	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Di-n-octylphthalate	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Fluoranthene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Fluorene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Hexachlorobenzene	ND (0.185)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Hexachlorobutadiene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Hexachlorocyclopentadiene	ND (1.85)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Hexachloroethane	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Indeno(1,2,3-cd)Pyrene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Isophorone	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Naphthalene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - C
Date Sampled: 08/24/15 16:30
Percent Solids: 93
Initial Volume: 14.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-08
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 16:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
N-Nitrosodimethylamine	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
N-Nitroso-Di-n-Propylamine	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
N-nitrosodiphenylamine	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Pentachlorophenol	ND (1.85)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Phenanthrene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Phenol	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Pyrene	ND (0.369)		8270D		1	08/27/15 12:51	CYH0352	CH52613
Pyridine	ND (1.85)		8270D		1	08/27/15 12:51	CYH0352	CH52613

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>34 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>53 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>40 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>44 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>38 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>39 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>43 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>56 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - D
Date Sampled: 08/24/15 16:40
Percent Solids: 103

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-09
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.38)		6010C		1	KJK	08/26/15 19:05	2.1	100	CH52539
Barium	27.7 (2.38)		6010C		1	KJK	08/26/15 19:05	2.1	100	CH52539
Cadmium	ND (0.48)		6010C		1	KJK	08/26/15 19:05	2.1	100	CH52539
Chromium	5.74 (0.95)		6010C		1	KJK	08/26/15 19:05	2.1	100	CH52539
Lead	12.7 (4.76)		6010C		1	KJK	08/26/15 19:05	2.1	100	CH52539
Mercury	0.033 (0.029)		7471B		1	BJV	08/26/15 15:07	0.69	40	CH52541
Selenium	ND (4.76)		6010C		1	KJK	08/26/15 19:05	2.1	100	CH52539
Silver	ND (0.48)		6010C		1	KJK	08/26/15 19:05	2.1	100	CH52539



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - D
Date Sampled: 08/24/15 16:40
Percent Solids: 103
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,1,1-Trichloroethane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,1,2,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,1,2-Trichloroethane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,1-Dichloroethane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,1-Dichloroethene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,1-Dichloropropene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,2,3-Trichlorobenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,2,3-Trichloropropane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,2,4-Trichlorobenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,2,4-Trimethylbenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,2-Dibromo-3-Chloropropane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,2-Dibromoethane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,2-Dichlorobenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,2-Dichloroethane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,2-Dichloropropane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,3,5-Trimethylbenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,3-Dichlorobenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,3-Dichloropropane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,4-Dichlorobenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1,4-Dioxane	ND (0.0806)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
1-Chlorohexane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
2,2-Dichloropropane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
2-Butanone	ND (0.0403)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
2-Chlorotoluene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
2-Hexanone	ND (0.0403)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
4-Chlorotoluene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
4-Isopropyltoluene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
4-Methyl-2-Pentanone	ND (0.0403)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Acetone	0.0660 (0.0403)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Benzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Bromobenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - D
Date Sampled: 08/24/15 16:40
Percent Solids: 103
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Bromodichloromethane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Bromoform	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Bromomethane	ND (0.0081)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Carbon Disulfide	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Carbon Tetrachloride	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Chlorobenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Chloroethane	ND (0.0081)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Chloroform	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Chloromethane	ND (0.0081)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
cis-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
cis-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Dibromochloromethane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Dibromomethane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Dichlorodifluoromethane	ND (0.0081)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Diethyl Ether	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Di-isopropyl ether	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Ethyl tertiary-butyl ether	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Ethylbenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Hexachlorobutadiene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Isopropylbenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Methyl tert-Butyl Ether	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Methylene Chloride	ND (0.0202)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Naphthalene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
n-Butylbenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
n-Propylbenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
sec-Butylbenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Styrene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
tert-Butylbenzene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Tertiary-amyl methyl ether	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Tetrachloroethene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Tetrahydrofuran	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - D
Date Sampled: 08/24/15 16:40
Percent Solids: 103
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
trans-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
trans-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Trichloroethene	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Trichlorofluoromethane	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Vinyl Acetate	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Vinyl Chloride	ND (0.0081)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Xylene O	ND (0.0040)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Xylene P,M	ND (0.0081)		8260B Low		1	08/26/15 19:20	CYH0342	CH52614
Xylenes (Total)	ND (0.0081)		8260B Low		1	08/26/15 19:20		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>127 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>86 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>111 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>101 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - D
Date Sampled: 08/24/15 16:40
Percent Solids: 103
Initial Volume: 19.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 8/26/15 15:25

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	213 (38.9)		8100M		1	08/27/15 18:42	CYH0360	CH52611
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		93 %		40-140				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - D
Date Sampled: 08/24/15 16:40
Percent Solids: 103
Initial Volume: 14.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 16:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
1,2,4-Trichlorobenzene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
1,2-Dichlorobenzene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
1,3-Dichlorobenzene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
1,4-Dichlorobenzene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2,3,4,6-Tetrachlorophenol	ND (1.74)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2,4,5-Trichlorophenol	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2,4,6-Trichlorophenol	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2,4-Dichlorophenol	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2,4-Dimethylphenol	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2,4-Dinitrophenol	ND (1.74)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2,4-Dinitrotoluene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2,6-Dinitrotoluene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2-Chloronaphthalene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2-Chlorophenol	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2-Methylnaphthalene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2-Methylphenol	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2-Nitroaniline	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
2-Nitrophenol	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
3,3'-Dichlorobenzidine	ND (0.695)		8270D		1	08/27/15 13:29	CYH0352	CH52613
3+4-Methylphenol	ND (0.695)		8270D		1	08/27/15 13:29	CYH0352	CH52613
3-Nitroaniline	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
4,6-Dinitro-2-Methylphenol	ND (1.74)		8270D		1	08/27/15 13:29	CYH0352	CH52613
4-Bromophenyl-phenylether	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
4-Chloro-3-Methylphenol	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
4-Chloroaniline	ND (0.695)		8270D		1	08/27/15 13:29	CYH0352	CH52613
4-Chloro-phenyl-phenyl ether	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
4-Nitroaniline	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
4-Nitrophenol	ND (1.74)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Acenaphthene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Acenaphthylene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Acetophenone	ND (0.695)		8270D		1	08/27/15 13:29	CYH0352	CH52613



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - D
Date Sampled: 08/24/15 16:40
Percent Solids: 103
Initial Volume: 14.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 16:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.695)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Anthracene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Azobenzene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Benzo(a)anthracene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Benzo(a)pyrene	ND (0.174)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Benzo(b)fluoranthene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Benzo(g,h,i)perylene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Benzo(k)fluoranthene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Benzoic Acid	ND (1.74)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Benzyl Alcohol	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
bis(2-Chloroethoxy)methane	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
bis(2-Chloroethyl)ether	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
bis(2-chloroisopropyl)Ether	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
bis(2-Ethylhexyl)phthalate	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Butylbenzylphthalate	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Carbazole	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Chrysene	ND (0.174)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Dibenzo(a,h)Anthracene	ND (0.174)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Dibenzofuran	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Diethylphthalate	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Dimethylphthalate	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Di-n-butylphthalate	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Di-n-octylphthalate	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Fluoranthene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Fluorene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Hexachlorobenzene	ND (0.174)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Hexachlorobutadiene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Hexachlorocyclopentadiene	ND (1.74)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Hexachloroethane	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Indeno(1,2,3-cd)Pyrene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Isophorone	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Naphthalene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S+S - Top Soil - D
Date Sampled: 08/24/15 16:40
Percent Solids: 103
Initial Volume: 14.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1508737
ESS Laboratory Sample ID: 1508737-09
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 8/26/15 16:44

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
N-Nitrosodimethylamine	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
N-Nitroso-Di-n-Propylamine	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
N-nitrosodiphenylamine	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Pentachlorophenol	ND (1.74)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Phenanthrene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Phenol	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Pyrene	ND (0.347)		8270D		1	08/27/15 13:29	CYH0352	CH52613
Pyridine	ND (1.74)		8270D		1	08/27/15 13:29	CYH0352	CH52613

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>43 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>63 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>51 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>54 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>47 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>50 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>53 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>66 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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Total Metals

Batch CH52539 - 3050B

Blank

Arsenic	ND	2.50	mg/kg wet
Barium	ND	2.50	mg/kg wet
Cadmium	ND	0.50	mg/kg wet
Chromium	ND	1.00	mg/kg wet
Lead	ND	5.00	mg/kg wet
Selenium	ND	5.00	mg/kg wet
Silver	ND	0.50	mg/kg wet

LCS

Arsenic	73.2	8.06	mg/kg wet	52.30	140	43-169
Barium	139	8.06	mg/kg wet	145.0	96	80-120
Cadmium	58.8	1.61	mg/kg wet	71.60	82	62-138
Chromium	86.0	3.23	mg/kg wet	88.50	97	80-120
Lead	56.5	16.1	mg/kg wet	77.80	73	69-131
Selenium	73.2	16.1	mg/kg wet	81.10	90	80-120
Silver	111	1.61	mg/kg wet	114.0	97	80-120

LCS Dup

Arsenic	99.7	7.94	mg/kg wet	52.30	191	43-169	31	20	B+, D+
Barium	133	7.94	mg/kg wet	145.0	92	80-120	5	20	
Cadmium	51.9	1.59	mg/kg wet	71.60	72	62-138	12	20	
Chromium	84.4	3.17	mg/kg wet	88.50	95	80-120	2	20	
Lead	51.6	15.9	mg/kg wet	77.80	66	69-131	9	20	B-
Selenium	66.3	15.9	mg/kg wet	81.10	82	80-120	10	20	
Silver	105	1.59	mg/kg wet	114.0	92	80-120	5	20	

Batch CH52541 - 245.1/7470A

Blank

Mercury	ND	0.033	mg/kg wet
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LCS

Mercury	9.68	1.62	mg/kg wet	9.700	100	80-120
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LCS Dup

Mercury	10.3	1.55	mg/kg wet	9.700	106	80-120	6	20
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH52614 - 5035

Blank

1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethene	ND	0.0050	mg/kg wet
1,1-Dichloropropene	ND	0.0050	mg/kg wet
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH52614 - 5035

1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
1-Chlorohexane	ND	0.0050	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							
Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0050	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH52614 - 5035

Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0250	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0570		mg/kg wet	0.05000		114	70-130			
Surrogate: 4-Bromofluorobenzene	0.0396		mg/kg wet	0.05000		79	70-130			
Surrogate: Dibromofluoromethane	0.0530		mg/kg wet	0.05000		106	70-130			
Surrogate: Toluene-d8	0.0554		mg/kg wet	0.05000		111	70-130			

LCS

1,1,1,2-Tetrachloroethane	0.0576	0.0050	mg/kg wet	0.05000		115	70-130			
1,1,1-Trichloroethane	0.0594	0.0050	mg/kg wet	0.05000		119	70-130			
1,1,2,2-Tetrachloroethane	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			
1,1,2-Trichloroethane	0.0531	0.0050	mg/kg wet	0.05000		106	70-130			
1,1-Dichloroethane	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
1,1-Dichloroethene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			
1,1-Dichloropropene	0.0528	0.0050	mg/kg wet	0.05000		106	70-130			
1,2,3-Trichlorobenzene	0.0536	0.0050	mg/kg wet	0.05000		107	70-130			
1,2,3-Trichloropropane	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
1,2,4-Trichlorobenzene	0.0545	0.0050	mg/kg wet	0.05000		109	70-130			
1,2,4-Trimethylbenzene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
1,2-Dibromo-3-Chloropropane	0.0597	0.0050	mg/kg wet	0.05000		119	70-130			
1,2-Dibromoethane	0.0561	0.0050	mg/kg wet	0.05000		112	70-130			
1,2-Dichlorobenzene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
1,2-Dichloroethane	0.0584	0.0050	mg/kg wet	0.05000		117	70-130			
1,2-Dichloropropane	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
1,3,5-Trimethylbenzene	0.0540	0.0050	mg/kg wet	0.05000		108	70-130			
1,3-Dichlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
1,3-Dichloropropane	0.0571	0.0050	mg/kg wet	0.05000		114	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH52614 - 5035

1,4-Dichlorobenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
1,4-Dioxane	1.12	0.100	mg/kg wet	1.000		112	70-130			
1-Chlorohexane	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
2,2-Dichloropropane	0.0674	0.0050	mg/kg wet	0.05000		135	70-130			B+
2-Butanone	0.259	0.0500	mg/kg wet	0.2500		104	70-130			
2-Chlorotoluene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
2-Hexanone	0.277	0.0500	mg/kg wet	0.2500		111	70-130			
4-Chlorotoluene	0.0521	0.0050	mg/kg wet	0.05000		104	70-130			
4-Isopropyltoluene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
4-Methyl-2-Pentanone	0.270	0.0500	mg/kg wet	0.2500		108	70-130			
Acetone	0.277	0.0500	mg/kg wet	0.2500		111	70-130			
Benzene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
Bromobenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
Bromochloromethane	0.0588	0.0050	mg/kg wet	0.05000		118	70-130			
Bromodichloromethane	0.0599	0.0050	mg/kg wet	0.05000		120	70-130			
Bromoform	0.0522	0.0050	mg/kg wet	0.05000		104	70-130			
Bromomethane	0.0495	0.0100	mg/kg wet	0.05000		99	70-130			
Carbon Disulfide	0.0567	0.0050	mg/kg wet	0.05000		113	70-130			
Carbon Tetrachloride	0.0606	0.0050	mg/kg wet	0.05000		121	70-130			
Chlorobenzene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130			
Chloroethane	0.0584	0.0100	mg/kg wet	0.05000		117	70-130			
Chloroform	0.0535	0.0050	mg/kg wet	0.05000		107	70-130			
Chloromethane	0.0398	0.0100	mg/kg wet	0.05000		80	70-130			
cis-1,2-Dichloroethene	0.0532	0.0050	mg/kg wet	0.05000		106	70-130			
cis-1,3-Dichloropropene	0.0559	0.0050	mg/kg wet	0.05000		112	70-130			
Dibromochloromethane	0.0558	0.0050	mg/kg wet	0.05000		112	70-130			
Dibromomethane	0.0529	0.0050	mg/kg wet	0.05000		106	70-130			
Dichlorodifluoromethane	0.0532	0.0100	mg/kg wet	0.05000		106	70-130			
Diethyl Ether	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
Di-isopropyl ether	0.0515	0.0050	mg/kg wet	0.05000		103	70-130			
Ethyl tertiary-butyl ether	0.0578	0.0050	mg/kg wet	0.05000		116	70-130			
Ethylbenzene	0.0526	0.0050	mg/kg wet	0.05000		105	70-130			
Hexachlorobutadiene	0.0521	0.0050	mg/kg wet	0.05000		104	70-130			
Isopropylbenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
Methyl tert-Butyl Ether	0.0570	0.0050	mg/kg wet	0.05000		114	70-130			
Methylene Chloride	0.0517	0.0250	mg/kg wet	0.05000		103	70-130			
Naphthalene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
n-Butylbenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
n-Propylbenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
sec-Butylbenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
Styrene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
tert-Butylbenzene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
Tertiary-amyl methyl ether	0.0632	0.0050	mg/kg wet	0.05000		126	70-130			
Tetrachloroethene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130			
Tetrahydrofuran	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH52614 - 5035

Toluene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
trans-1,2-Dichloroethene	0.0531	0.0050	mg/kg wet	0.05000		106	70-130			
trans-1,3-Dichloropropene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			
Trichloroethene	0.0525	0.0050	mg/kg wet	0.05000		105	70-130			
Trichlorofluoromethane	0.0554	0.0050	mg/kg wet	0.05000		111	70-130			
Vinyl Acetate	0.0735	0.0050	mg/kg wet	0.05000		147	70-130			B+
Vinyl Chloride	0.0445	0.0100	mg/kg wet	0.05000		89	70-130			
Xylene O	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Xylene P,M	0.107	0.0100	mg/kg wet	0.1000		107	70-130			
Xylenes (Total)	0.157	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0548		mg/kg wet	0.05000		110	70-130			
Surrogate: 4-Bromofluorobenzene	0.0511		mg/kg wet	0.05000		102	70-130			
Surrogate: Dibromofluoromethane	0.0555		mg/kg wet	0.05000		111	70-130			
Surrogate: Toluene-d8	0.0523		mg/kg wet	0.05000		105	70-130			

LCS Dup

1,1,1,2-Tetrachloroethane	0.0585	0.0050	mg/kg wet	0.05000		117	70-130	2	25	
1,1,1-Trichloroethane	0.0564	0.0050	mg/kg wet	0.05000		113	70-130	5	25	
1,1,2,2-Tetrachloroethane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	0.7	25	
1,1,2-Trichloroethane	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	6	25	
1,1-Dichloroethane	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	6	25	
1,1-Dichloroethene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	4	25	
1,1-Dichloropropene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	5	25	
1,2,3-Trichlorobenzene	0.0535	0.0050	mg/kg wet	0.05000		107	70-130	0.2	25	
1,2,3-Trichloropropane	0.0529	0.0050	mg/kg wet	0.05000		106	70-130	4	25	
1,2,4-Trichlorobenzene	0.0536	0.0050	mg/kg wet	0.05000		107	70-130	2	25	
1,2,4-Trimethylbenzene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
1,2-Dibromo-3-Chloropropane	0.0619	0.0050	mg/kg wet	0.05000		124	70-130	4	25	
1,2-Dibromoethane	0.0566	0.0050	mg/kg wet	0.05000		113	70-130	0.9	25	
1,2-Dichlorobenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
1,2-Dichloroethane	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	8	25	
1,2-Dichloropropane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	6	25	
1,3,5-Trimethylbenzene	0.0543	0.0050	mg/kg wet	0.05000		109	70-130	0.6	25	
1,3-Dichlorobenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	1	25	
1,3-Dichloropropane	0.0558	0.0050	mg/kg wet	0.05000		112	70-130	2	25	
1,4-Dichlorobenzene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	0.6	25	
1,4-Dioxane	1.09	0.100	mg/kg wet	1.000		109	70-130	2	20	
1-Chlorohexane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	3	25	
2,2-Dichloropropane	0.0631	0.0050	mg/kg wet	0.05000		126	70-130	7	25	
2-Butanone	0.238	0.0500	mg/kg wet	0.2500		95	70-130	9	25	
2-Chlorotoluene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
2-Hexanone	0.272	0.0500	mg/kg wet	0.2500		109	70-130	2	25	
4-Chlorotoluene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	1	25	
4-Isopropyltoluene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	0.6	25	
4-Methyl-2-Pentanone	0.250	0.0500	mg/kg wet	0.2500		100	70-130	8	25	
Acetone	0.253	0.0500	mg/kg wet	0.2500		101	70-130	9	25	



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
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ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH52614 - 5035

Benzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	6	25	
Bromobenzene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	3	25	
Bromochloromethane	0.0561	0.0050	mg/kg wet	0.05000		112	70-130	5	25	
Bromodichloromethane	0.0549	0.0050	mg/kg wet	0.05000		110	70-130	9	25	
Bromoform	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	0.9	25	
Bromomethane	0.0465	0.0100	mg/kg wet	0.05000		93	70-130	6	25	
Carbon Disulfide	0.0531	0.0050	mg/kg wet	0.05000		106	70-130	7	25	
Carbon Tetrachloride	0.0577	0.0050	mg/kg wet	0.05000		115	70-130	5	25	
Chlorobenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	2	25	
Chloroethane	0.0459	0.0100	mg/kg wet	0.05000		92	70-130	24	25	
Chloroform	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	7	25	
Chloromethane	0.0351	0.0100	mg/kg wet	0.05000		70	70-130	13	25	
cis-1,2-Dichloroethene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	7	25	
cis-1,3-Dichloropropene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	7	25	
Dibromochloromethane	0.0555	0.0050	mg/kg wet	0.05000		111	70-130	0.6	25	
Dibromomethane	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	9	25	
Dichlorodifluoromethane	0.0487	0.0100	mg/kg wet	0.05000		97	70-130	9	25	
Diethyl Ether	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	8	25	
Di-isopropyl ether	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	10	25	
Ethyl tertiary-butyl ether	0.0538	0.0050	mg/kg wet	0.05000		108	70-130	7	25	
Ethylbenzene	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	1	25	
Hexachlorobutadiene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130	0.7	25	
Isopropylbenzene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	1	25	
Methyl tert-Butyl Ether	0.0539	0.0050	mg/kg wet	0.05000		108	70-130	5	25	
Methylene Chloride	0.0499	0.0250	mg/kg wet	0.05000		100	70-130	4	25	
Naphthalene	0.0505	0.0050	mg/kg wet	0.05000		101	70-130	0.6	25	
n-Butylbenzene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	1	25	
n-Propylbenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	0.2	25	
sec-Butylbenzene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	2	25	
Styrene	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	2	25	
tert-Butylbenzene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130	2	25	
Tertiary-amyl methyl ether	0.0579	0.0050	mg/kg wet	0.05000		116	70-130	9	25	
Tetrachloroethene	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	4	25	
Tetrahydrofuran	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	4	25	
Toluene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	6	25	
trans-1,2-Dichloroethene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	4	25	
trans-1,3-Dichloropropene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	8	25	
Trichloroethene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	6	25	
Trichlorofluoromethane	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	4	25	
Vinyl Acetate	0.0667	0.0050	mg/kg wet	0.05000		133	70-130	10	25	B+
Vinyl Chloride	0.0407	0.0100	mg/kg wet	0.05000		81	70-130	9	25	
Xylene O	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.3	25	
Xylene P,M	0.109	0.0100	mg/kg wet	0.1000		109	70-130	2	25	
Xylenes (Total)	0.159	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0519		mg/kg wet	0.05000		104	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH52614 - 5035

Surrogate: 4-Bromofluorobenzene	0.0507		mg/kg wet	0.05000		101	70-130			
Surrogate: Dibromofluoromethane	0.0530		mg/kg wet	0.05000		106	70-130			
Surrogate: Toluene-d8	0.0535		mg/kg wet	0.05000		107	70-130			

Batch CH52721 - 5035

Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
1-Chlorohexane	ND	0.0050	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							



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5035/8260B Volatile Organic Compounds / Low Level

Batch CH52721 - 5035

Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0050	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0250	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0475		mg/kg wet	0.05000		95	70-130			
Surrogate: 4-Bromofluorobenzene	0.0453		mg/kg wet	0.05000		91	70-130			
Surrogate: Dibromofluoromethane	0.0499		mg/kg wet	0.05000		100	70-130			
Surrogate: Toluene-d8	0.0535		mg/kg wet	0.05000		107	70-130			

LCS

1,1,1,2-Tetrachloroethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
1,1,1-Trichloroethane	0.0421	0.0050	mg/kg wet	0.05000		84	70-130			
1,1,2,2-Tetrachloroethane	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,1,2-Trichloroethane	0.0408	0.0050	mg/kg wet	0.05000		82	70-130			
1,1-Dichloroethane	0.0362	0.0050	mg/kg wet	0.05000		72	70-130			



CERTIFICATE OF ANALYSIS

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH52721 - 5035

1,1-Dichloroethene	0.0368	0.0050	mg/kg wet	0.05000		74	70-130			
1,1-Dichloropropene	0.0378	0.0050	mg/kg wet	0.05000		76	70-130			
1,2,3-Trichlorobenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
1,2,3-Trichloropropane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
1,2,4-Trichlorobenzene	0.0523	0.0050	mg/kg wet	0.05000		105	70-130			
1,2,4-Trimethylbenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
1,2-Dibromo-3-Chloropropane	0.0529	0.0050	mg/kg wet	0.05000		106	70-130			
1,2-Dibromoethane	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
1,2-Dichlorobenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
1,2-Dichloroethane	0.0415	0.0050	mg/kg wet	0.05000		83	70-130			
1,2-Dichloropropane	0.0385	0.0050	mg/kg wet	0.05000		77	70-130			
1,3,5-Trimethylbenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
1,3-Dichlorobenzene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
1,3-Dichloropropane	0.0430	0.0050	mg/kg wet	0.05000		86	70-130			
1,4-Dichlorobenzene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
1,4-Dioxane	1.13	0.100	mg/kg wet	1.000		113	70-130			
1-Chlorohexane	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
2,2-Dichloropropane	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
2-Butanone	0.212	0.0500	mg/kg wet	0.2500		85	70-130			
2-Chlorotoluene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
2-Hexanone	0.296	0.0500	mg/kg wet	0.2500		118	70-130			
4-Chlorotoluene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
4-Isopropyltoluene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
4-Methyl-2-Pentanone	0.234	0.0500	mg/kg wet	0.2500		94	70-130			
Acetone	0.286	0.0500	mg/kg wet	0.2500		114	70-130			
Benzene	0.0403	0.0050	mg/kg wet	0.05000		81	70-130			
Bromobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
Bromochloromethane	0.0422	0.0050	mg/kg wet	0.05000		84	70-130			
Bromodichloromethane	0.0421	0.0050	mg/kg wet	0.05000		84	70-130			
Bromoform	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
Bromomethane	0.0456	0.0100	mg/kg wet	0.05000		91	70-130			
Carbon Disulfide	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
Carbon Tetrachloride	0.0418	0.0050	mg/kg wet	0.05000		84	70-130			
Chlorobenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
Chloroethane	0.0654	0.0100	mg/kg wet	0.05000		131	70-130			B+
Chloroform	0.0387	0.0050	mg/kg wet	0.05000		77	70-130			
Chloromethane	0.0377	0.0100	mg/kg wet	0.05000		75	70-130			
cis-1,2-Dichloroethene	0.0388	0.0050	mg/kg wet	0.05000		78	70-130			
cis-1,3-Dichloropropene	0.0402	0.0050	mg/kg wet	0.05000		80	70-130			
Dibromochloromethane	0.0430	0.0050	mg/kg wet	0.05000		86	70-130			
Dibromomethane	0.0402	0.0050	mg/kg wet	0.05000		80	70-130			
Dichlorodifluoromethane	0.0492	0.0100	mg/kg wet	0.05000		98	70-130			
Diethyl Ether	0.0358	0.0050	mg/kg wet	0.05000		72	70-130			
Di-isopropyl ether	0.0383	0.0050	mg/kg wet	0.05000		77	70-130			
Ethyl tertiary-butyl ether	0.0403	0.0050	mg/kg wet	0.05000		81	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH52721 - 5035

Ethylbenzene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
Hexachlorobutadiene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Isopropylbenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
Methyl tert-Butyl Ether	0.0376	0.0050	mg/kg wet	0.05000		75	70-130			
Methylene Chloride	0.0474	0.0250	mg/kg wet	0.05000		95	70-130			
Naphthalene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
n-Butylbenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
n-Propylbenzene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
sec-Butylbenzene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Styrene	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
tert-Butylbenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
Tertiary-amyl methyl ether	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
Tetrachloroethene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
Tetrahydrofuran	0.0372	0.0050	mg/kg wet	0.05000		74	70-130			
Toluene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
trans-1,2-Dichloroethene	0.0372	0.0050	mg/kg wet	0.05000		74	70-130			
trans-1,3-Dichloropropene	0.0409	0.0050	mg/kg wet	0.05000		82	70-130			
Trichloroethene	0.0390	0.0050	mg/kg wet	0.05000		78	70-130			
Trichlorofluoromethane	0.0378	0.0050	mg/kg wet	0.05000		76	70-130			
Vinyl Acetate	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Vinyl Chloride	0.0368	0.0100	mg/kg wet	0.05000		74	70-130			
Xylene O	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Xylene P,M	0.105	0.0100	mg/kg wet	0.1000		105	70-130			
Xylenes (Total)	0.154	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0357		mg/kg wet	0.05000		71	70-130			
Surrogate: 4-Bromofluorobenzene	0.0478		mg/kg wet	0.05000		96	70-130			
Surrogate: Dibromofluoromethane	0.0372		mg/kg wet	0.05000		74	70-130			
Surrogate: Toluene-d8	0.0433		mg/kg wet	0.05000		87	70-130			

LCS Dup

1,1,1,2-Tetrachloroethane	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	11	25	
1,1,1-Trichloroethane	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	19	25	
1,1,2,2-Tetrachloroethane	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	4	25	
1,1,2-Trichloroethane	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	11	25	
1,1-Dichloroethane	0.0437	0.0050	mg/kg wet	0.05000		87	70-130	19	25	
1,1-Dichloroethene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	25	25	
1,1-Dichloropropene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	21	25	
1,2,3-Trichlorobenzene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	3	25	
1,2,3-Trichloropropane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	4	25	
1,2,4-Trichlorobenzene	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	5	25	
1,2,4-Trimethylbenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	1	25	
1,2-Dibromo-3-Chloropropane	0.0538	0.0050	mg/kg wet	0.05000		108	70-130	2	25	
1,2-Dibromoethane	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	11	25	
1,2-Dichlorobenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130	0.2	25	
1,2-Dichloroethane	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	13	25	
1,2-Dichloropropane	0.0453	0.0050	mg/kg wet	0.05000		91	70-130	16	25	



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
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ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CH52721 - 5035

1,3,5-Trimethylbenzene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130	3	25	
1,3-Dichlorobenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	1	25	
1,3-Dichloropropane	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	18	25	
1,4-Dichlorobenzene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	0.04	25	
1,4-Dioxane	0.942	0.100	mg/kg wet	1.000		94	70-130	18	20	
1-Chlorohexane	0.0469	0.0050	mg/kg wet	0.05000		94	70-130	3	25	
2,2-Dichloropropane	0.0574	0.0050	mg/kg wet	0.05000		115	70-130	19	25	
2-Butanone	0.216	0.0500	mg/kg wet	0.2500		86	70-130	2	25	
2-Chlorotoluene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
2-Hexanone	0.232	0.0500	mg/kg wet	0.2500		93	70-130	24	25	
4-Chlorotoluene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
4-Isopropyltoluene	0.0471	0.0050	mg/kg wet	0.05000		94	70-130	0.8	25	
4-Methyl-2-Pentanone	0.222	0.0500	mg/kg wet	0.2500		89	70-130	6	25	
Acetone	0.212	0.0500	mg/kg wet	0.2500		85	70-130	30	25	D+
Benzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	11	25	
Bromobenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	0.9	25	
Bromochloromethane	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	15	25	
Bromodichloromethane	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	18	25	
Bromoform	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	2	25	
Bromomethane	0.0407	0.0100	mg/kg wet	0.05000		81	70-130	11	25	
Carbon Disulfide	0.0521	0.0050	mg/kg wet	0.05000		104	70-130	7	25	
Carbon Tetrachloride	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	21	25	
Chlorobenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	0.6	25	
Chloroethane	0.0559	0.0100	mg/kg wet	0.05000		112	70-130	16	25	
Chloroform	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	17	25	
Chloromethane	0.0322	0.0100	mg/kg wet	0.05000		64	70-130	16	25	B-
cis-1,2-Dichloroethene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	19	25	
cis-1,3-Dichloropropene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	19	25	
Dibromochloromethane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130	16	25	
Dibromomethane	0.0443	0.0050	mg/kg wet	0.05000		89	70-130	10	25	
Dichlorodifluoromethane	0.0453	0.0100	mg/kg wet	0.05000		91	70-130	8	25	
Diethyl Ether	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	27	25	D+
Di-isopropyl ether	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	18	25	
Ethyl tertiary-butyl ether	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	26	25	D+
Ethylbenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
Hexachlorobutadiene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	4	25	
Isopropylbenzene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	4	25	
Methyl tert-Butyl Ether	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	30	25	D+
Methylene Chloride	0.0463	0.0250	mg/kg wet	0.05000		93	70-130	2	25	
Naphthalene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	6	25	
n-Butylbenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
n-Propylbenzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	4	25	
sec-Butylbenzene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	2	25	
Styrene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	5	25	
tert-Butylbenzene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	2	25	



CERTIFICATE OF ANALYSIS

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
5035/8260B Volatile Organic Compounds / Low Level										
Batch CH52721 - 5035										
Tertiary-amyl methyl ether	0.0558	0.0050	mg/kg wet	0.05000		112	70-130	19	25	
Tetrachloroethene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	1	25	
Tetrahydrofuran	0.0422	0.0050	mg/kg wet	0.05000		84	70-130	13	25	
Toluene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	6	25	
trans-1,2-Dichloroethene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	24	25	
trans-1,3-Dichloropropene	0.0439	0.0050	mg/kg wet	0.05000		88	70-130	7	25	
Trichloroethene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	16	25	
Trichlorofluoromethane	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	20	25	
Vinyl Acetate	0.0638	0.0050	mg/kg wet	0.05000		128	70-130	28	25	D+
Vinyl Chloride	0.0336	0.0100	mg/kg wet	0.05000		67	70-130	9	25	B-
Xylene O	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	4	25	
Xylene P,M	0.100	0.0100	mg/kg wet	0.1000		100	70-130	4	25	
Xylenes (Total)	0.148	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0417		mg/kg wet	0.05000		83	70-130			
Surrogate: 4-Bromofluorobenzene	0.0456		mg/kg wet	0.05000		91	70-130			
Surrogate: Dibromofluoromethane	0.0438		mg/kg wet	0.05000		88	70-130			
Surrogate: Toluene-d8	0.0457		mg/kg wet	0.05000		91	70-130			

8100M Total Petroleum Hydrocarbons

Batch CH52610 - 3546										
Blank										
Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							
Surrogate: O-Terphenyl	3.94		mg/kg wet	5.000		79	40-140			
LCS										
Decane (C10)	2.0	0.2	mg/kg wet	2.500		80	40-140			
Docosane (C22)	2.5	0.2	mg/kg wet	2.500		99	40-140			
Dodecane (C12)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Eicosane (C20)	2.5	0.2	mg/kg wet	2.500		99	40-140			
Hexacosane (C26)	2.5	0.2	mg/kg wet	2.500		101	40-140			
Hexadecane (C16)	2.6	0.2	mg/kg wet	2.500		102	40-140			
Nonadecane (C19)	2.5	0.2	mg/kg wet	2.500		99	40-140			



CERTIFICATE OF ANALYSIS

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8100M Total Petroleum Hydrocarbons

Batch CH52610 - 3546

Nonane (C9)	1.7	0.2	mg/kg wet	2.500		70	30-140			
Octacosane (C28)	2.5	0.2	mg/kg wet	2.500		99	40-140			
Octadecane (C18)	2.4	0.2	mg/kg wet	2.500		97	40-140			
Tetracosane (C24)	2.3	0.2	mg/kg wet	2.500		94	40-140			
Tetradecane (C14)	2.4	0.2	mg/kg wet	2.500		96	40-140			
Total Petroleum Hydrocarbons	32.9	37.5	mg/kg wet	35.00		94	40-140			
Triacontane (C30)	2.5	0.2	mg/kg wet	2.500		99	40-140			

Surrogate: O-Terphenyl

4.24 mg/kg wet 5.000 85 40-140

LCS Dup

Decane (C10)	1.9	0.2	mg/kg wet	2.500		77	40-140	3	25	
Docosane (C22)	2.5	0.2	mg/kg wet	2.500		101	40-140	2	25	
Dodecane (C12)	2.2	0.2	mg/kg wet	2.500		89	40-140	2	25	
Eicosane (C20)	2.5	0.2	mg/kg wet	2.500		101	40-140	2	25	
Hexacosane (C26)	2.6	0.2	mg/kg wet	2.500		103	40-140	2	25	
Hexadecane (C16)	2.5	0.2	mg/kg wet	2.500		101	40-140	1	25	
Nonadecane (C19)	2.5	0.2	mg/kg wet	2.500		99	40-140	0.2	25	
Nonane (C9)	1.7	0.2	mg/kg wet	2.500		67	30-140	3	25	
Octacosane (C28)	2.5	0.2	mg/kg wet	2.500		101	40-140	2	25	
Octadecane (C18)	2.4	0.2	mg/kg wet	2.500		96	40-140	0.3	25	
Tetracosane (C24)	2.4	0.2	mg/kg wet	2.500		96	40-140	2	25	
Tetradecane (C14)	2.3	0.2	mg/kg wet	2.500		94	40-140	3	25	
Total Petroleum Hydrocarbons	33.0	37.5	mg/kg wet	35.00		94	40-140	0.3	25	
Triacontane (C30)	2.5	0.2	mg/kg wet	2.500		101	40-140	2	25	

Surrogate: O-Terphenyl

4.15 mg/kg wet 5.000 83 40-140

Batch CH52611 - 3546

Blank

Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							

Surrogate: O-Terphenyl

4.87 mg/kg wet 5.000 97 40-140

LCS



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
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8100M Total Petroleum Hydrocarbons

Batch CH52611 - 3546

Decane (C10)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Docosane (C22)	2.9	0.2	mg/kg wet	2.500		117	40-140			
Dodecane (C12)	2.6	0.2	mg/kg wet	2.500		102	40-140			
Eicosane (C20)	2.9	0.2	mg/kg wet	2.500		115	40-140			
Hexacosane (C26)	3.0	0.2	mg/kg wet	2.500		119	40-140			
Hexadecane (C16)	2.7	0.2	mg/kg wet	2.500		107	40-140			
Nonadecane (C19)	2.9	0.2	mg/kg wet	2.500		117	40-140			
Nonane (C9)	2.1	0.2	mg/kg wet	2.500		82	30-140			
Octacosane (C28)	2.9	0.2	mg/kg wet	2.500		117	40-140			
Octadecane (C18)	2.8	0.2	mg/kg wet	2.500		113	40-140			
Tetracosane (C24)	2.8	0.2	mg/kg wet	2.500		110	40-140			
Tetradecane (C14)	2.6	0.2	mg/kg wet	2.500		104	40-140			
Total Petroleum Hydrocarbons	38.2	37.5	mg/kg wet	35.00		109	40-140			
Triacotane (C30)	3.0	0.2	mg/kg wet	2.500		119	40-140			

<i>Surrogate: O-Terphenyl</i>	4.72		mg/kg wet	5.000		94	40-140			
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LCS Dup

Decane (C10)	2.0	0.2	mg/kg wet	2.500		80	40-140	13	25	
Docosane (C22)	2.6	0.2	mg/kg wet	2.500		105	40-140	10	25	
Dodecane (C12)	2.2	0.2	mg/kg wet	2.500		90	40-140	13	25	
Eicosane (C20)	2.6	0.2	mg/kg wet	2.500		103	40-140	11	25	
Hexacosane (C26)	2.7	0.2	mg/kg wet	2.500		108	40-140	10	25	
Hexadecane (C16)	2.4	0.2	mg/kg wet	2.500		96	40-140	11	25	
Nonadecane (C19)	2.6	0.2	mg/kg wet	2.500		104	40-140	11	25	
Nonane (C9)	1.8	0.2	mg/kg wet	2.500		73	30-140	12	25	
Octacosane (C28)	2.7	0.2	mg/kg wet	2.500		106	40-140	9	25	
Octadecane (C18)	2.5	0.2	mg/kg wet	2.500		100	40-140	12	25	
Tetracosane (C24)	2.5	0.2	mg/kg wet	2.500		100	40-140	10	25	
Tetradecane (C14)	2.2	0.2	mg/kg wet	2.500		89	40-140	15	25	
Total Petroleum Hydrocarbons	34.4	37.5	mg/kg wet	35.00		98	40-140	10	25	
Triacotane (C30)	2.7	0.2	mg/kg wet	2.500		109	40-140	9	25	

<i>Surrogate: O-Terphenyl</i>	4.18		mg/kg wet	5.000		84	40-140			
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8270D Semi-Volatile Organic Compounds

Batch CH52513 - 3546

Blank

1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,3,4,6-Tetrachlorophenol	ND	1.67	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CH52513 - 3546

2,4-Dichlorophenol	ND	0.333	mg/kg wet
2,4-Dimethylphenol	ND	0.333	mg/kg wet
2,4-Dinitrophenol	ND	1.67	mg/kg wet
2,4-Dinitrotoluene	ND	0.333	mg/kg wet
2,6-Dinitrotoluene	ND	0.333	mg/kg wet
2-Chloronaphthalene	ND	0.333	mg/kg wet
2-Chlorophenol	ND	0.333	mg/kg wet
2-Methylnaphthalene	ND	0.333	mg/kg wet
2-Methylphenol	ND	0.333	mg/kg wet
2-Nitroaniline	ND	0.333	mg/kg wet
2-Nitrophenol	ND	0.333	mg/kg wet
3,3'-Dichlorobenzidine	ND	0.667	mg/kg wet
3+4-Methylphenol	ND	0.667	mg/kg wet
3-Nitroaniline	ND	0.333	mg/kg wet
4,6-Dinitro-2-Methylphenol	ND	1.67	mg/kg wet
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet
4-Chloro-3-Methylphenol	ND	0.333	mg/kg wet
4-Chloroaniline	ND	0.667	mg/kg wet
4-Chloro-phenyl-phenyl ether	ND	0.333	mg/kg wet
4-Nitroaniline	ND	0.333	mg/kg wet
4-Nitrophenol	ND	1.67	mg/kg wet
Acenaphthene	ND	0.333	mg/kg wet
Acenaphthylene	ND	0.333	mg/kg wet
Acetophenone	ND	0.667	mg/kg wet
Aniline	ND	0.667	mg/kg wet
Anthracene	ND	0.333	mg/kg wet
Azobenzene	ND	0.333	mg/kg wet
Benzo(a)anthracene	ND	0.333	mg/kg wet
Benzo(a)pyrene	ND	0.167	mg/kg wet
Benzo(b)fluoranthene	ND	0.333	mg/kg wet
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet
Benzo(k)fluoranthene	ND	0.333	mg/kg wet
Benzoic Acid	ND	1.67	mg/kg wet
Benzyl Alcohol	ND	0.333	mg/kg wet
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet
Butylbenzylphthalate	ND	0.333	mg/kg wet
Carbazole	ND	0.333	mg/kg wet
Chrysene	ND	0.167	mg/kg wet
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet
Dibenzofuran	ND	0.333	mg/kg wet
Diethylphthalate	ND	0.333	mg/kg wet
Dimethylphthalate	ND	0.333	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CH52513 - 3546

Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.167	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
N-Nitroso-Di-n-Propylamine	ND	0.333	mg/kg wet							
N-nitrosodiphenylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	1.88		mg/kg wet	3.333		56	30-130			
Surrogate: 2,4,6-Tribromophenol	2.96		mg/kg wet	5.000		59	30-130			
Surrogate: 2-Chlorophenol-d4	3.00		mg/kg wet	5.000		60	30-130			
Surrogate: 2-Fluorobiphenyl	1.96		mg/kg wet	3.333		59	30-130			
Surrogate: 2-Fluorophenol	3.04		mg/kg wet	5.000		61	30-130			
Surrogate: Nitrobenzene-d5	1.94		mg/kg wet	3.333		58	30-130			
Surrogate: Phenol-d6	3.18		mg/kg wet	5.000		64	30-130			
Surrogate: p-Terphenyl-d14	2.86		mg/kg wet	3.333		86	30-130			

LCS

1,1-Biphenyl	2.25	0.333	mg/kg wet	3.333		68	40-140			
1,2,4-Trichlorobenzene	2.02	0.333	mg/kg wet	3.333		61	40-140			
1,2-Dichlorobenzene	1.83	0.333	mg/kg wet	3.333		55	40-140			
1,3-Dichlorobenzene	1.88	0.333	mg/kg wet	3.333		56	40-140			
1,4-Dichlorobenzene	1.81	0.333	mg/kg wet	3.333		54	40-140			
2,3,4,6-Tetrachlorophenol	2.26	1.67	mg/kg wet	3.333		68	30-130			
2,4,5-Trichlorophenol	2.65	0.333	mg/kg wet	3.333		79	30-130			
2,4,6-Trichlorophenol	2.68	0.333	mg/kg wet	3.333		80	30-130			
2,4-Dichlorophenol	2.26	0.333	mg/kg wet	3.333		68	30-130			
2,4-Dimethylphenol	2.34	0.333	mg/kg wet	3.333		70	30-130			
2,4-Dinitrophenol	1.76	1.67	mg/kg wet	3.333		53	30-130			
2,4-Dinitrotoluene	2.66	0.333	mg/kg wet	3.333		80	40-140			
2,6-Dinitrotoluene	2.44	0.333	mg/kg wet	3.333		73	40-140			
2-Chloronaphthalene	2.16	0.333	mg/kg wet	3.333		65	40-140			
2-Chlorophenol	2.00	0.333	mg/kg wet	3.333		60	30-130			
2-Methylnaphthalene	2.00	0.333	mg/kg wet	3.333		60	40-140			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
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ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CH52513 - 3546

2-Methylphenol	2.10	0.333	mg/kg wet	3.333		63	30-130			
2-Nitroaniline	2.16	0.333	mg/kg wet	3.333		65	40-140			
2-Nitrophenol	2.03	0.333	mg/kg wet	3.333		61	30-130			
3,3'-Dichlorobenzidine	2.41	0.667	mg/kg wet	3.333		72	40-140			
3+4-Methylphenol	4.11	0.667	mg/kg wet	6.667		62	30-130			
3-Nitroaniline	2.33	0.333	mg/kg wet	3.333		70	40-140			
4,6-Dinitro-2-Methylphenol	2.33	1.67	mg/kg wet	3.333		70	30-130			
4-Bromophenyl-phenylether	2.64	0.333	mg/kg wet	3.333		79	40-140			
4-Chloro-3-Methylphenol	2.38	0.333	mg/kg wet	3.333		71	30-130			
4-Chloroaniline	2.20	0.667	mg/kg wet	3.333		66	40-140			
4-Chloro-phenyl-phenyl ether	2.45	0.333	mg/kg wet	3.333		73	40-140			
4-Nitroaniline	2.55	0.333	mg/kg wet	3.333		76	40-140			
4-Nitrophenol	2.35	1.67	mg/kg wet	3.333		71	30-130			
Acenaphthene	2.20	0.333	mg/kg wet	3.333		66	40-140			
Acenaphthylene	2.20	0.333	mg/kg wet	3.333		66	40-140			
Acetophenone	2.05	0.667	mg/kg wet	3.333		61	40-140			
Aniline	1.89	0.667	mg/kg wet	3.333		57	40-140			
Anthracene	2.60	0.333	mg/kg wet	3.333		78	40-140			
Azobenzene	2.63	0.333	mg/kg wet	3.333		79	40-140			
Benzo(a)anthracene	2.68	0.333	mg/kg wet	3.333		80	40-140			
Benzo(a)pyrene	2.67	0.167	mg/kg wet	3.333		80	40-140			
Benzo(b)fluoranthene	2.69	0.333	mg/kg wet	3.333		81	40-140			
Benzo(g,h,i)perylene	2.53	0.333	mg/kg wet	3.333		76	40-140			
Benzo(k)fluoranthene	2.64	0.333	mg/kg wet	3.333		79	40-140			
Benzoic Acid	1.16	1.67	mg/kg wet	3.333		35	40-140			B-
Benzyl Alcohol	2.04	0.333	mg/kg wet	3.333		61	40-140			
bis(2-Chloroethoxy)methane	2.25	0.333	mg/kg wet	3.333		67	40-140			
bis(2-Chloroethyl)ether	2.02	0.333	mg/kg wet	3.333		61	40-140			
bis(2-chloroisopropyl)Ether	1.84	0.333	mg/kg wet	3.333		55	40-140			
bis(2-Ethylhexyl)phthalate	3.35	0.333	mg/kg wet	3.333		101	40-140			
Butylbenzylphthalate	3.03	0.333	mg/kg wet	3.333		91	40-140			
Carbazole	2.83	0.333	mg/kg wet	3.333		85	40-140			
Chrysene	2.65	0.167	mg/kg wet	3.333		80	40-140			
Dibenzo(a,h)Anthracene	2.72	0.167	mg/kg wet	3.333		82	40-140			
Dibenzofuran	2.29	0.333	mg/kg wet	3.333		69	40-140			
Diethylphthalate	2.58	0.333	mg/kg wet	3.333		77	40-140			
Dimethylphthalate	2.40	0.333	mg/kg wet	3.333		72	40-140			
Di-n-butylphthalate	3.06	0.333	mg/kg wet	3.333		92	40-140			
Di-n-octylphthalate	2.93	0.333	mg/kg wet	3.333		88	40-140			
Fluoranthene	2.77	0.333	mg/kg wet	3.333		83	40-140			
Fluorene	2.34	0.333	mg/kg wet	3.333		70	40-140			
Hexachlorobenzene	2.53	0.167	mg/kg wet	3.333		76	40-140			
Hexachlorobutadiene	1.88	0.333	mg/kg wet	3.333		56	40-140			
Hexachlorocyclopentadiene	1.85	1.67	mg/kg wet	3.333		56	40-140			
Hexachloroethane	1.78	0.333	mg/kg wet	3.333		53	40-140			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
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ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CH52513 - 3546

Indeno(1,2,3-cd)Pyrene	2.64	0.333	mg/kg wet	3.333		79	40-140			
Isophorone	2.16	0.333	mg/kg wet	3.333		65	40-140			
Naphthalene	1.99	0.333	mg/kg wet	3.333		60	40-140			
Nitrobenzene	2.10	0.333	mg/kg wet	3.333		63	40-140			
N-Nitrosodimethylamine	1.67	0.333	mg/kg wet	3.333		50	40-140			
N-Nitroso-Di-n-Propylamine	1.96	0.333	mg/kg wet	3.333		59	40-140			
N-nitrosodiphenylamine	2.66	0.333	mg/kg wet	3.333		80	40-140			
Pentachlorophenol	2.53	1.67	mg/kg wet	3.333		76	30-130			
Phenanthrene	2.47	0.333	mg/kg wet	3.333		74	40-140			
Phenol	1.98	0.333	mg/kg wet	3.333		59	30-130			
Pyrene	2.64	0.333	mg/kg wet	3.333		79	40-140			
Pyridine	1.41	1.67	mg/kg wet	3.333		42	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	1.77		mg/kg wet	3.333		53	30-130			
Surrogate: 2,4,6-Tribromophenol	3.54		mg/kg wet	5.000		71	30-130			
Surrogate: 2-Chlorophenol-d4	2.92		mg/kg wet	5.000		58	30-130			
Surrogate: 2-Fluorobiphenyl	2.17		mg/kg wet	3.333		65	30-130			
Surrogate: 2-Fluorophenol	2.87		mg/kg wet	5.000		57	30-130			
Surrogate: Nitrobenzene-d5	1.96		mg/kg wet	3.333		59	30-130			
Surrogate: Phenol-d6	3.03		mg/kg wet	5.000		61	30-130			
Surrogate: p-Terphenyl-d14	2.79		mg/kg wet	3.333		84	30-130			

LCS Dup

1,1-Biphenyl	2.24	0.333	mg/kg wet	3.333		67	40-140	0.4	30	
1,2,4-Trichlorobenzene	2.07	0.333	mg/kg wet	3.333		62	40-140	2	30	
1,2-Dichlorobenzene	1.90	0.333	mg/kg wet	3.333		57	40-140	4	30	
1,3-Dichlorobenzene	1.95	0.333	mg/kg wet	3.333		59	40-140	4	30	
1,4-Dichlorobenzene	1.87	0.333	mg/kg wet	3.333		56	40-140	4	30	
2,3,4,6-Tetrachlorophenol	2.38	1.67	mg/kg wet	3.333		71	30-130	5	30	
2,4,5-Trichlorophenol	2.67	0.333	mg/kg wet	3.333		80	30-130	1	30	
2,4,6-Trichlorophenol	2.69	0.333	mg/kg wet	3.333		81	30-130	0.4	30	
2,4-Dichlorophenol	2.37	0.333	mg/kg wet	3.333		71	30-130	5	30	
2,4-Dimethylphenol	2.42	0.333	mg/kg wet	3.333		73	30-130	3	30	
2,4-Dinitrophenol	1.88	1.67	mg/kg wet	3.333		57	30-130	7	30	
2,4-Dinitrotoluene	2.76	0.333	mg/kg wet	3.333		83	40-140	4	30	
2,6-Dinitrotoluene	2.53	0.333	mg/kg wet	3.333		76	40-140	4	30	
2-Chloronaphthalene	2.16	0.333	mg/kg wet	3.333		65	40-140	0.09	30	
2-Chlorophenol	2.11	0.333	mg/kg wet	3.333		63	30-130	5	30	
2-Methylnaphthalene	2.08	0.333	mg/kg wet	3.333		62	40-140	4	30	
2-Methylphenol	2.27	0.333	mg/kg wet	3.333		68	30-130	8	30	
2-Nitroaniline	2.24	0.333	mg/kg wet	3.333		67	40-140	4	30	
2-Nitrophenol	2.11	0.333	mg/kg wet	3.333		63	30-130	4	30	
3,3'-Dichlorobenzidine	2.19	0.667	mg/kg wet	3.333		66	40-140	9	30	
3+4-Methylphenol	4.42	0.667	mg/kg wet	6.667		66	30-130	7	30	
3-Nitroaniline	2.41	0.333	mg/kg wet	3.333		72	40-140	3	30	
4,6-Dinitro-2-Methylphenol	2.42	1.67	mg/kg wet	3.333		73	30-130	4	30	
4-Bromophenyl-phenylether	2.63	0.333	mg/kg wet	3.333		79	40-140	0.2	30	



CERTIFICATE OF ANALYSIS

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Quality Control Data

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8270D Semi-Volatile Organic Compounds

Batch CH52513 - 3546

4-Chloro-3-Methylphenol	2.56	0.333	mg/kg wet	3.333		77	30-130	7	30	
4-Chloroaniline	2.22	0.667	mg/kg wet	3.333		67	40-140	0.9	30	
4-Chloro-phenyl-phenyl ether	2.50	0.333	mg/kg wet	3.333		75	40-140	2	30	
4-Nitroaniline	2.61	0.333	mg/kg wet	3.333		78	40-140	3	30	
4-Nitrophenol	2.51	1.67	mg/kg wet	3.333		75	30-130	6	30	
Acenaphthene	2.23	0.333	mg/kg wet	3.333		67	40-140	1	30	
Acenaphthylene	2.23	0.333	mg/kg wet	3.333		67	40-140	2	30	
Acetophenone	2.17	0.667	mg/kg wet	3.333		65	40-140	6	30	
Aniline	1.91	0.667	mg/kg wet	3.333		57	40-140	1	30	
Anthracene	2.61	0.333	mg/kg wet	3.333		78	40-140	0.6	30	
Azobenzene	2.58	0.333	mg/kg wet	3.333		78	40-140	2	30	
Benzo(a)anthracene	2.68	0.333	mg/kg wet	3.333		80	40-140	0.2	30	
Benzo(a)pyrene	2.68	0.167	mg/kg wet	3.333		80	40-140	0.2	30	
Benzo(b)fluoranthene	2.68	0.333	mg/kg wet	3.333		80	40-140	0.2	30	
Benzo(g,h,i)perylene	2.47	0.333	mg/kg wet	3.333		74	40-140	2	30	
Benzo(k)fluoranthene	2.62	0.333	mg/kg wet	3.333		79	40-140	0.9	30	
Benzoic Acid	1.50	1.67	mg/kg wet	3.333		45	40-140	25	30	
Benzyl Alcohol	1.98	0.333	mg/kg wet	3.333		59	40-140	3	30	
bis(2-Chloroethoxy)methane	2.28	0.333	mg/kg wet	3.333		68	40-140	1	30	
bis(2-Chloroethyl)ether	2.10	0.333	mg/kg wet	3.333		63	40-140	4	30	
bis(2-chloroisopropyl)Ether	1.93	0.333	mg/kg wet	3.333		58	40-140	5	30	
bis(2-Ethylhexyl)phthalate	3.19	0.333	mg/kg wet	3.333		96	40-140	5	30	
Butylbenzylphthalate	2.99	0.333	mg/kg wet	3.333		90	40-140	1	30	
Carbazole	2.90	0.333	mg/kg wet	3.333		87	40-140	3	30	
Chrysene	2.64	0.167	mg/kg wet	3.333		79	40-140	0.6	30	
Dibenzo(a,h)Anthracene	2.63	0.167	mg/kg wet	3.333		79	40-140	4	30	
Dibenzofuran	2.37	0.333	mg/kg wet	3.333		71	40-140	3	30	
Diethylphthalate	2.63	0.333	mg/kg wet	3.333		79	40-140	2	30	
Dimethylphthalate	2.46	0.333	mg/kg wet	3.333		74	40-140	3	30	
Di-n-butylphthalate	2.99	0.333	mg/kg wet	3.333		90	40-140	2	30	
Di-n-octylphthalate	2.88	0.333	mg/kg wet	3.333		86	40-140	2	30	
Fluoranthene	2.85	0.333	mg/kg wet	3.333		85	40-140	3	30	
Fluorene	2.41	0.333	mg/kg wet	3.333		72	40-140	3	30	
Hexachlorobenzene	2.50	0.167	mg/kg wet	3.333		75	40-140	1	30	
Hexachlorobutadiene	1.92	0.333	mg/kg wet	3.333		58	40-140	2	30	
Hexachlorocyclopentadiene	1.75	1.67	mg/kg wet	3.333		52	40-140	6	30	
Hexachloroethane	1.81	0.333	mg/kg wet	3.333		54	40-140	2	30	
Indeno(1,2,3-cd)Pyrene	2.60	0.333	mg/kg wet	3.333		78	40-140	1	30	
Isophorone	2.23	0.333	mg/kg wet	3.333		67	40-140	3	30	
Naphthalene	2.06	0.333	mg/kg wet	3.333		62	40-140	4	30	
Nitrobenzene	2.15	0.333	mg/kg wet	3.333		65	40-140	2	30	
N-Nitrosodimethylamine	1.69	0.333	mg/kg wet	3.333		51	40-140	1	30	
N-Nitroso-Di-n-Propylamine	2.10	0.333	mg/kg wet	3.333		63	40-140	7	30	
N-nitrosodiphenylamine	2.69	0.333	mg/kg wet	3.333		81	40-140	1	30	
Pentachlorophenol	2.55	1.67	mg/kg wet	3.333		77	30-130	0.7	30	



CERTIFICATE OF ANALYSIS

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Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CH52513 - 3546

Phenanthrene	2.52	0.333	mg/kg wet	3.333		75	40-140	2	30	
Phenol	2.11	0.333	mg/kg wet	3.333		63	30-130	6	30	
Pyrene	2.63	0.333	mg/kg wet	3.333		79	40-140	0.06	30	
Pyridine	1.53	1.67	mg/kg wet	3.333		46	40-140	8	30	
Surrogate: 1,2-Dichlorobenzene-d4	1.76		mg/kg wet	3.333		53	30-130			
Surrogate: 2,4,6-Tribromophenol	3.43		mg/kg wet	5.000		69	30-130			
Surrogate: 2-Chlorophenol-d4	2.95		mg/kg wet	5.000		59	30-130			
Surrogate: 2-Fluorobiphenyl	2.05		mg/kg wet	3.333		62	30-130			
Surrogate: 2-Fluorophenol	2.86		mg/kg wet	5.000		57	30-130			
Surrogate: Nitrobenzene-d5	1.92		mg/kg wet	3.333		58	30-130			
Surrogate: Phenol-d6	3.16		mg/kg wet	5.000		63	30-130			
Surrogate: p-Terphenyl-d14	2.65		mg/kg wet	3.333		80	30-130			

Batch CH52613 - 3546

Blank

1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,3,4,6-Tetrachlorophenol	ND	1.67	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitroaniline	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3'-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
3-Nitroaniline	ND	0.333	mg/kg wet							
4,6-Dinitro-2-Methylphenol	ND	1.67	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloro-3-Methylphenol	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Chloro-phenyl-phenyl ether	ND	0.333	mg/kg wet							
4-Nitroaniline	ND	0.333	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CH52613 - 3546

Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	0.667	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
Benzoic Acid	ND	1.67	mg/kg wet							
Benzyl Alcohol	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.167	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
N-Nitroso-Di-n-Propylamine	ND	0.333	mg/kg wet							
N-nitrosodiphenylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	2.38		mg/kg wet	3.333		71	30-130			
Surrogate: 2,4,6-Tribromophenol	3.45		mg/kg wet	5.000		69	30-130			
Surrogate: 2-Chlorophenol-d4	3.74		mg/kg wet	5.000		75	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
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ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CH52613 - 3546

Surrogate: 2-Fluorobiphenyl	2.45		mg/kg wet	3.333		73	30-130			
Surrogate: 2-Fluorophenol	3.74		mg/kg wet	5.000		75	30-130			
Surrogate: Nitrobenzene-d5	2.40		mg/kg wet	3.333		72	30-130			
Surrogate: Phenol-d6	3.86		mg/kg wet	5.000		77	30-130			
Surrogate: p-Terphenyl-d14	3.42		mg/kg wet	3.333		103	30-130			

LCS

1,1-Biphenyl	2.84	0.333	mg/kg wet	3.333		85	40-140			
1,2,4-Trichlorobenzene	2.79	0.333	mg/kg wet	3.333		84	40-140			
1,2-Dichlorobenzene	2.58	0.333	mg/kg wet	3.333		77	40-140			
1,3-Dichlorobenzene	2.66	0.333	mg/kg wet	3.333		80	40-140			
1,4-Dichlorobenzene	2.57	0.333	mg/kg wet	3.333		77	40-140			
2,3,4,6-Tetrachlorophenol	2.87	1.67	mg/kg wet	3.333		86	30-130			
2,4,5-Trichlorophenol	3.32	0.333	mg/kg wet	3.333		100	30-130			
2,4,6-Trichlorophenol	3.38	0.333	mg/kg wet	3.333		102	30-130			
2,4-Dichlorophenol	3.00	0.333	mg/kg wet	3.333		90	30-130			
2,4-Dimethylphenol	3.02	0.333	mg/kg wet	3.333		91	30-130			
2,4-Dinitrophenol	2.73	1.67	mg/kg wet	3.333		82	30-130			
2,4-Dinitrotoluene	3.28	0.333	mg/kg wet	3.333		98	40-140			
2,6-Dinitrotoluene	3.08	0.333	mg/kg wet	3.333		92	40-140			
2-Chloronaphthalene	2.74	0.333	mg/kg wet	3.333		82	40-140			
2-Chlorophenol	2.76	0.333	mg/kg wet	3.333		83	30-130			
2-Methylnaphthalene	2.68	0.333	mg/kg wet	3.333		80	40-140			
2-Methylphenol	2.87	0.333	mg/kg wet	3.333		86	30-130			
2-Nitroaniline	2.69	0.333	mg/kg wet	3.333		81	40-140			
2-Nitrophenol	2.74	0.333	mg/kg wet	3.333		82	30-130			
3,3'-Dichlorobenzidine	2.70	0.667	mg/kg wet	3.333		81	40-140			
3+4-Methylphenol	5.65	0.667	mg/kg wet	6.667		85	30-130			
3-Nitroaniline	2.91	0.333	mg/kg wet	3.333		87	40-140			
4,6-Dinitro-2-Methylphenol	3.03	1.67	mg/kg wet	3.333		91	30-130			
4-Bromophenyl-phenylether	3.18	0.333	mg/kg wet	3.333		95	40-140			
4-Chloro-3-Methylphenol	3.11	0.333	mg/kg wet	3.333		93	30-130			
4-Chloroaniline	2.84	0.667	mg/kg wet	3.333		85	40-140			
4-Chloro-phenyl-phenyl ether	3.04	0.333	mg/kg wet	3.333		91	40-140			
4-Nitroaniline	2.94	0.333	mg/kg wet	3.333		88	40-140			
4-Nitrophenol	2.83	1.67	mg/kg wet	3.333		85	30-130			
Acenaphthene	2.78	0.333	mg/kg wet	3.333		83	40-140			
Acenaphthylene	2.79	0.333	mg/kg wet	3.333		84	40-140			
Acetophenone	2.83	0.667	mg/kg wet	3.333		85	40-140			
Aniline	2.35	0.667	mg/kg wet	3.333		71	40-140			
Anthracene	3.03	0.333	mg/kg wet	3.333		91	40-140			
Azobenzene	3.00	0.333	mg/kg wet	3.333		90	40-140			
Benzo(a)anthracene	3.18	0.333	mg/kg wet	3.333		95	40-140			
Benzo(a)pyrene	3.29	0.167	mg/kg wet	3.333		99	40-140			
Benzo(b)fluoranthene	3.18	0.333	mg/kg wet	3.333		95	40-140			
Benzo(g,h,i)perylene	3.14	0.333	mg/kg wet	3.333		94	40-140			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CH52613 - 3546

Benzo(k)fluoranthene	3.12	0.333	mg/kg wet	3.333		94	40-140			
Benzoic Acid	2.72	1.67	mg/kg wet	3.333		81	40-140			
Benzyl Alcohol	2.64	0.333	mg/kg wet	3.333		79	40-140			
bis(2-Chloroethoxy)methane	2.92	0.333	mg/kg wet	3.333		88	40-140			
bis(2-Chloroethyl)ether	2.62	0.333	mg/kg wet	3.333		79	40-140			
bis(2-chloroisopropyl)Ether	2.55	0.333	mg/kg wet	3.333		77	40-140			
bis(2-Ethylhexyl)phthalate	3.53	0.333	mg/kg wet	3.333		106	40-140			
Butylbenzylphthalate	3.39	0.333	mg/kg wet	3.333		102	40-140			
Carbazole	3.36	0.333	mg/kg wet	3.333		101	40-140			
Chrysene	3.22	0.167	mg/kg wet	3.333		96	40-140			
Dibenzo(a,h)Anthracene	3.30	0.167	mg/kg wet	3.333		99	40-140			
Dibenzofuran	2.92	0.333	mg/kg wet	3.333		88	40-140			
Diethylphthalate	3.05	0.333	mg/kg wet	3.333		92	40-140			
Dimethylphthalate	2.92	0.333	mg/kg wet	3.333		88	40-140			
Di-n-butylphthalate	3.38	0.333	mg/kg wet	3.333		101	40-140			
Di-n-octylphthalate	3.14	0.333	mg/kg wet	3.333		94	40-140			
Fluoranthene	3.36	0.333	mg/kg wet	3.333		101	40-140			
Fluorene	2.96	0.333	mg/kg wet	3.333		89	40-140			
Hexachlorobenzene	3.01	0.167	mg/kg wet	3.333		90	40-140			
Hexachlorobutadiene	2.68	0.333	mg/kg wet	3.333		80	40-140			
Hexachlorocyclopentadiene	2.37	1.67	mg/kg wet	3.333		71	40-140			
Hexachloroethane	2.47	0.333	mg/kg wet	3.333		74	40-140			
Indeno(1,2,3-cd)Pyrene	3.23	0.333	mg/kg wet	3.333		97	40-140			
Isophorone	2.73	0.333	mg/kg wet	3.333		82	40-140			
Naphthalene	2.74	0.333	mg/kg wet	3.333		82	40-140			
Nitrobenzene	2.76	0.333	mg/kg wet	3.333		83	40-140			
N-Nitrosodimethylamine	2.22	0.333	mg/kg wet	3.333		67	40-140			
N-Nitroso-Di-n-Propylamine	2.60	0.333	mg/kg wet	3.333		78	40-140			
N-nitrosodiphenylamine	3.11	0.333	mg/kg wet	3.333		93	40-140			
Pentachlorophenol	3.00	1.67	mg/kg wet	3.333		90	30-130			
Phenanthrene	2.92	0.333	mg/kg wet	3.333		87	40-140			
Phenol	2.61	0.333	mg/kg wet	3.333		78	30-130			
Pyrene	3.07	0.333	mg/kg wet	3.333		92	40-140			
Pyridine	2.00	1.67	mg/kg wet	3.333		60	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	2.50		mg/kg wet	3.333		75	30-130			
Surrogate: 2,4,6-Tribromophenol	4.27		mg/kg wet	5.000		85	30-130			
Surrogate: 2-Chlorophenol-d4	3.96		mg/kg wet	5.000		79	30-130			
Surrogate: 2-Fluorobiphenyl	2.72		mg/kg wet	3.333		81	30-130			
Surrogate: 2-Fluorophenol	3.89		mg/kg wet	5.000		78	30-130			
Surrogate: Nitrobenzene-d5	2.61		mg/kg wet	3.333		78	30-130			
Surrogate: Phenol-d6	4.05		mg/kg wet	5.000		81	30-130			
Surrogate: p-Terphenyl-d14	3.22		mg/kg wet	3.333		96	30-130			

LCS Dup

1,1-Biphenyl	2.57	0.333	mg/kg wet	3.333		77	40-140	10	30	
1,2,4-Trichlorobenzene	2.45	0.333	mg/kg wet	3.333		74	40-140	13	30	



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CH52613 - 3546

1,2-Dichlorobenzene	2.24	0.333	mg/kg wet	3.333		67	40-140	14	30	
1,3-Dichlorobenzene	2.29	0.333	mg/kg wet	3.333		69	40-140	15	30	
1,4-Dichlorobenzene	2.21	0.333	mg/kg wet	3.333		66	40-140	15	30	
2,3,4,6-Tetrachlorophenol	2.72	1.67	mg/kg wet	3.333		82	30-130	5	30	
2,4,5-Trichlorophenol	3.06	0.333	mg/kg wet	3.333		92	30-130	8	30	
2,4,6-Trichlorophenol	3.07	0.333	mg/kg wet	3.333		92	30-130	10	30	
2,4-Dichlorophenol	2.71	0.333	mg/kg wet	3.333		81	30-130	10	30	
2,4-Dimethylphenol	2.71	0.333	mg/kg wet	3.333		81	30-130	11	30	
2,4-Dinitrophenol	2.58	1.67	mg/kg wet	3.333		77	30-130	5	30	
2,4-Dinitrotoluene	3.08	0.333	mg/kg wet	3.333		92	40-140	6	30	
2,6-Dinitrotoluene	2.87	0.333	mg/kg wet	3.333		86	40-140	7	30	
2-Chloronaphthalene	2.47	0.333	mg/kg wet	3.333		74	40-140	10	30	
2-Chlorophenol	2.45	0.333	mg/kg wet	3.333		74	30-130	12	30	
2-Methylnaphthalene	2.40	0.333	mg/kg wet	3.333		72	40-140	11	30	
2-Methylphenol	2.57	0.333	mg/kg wet	3.333		77	30-130	11	30	
2-Nitroaniline	2.44	0.333	mg/kg wet	3.333		73	40-140	10	30	
2-Nitrophenol	2.42	0.333	mg/kg wet	3.333		73	30-130	13	30	
3,3'-Dichlorobenzidine	2.69	0.667	mg/kg wet	3.333		81	40-140	0.02	30	
3+4-Methylphenol	5.07	0.667	mg/kg wet	6.667		76	30-130	11	30	
3-Nitroaniline	2.70	0.333	mg/kg wet	3.333		81	40-140	7	30	
4,6-Dinitro-2-Methylphenol	2.90	1.67	mg/kg wet	3.333		87	30-130	4	30	
4-Bromophenyl-phenylether	2.98	0.333	mg/kg wet	3.333		89	40-140	6	30	
4-Chloro-3-Methylphenol	2.84	0.333	mg/kg wet	3.333		85	30-130	9	30	
4-Chloroaniline	2.64	0.667	mg/kg wet	3.333		79	40-140	7	30	
4-Chloro-phenyl-phenyl ether	2.81	0.333	mg/kg wet	3.333		84	40-140	8	30	
4-Nitroaniline	2.84	0.333	mg/kg wet	3.333		85	40-140	3	30	
4-Nitrophenol	2.65	1.67	mg/kg wet	3.333		79	30-130	7	30	
Acenaphthene	2.55	0.333	mg/kg wet	3.333		76	40-140	9	30	
Acenaphthylene	2.54	0.333	mg/kg wet	3.333		76	40-140	10	30	
Acetophenone	2.49	0.667	mg/kg wet	3.333		75	40-140	13	30	
Aniline	2.14	0.667	mg/kg wet	3.333		64	40-140	10	30	
Anthracene	2.87	0.333	mg/kg wet	3.333		86	40-140	5	30	
Azobenzene	2.78	0.333	mg/kg wet	3.333		83	40-140	8	30	
Benzo(a)anthracene	3.01	0.333	mg/kg wet	3.333		90	40-140	6	30	
Benzo(a)pyrene	3.09	0.167	mg/kg wet	3.333		93	40-140	6	30	
Benzo(b)fluoranthene	3.10	0.333	mg/kg wet	3.333		93	40-140	2	30	
Benzo(g,h,i)perylene	2.99	0.333	mg/kg wet	3.333		90	40-140	5	30	
Benzo(k)fluoranthene	2.94	0.333	mg/kg wet	3.333		88	40-140	6	30	
Benzoic Acid	2.48	1.67	mg/kg wet	3.333		74	40-140	9	30	
Benzyl Alcohol	2.37	0.333	mg/kg wet	3.333		71	40-140	11	30	
bis(2-Chloroethoxy)methane	2.61	0.333	mg/kg wet	3.333		78	40-140	11	30	
bis(2-Chloroethyl)ether	2.29	0.333	mg/kg wet	3.333		69	40-140	13	30	
bis(2-chloroisopropyl)Ether	2.24	0.333	mg/kg wet	3.333		67	40-140	13	30	
bis(2-Ethylhexyl)phthalate	3.40	0.333	mg/kg wet	3.333		102	40-140	4	30	
Butylbenzylphthalate	3.24	0.333	mg/kg wet	3.333		97	40-140	4	30	



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CH52613 - 3546

Carbazole	3.19	0.333	mg/kg wet	3.333		96	40-140	5	30	
Chrysene	3.05	0.167	mg/kg wet	3.333		92	40-140	5	30	
Dibenzo(a,h)Anthracene	3.16	0.167	mg/kg wet	3.333		95	40-140	4	30	
Dibenzofuran	2.67	0.333	mg/kg wet	3.333		80	40-140	9	30	
Diethylphthalate	2.88	0.333	mg/kg wet	3.333		86	40-140	6	30	
Dimethylphthalate	2.73	0.333	mg/kg wet	3.333		82	40-140	7	30	
Di-n-butylphthalate	3.22	0.333	mg/kg wet	3.333		97	40-140	5	30	
Di-n-octylphthalate	3.05	0.333	mg/kg wet	3.333		92	40-140	3	30	
Fluoranthene	3.18	0.333	mg/kg wet	3.333		95	40-140	5	30	
Fluorene	2.72	0.333	mg/kg wet	3.333		82	40-140	9	30	
Hexachlorobenzene	2.82	0.167	mg/kg wet	3.333		85	40-140	7	30	
Hexachlorobutadiene	2.32	0.333	mg/kg wet	3.333		70	40-140	14	30	
Hexachlorocyclopentadiene	2.05	1.67	mg/kg wet	3.333		62	40-140	14	30	
Hexachloroethane	2.12	0.333	mg/kg wet	3.333		64	40-140	15	30	
Indeno(1,2,3-cd)Pyrene	3.07	0.333	mg/kg wet	3.333		92	40-140	5	30	
Isophorone	2.45	0.333	mg/kg wet	3.333		74	40-140	11	30	
Naphthalene	2.40	0.333	mg/kg wet	3.333		72	40-140	13	30	
Nitrobenzene	2.41	0.333	mg/kg wet	3.333		72	40-140	13	30	
N-Nitrosodimethylamine	1.98	0.333	mg/kg wet	3.333		60	40-140	11	30	
N-Nitroso-Di-n-Propylamine	2.33	0.333	mg/kg wet	3.333		70	40-140	11	30	
N-nitrosodiphenylamine	2.91	0.333	mg/kg wet	3.333		87	40-140	7	30	
Pentachlorophenol	2.85	1.67	mg/kg wet	3.333		85	30-130	5	30	
Phenanthrene	2.75	0.333	mg/kg wet	3.333		83	40-140	6	30	
Phenol	2.36	0.333	mg/kg wet	3.333		71	30-130	10	30	
Pyrene	2.93	0.333	mg/kg wet	3.333		88	40-140	5	30	
Pyridine	1.65	1.67	mg/kg wet	3.333		49	40-140	19	30	
Surrogate: 1,2-Dichlorobenzene-d4	2.11		mg/kg wet	3.333		63	30-130			
Surrogate: 2,4,6-Tribromophenol	3.91		mg/kg wet	5.000		78	30-130			
Surrogate: 2-Chlorophenol-d4	3.46		mg/kg wet	5.000		69	30-130			
Surrogate: 2-Fluorobiphenyl	2.40		mg/kg wet	3.333		72	30-130			
Surrogate: 2-Fluorophenol	3.33		mg/kg wet	5.000		67	30-130			
Surrogate: Nitrobenzene-d5	2.20		mg/kg wet	3.333		66	30-130			
Surrogate: Phenol-d6	3.54		mg/kg wet	5.000		71	30-130			
Surrogate: p-Terphenyl-d14	3.01		mg/kg wet	3.333		90	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

Notes and Definitions

- Z-10a Soil pH measured in water at 24.4 °C.
- Z-10 Soil pH measured in water at 24.3 °C.
- U Analyte included in the analysis, but not detected
- S+ Surrogate recovery(ies) above upper control limit (S+).
- Q Calibration required quadratic regression (Q).
- ICV- Initial Calibration Verification recovery is below lower control limit (ICV-).
- IC Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).
- I Internal Standard(s) outside of criteria (I).
- D+ Relative percent difference for duplicate is outside of criteria (D+).
- D Diluted.
- CD+ Continuing Calibration %Diff/Drift is above control limit (CD+).
- CD- Continuing Calibration %Diff/Drift is below control limit (CD-).
- B+ Blank Spike recovery is above upper control limit (B+).
- B- Blank Spike recovery is below lower control limit (B-).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1508737

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

Sample and Cooler Receipt Checklist

Client: Charter Environmental
 Client Project ID: _____ *WR 8/26/15*
 Shipped/Delivered Via: ~~Client~~ *Other*

ESS Project ID: 15080737
 Date Project Due: 9/1/15
 Days For Project: 5 Day

Items to be checked upon receipt:

- | | | | |
|---|---|---|---|
| 1. Air Bill Manifest Present? | <input type="checkbox"/> * No | 10. Are the samples properly preserved? | <input type="checkbox"/> Yes |
| Air No.: | <i>WR 8/26/15</i> | 11. Proper sample containers used? | <input type="checkbox"/> Yes |
| 2. Were Custody Seals Present? | <i>YES</i> <input checked="" type="checkbox"/> No | 12. Any air bubbles in the VOA vials? | <input type="checkbox"/> N/A |
| 3. Were Custody Seals Intact? | <input type="checkbox"/> Yes | 13. Holding times exceeded? | <input type="checkbox"/> No |
| 4. Is Radiation count < 100 CPM? | <input type="checkbox"/> Yes | 14. Sufficient sample volumes? | <input type="checkbox"/> Yes |
| 5. Is a cooler present? | <input type="checkbox"/> Yes | 15. Any Subcontracting needed? | <input type="checkbox"/> No |
| <input type="text" value="Cooler Temp: 9.8"/> | | 16. Are ESS labels on correct containers? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <input type="text" value="Iced With: Ice"/> | | 17. Were samples received intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 6. Was COC included with samples? | <input type="checkbox"/> Yes | ESS Sample IDs: _____ | |
| 7. Was COC signed and dated by client? | <input type="checkbox"/> Yes | Sub Lab: _____ | |
| 8. Does the COC match the sample | <input type="checkbox"/> Yes | Analysis: _____ | |
| 9. Is COC complete and correct? | <input type="checkbox"/> Yes | TAT: _____ | |

18. Was there need to call project manager to discuss status? If yes, please explain.

LL VIALS FROZEN @ 1801 JL 8/25/15

Who was called?: _____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	40 ml - VOA	1	MeOH
1	Yes	40 ml - VOA	2	other
1	Yes	8 oz Soil Jar	2	NP
2	Yes	40 ml - VOA	1	MeOH
2	Yes	40 ml - VOA	2	other
2	Yes	8 oz Soil Jar	2	NP
3	Yes	40 ml - VOA	1	MeOH
3	Yes	40 ml - VOA	2	other
3	Yes	8 oz Soil Jar	2	NP
4	Yes	40 ml - VOA	1	MeOH
4	Yes	40 ml - VOA	2	other
4	Yes	8 oz Soil Jar	2	NP
5	Yes	40 ml - VOA	1	MeOH
5	Yes	40 ml - VOA	2	other
5	Yes	8 oz Soil Jar	2	NP
6	Yes	40 ml - VOA	1	MeOH
6	Yes	40 ml - VOA	2	other
6	Yes	8 oz Soil Jar	2	NP
7	Yes	40 ml - VOA	1	MeOH
7	Yes	40 ml - VOA	2	other
7	Yes	8 oz Soil Jar	2	NP
8	Yes	40 ml - VOA	1	MeOH
8	Yes	40 ml - VOA	2	other
8	Yes	8 oz Soil Jar	2	NP
9	Yes	40 ml - VOA	1	MeOH

Sample and Cooler Receipt Checklist

Client: Charter Environmental

ESS Project ID: 15080737

9 Yes
9 Yes

40 ml - VOA 2
8 oz Soil Jar 2

other
NP

Completed By: [Signature]

Date/Time: 8/25/15 1821

Reviewed By: [Signature]

Date/Time: 8/26/15 0735

CUSTODY SEAL



ENVIRONMENTAL SAMPLING SUPPLY
www.essvia.com 800-23 25

Date: 8-25-15

Signature: [Signature]

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-2211
 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # **1508737**
 Reporting Limits **RI DEM RDEC**

Turn Time **5** Days
 Regulatory State **Rhode Island**
 Is this project for any of the following?
 CT RCP MA MCP RGP DOD
 Electronic Deliverables Data Checker Excel
 Other (Please Specify →)

Company Name Charter Environmental		Project Name Textron Providence		Analysis	
Contact Person Paul J. Leofanti, Jr.		Address 500 Harrison Avenue, Suite 4R		PH: Corrosivity 9045	
City Boston		State MA		Zip Code 02118	
Telephone Number (857) 246-6812		FAX Number		Email Address pleofanti@charter.us	
ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID
1	8/24/15	3:00	Grab	Soil	A
2	8/24/15	3:20	Grab	Soil	B
3	8/24/15	3:40	Grab	Soil	C
4	8/24/15	3:50	Grab	Soil	D
5	8/24/15	4:00	Grab	Soil	E
06	8/24/15	4:10	Grab	Soil	A
07	8/24/15	4:20	Grab	Soil	B
08	8/24/15	4:30	Grab	Soil	C
09	8/24/15	4:40	Grab	Soil	D
Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubittainer J-Jar O-Other P-Poly S-Sterile V-Vial Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other* Preservation Code: 1-Non Preserved, 2-HCl, 3-H2SO4, 4-HNO3, 5-NaOH, 6-MeOH, 7-Na2S2O3, 8-ZnAc, NaOH, 9-NH4Cl, 10-Other*					
Number of Containers: 1 1 1 2 1					

Sampled by: **Charter Environmental/George Gilbert-Thielsch**

Comments: **Please specify "Other" preservative and containers types in this space**

Please CC: **mpolsky@thielsch.com**

Laboratory Use Only

Cooler Present: YES Drop Off Pickup

Seals Intact: YES Technician Hours → 9.8 Ice 5L

Cooler Temperature: 9.8 Ice 5L

Relinquished by: (Signature, Date & Time) [Signature] 8/25/15

Received by: (Signature, Date & Time) [Signature] 8/25/15 1700



CERTIFICATE OF ANALYSIS

Paul J. Leofanti, Jr.
Charter Environmental, Inc.
500 Harrison Avenue, Suite 4R
Boston, MA 02118

RE: Textron Providence (74-15-0002.134)
ESS Laboratory Work Order Number: 1509304

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 3:56 pm, Sep 16, 2015

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1509304

SAMPLE RECEIPT

The following samples were received on September 11, 2015 for the analyses specified on the enclosed Chain of Custody Record.

Low Level VOA vials were frozen by ESS Laboratory on September 11, 2015 at 18:30.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1509304-01	Material S and S Common Borrow 1N	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1509304-02	Material S and S Common Borrow 2NE	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1509304-03	Material S and S Common Borrow 3SE	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1509304-04	Material S and S Common Borrow 4SW	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1509304-05	Material S and S Common Borrow 5W	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1509304

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

1509304-03 Surrogate recovery(ies) above upper control limit (S+).
1,2-Dichloroethane-d4 (131% @ 70-130%)

CI51525-BS1 Blank Spike recovery is above upper control limit (B+).
Vinyl Acetate (140% @ 70-130%)

CI51525-BSD1 Blank Spike recovery is above upper control limit (B+).
Vinyl Acetate (157% @ 70-130%)

8100M Total Petroleum Hydrocarbons

CYI0155-CCV2 Continuing Calibration %Diff/Drift is above control limit (CD+).
Octacosane (C28) (24% @ 20%), O-Terphenyl (26% @ 20%), Triacontane (C30) (28% @ 20%)

8270D Semi-Volatile Organic Compounds

CYI0143-CCV1 Calibration required quadratic regression (Q).
2,4-Dinitrophenol (92% @ 80-120%), Benzoic Acid (74% @ 80-120%)

CYI0143-CCV1 Continuing Calibration %Diff/Drift is below control limit (CD-).
Benzoic Acid (26% @ 20%)

Total Metals

CI51405-BSD1 Relative percent difference for duplicate is outside of criteria (D+).
Barium (25% @ 20%)

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

- [Definitions of Quality Control Parameters](#)
- [Semivolatile Organics Internal Standard Information](#)
- [Semivolatile Organics Surrogate Information](#)
- [Volatile Organics Internal Standard Information](#)
- [Volatile Organics Surrogate Information](#)
- [EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1509304

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015D - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 1N
Date Sampled: 09/11/15 11:40
Percent Solids: 91

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	2.54 (2.48)		6010C		1	KJK	09/14/15 16:59	2.21	100	CI51405
Barium	8.48 (2.48)		6010C		1	KJK	09/14/15 16:59	2.21	100	CI51405
Cadmium	ND (0.50)		6010C		1	KJK	09/14/15 16:59	2.21	100	CI51405
Chromium	2.79 (0.99)		6010C		1	KJK	09/14/15 16:59	2.21	100	CI51405
Lead	ND (4.95)		6010C		1	KJK	09/14/15 16:59	2.21	100	CI51405
Mercury	ND (0.032)		7471B		1	BJV	09/14/15 13:16	0.67	40	CI51406
Selenium	ND (4.95)		6010C		1	ICP	09/14/15 16:59	2.21	100	CI51405
Silver	ND (0.50)		6010C		1	KJK	09/14/15 16:59	2.21	100	CI51405



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 1N
Date Sampled: 09/11/15 11:40
Percent Solids: 91
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,1,1-Trichloroethane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,1,2,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,1,2-Trichloroethane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,1-Dichloroethane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,1-Dichloroethene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,1-Dichloropropene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,2,3-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,2,3-Trichloropropane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,2,4-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,2,4-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,2-Dibromo-3-Chloropropane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,2-Dibromoethane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,2-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,2-Dichloroethane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,3,5-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,3-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,3-Dichloropropane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,4-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1,4-Dioxane	ND (0.0804)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
1-Chlorohexane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
2,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
2-Butanone	ND (0.0402)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
2-Chlorotoluene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
2-Hexanone	ND (0.0402)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
4-Chlorotoluene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
4-Isopropyltoluene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
4-Methyl-2-Pentanone	ND (0.0402)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Acetone	ND (0.0402)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Benzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Bromobenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 1N
Date Sampled: 09/11/15 11:40
Percent Solids: 91
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Bromodichloromethane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Bromoform	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Bromomethane	ND (0.0080)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Carbon Disulfide	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Carbon Tetrachloride	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Chlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Chloroethane	ND (0.0080)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Chloroform	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Chloromethane	ND (0.0080)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
cis-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
cis-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Dibromochloromethane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Dibromomethane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Dichlorodifluoromethane	ND (0.0080)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Diethyl Ether	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Di-isopropyl ether	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Ethyl tertiary-butyl ether	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Ethylbenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Hexachlorobutadiene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Isopropylbenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Methyl tert-Butyl Ether	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Methylene Chloride	ND (0.0201)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Naphthalene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
n-Butylbenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
n-Propylbenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
sec-Butylbenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Styrene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
tert-Butylbenzene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Tertiary-amyl methyl ether	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Tetrachloroethene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Tetrahydrofuran	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 1N
Date Sampled: 09/11/15 11:40
Percent Solids: 91
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
trans-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
trans-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Trichloroethene	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Trichlorofluoromethane	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Vinyl Acetate	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Vinyl Chloride	ND (0.0080)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Xylene O	ND (0.0040)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Xylene P,M	ND (0.0080)		8260B Low		1	09/15/15 11:35	CYI0160	CI51525
Xylenes (Total)	ND (0.0080)		8260B Low		1	09/15/15 11:35		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>129 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>97 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>112 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>104 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 1N
Date Sampled: 09/11/15 11:40
Percent Solids: 91
Initial Volume: 19.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 9/11/15 18:54

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (43.0)		8100M		1	09/14/15 22:54	CY10155	CI51122
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		95 %		40-140				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 1N
Date Sampled: 09/11/15 11:40
Percent Solids: 91
Initial Volume: 14.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
1,2,4-Trichlorobenzene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
1,2-Dichlorobenzene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
1,3-Dichlorobenzene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
1,4-Dichlorobenzene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2,3,4,6-Tetrachlorophenol	ND (1.89)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2,4,5-Trichlorophenol	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2,4,6-Trichlorophenol	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2,4-Dichlorophenol	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2,4-Dimethylphenol	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2,4-Dinitrophenol	ND (1.89)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2,4-Dinitrotoluene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2,6-Dinitrotoluene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2-Chloronaphthalene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2-Chlorophenol	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2-Methylnaphthalene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2-Methylphenol	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2-Nitroaniline	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
2-Nitrophenol	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
3,3'-Dichlorobenzidine	ND (0.755)		8270D		1	09/14/15 16:13	CYI0143	CI51410
3+4-Methylphenol	ND (0.755)		8270D		1	09/14/15 16:13	CYI0143	CI51410
3-Nitroaniline	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
4,6-Dinitro-2-Methylphenol	ND (1.89)		8270D		1	09/14/15 16:13	CYI0143	CI51410
4-Bromophenyl-phenylether	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
4-Chloro-3-Methylphenol	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
4-Chloroaniline	ND (0.755)		8270D		1	09/14/15 16:13	CYI0143	CI51410
4-Chloro-phenyl-phenyl ether	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
4-Nitroaniline	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
4-Nitrophenol	ND (1.89)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Acenaphthene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Acenaphthylene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Acetophenone	ND (0.755)		8270D		1	09/14/15 16:13	CYI0143	CI51410



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 1N
Date Sampled: 09/11/15 11:40
Percent Solids: 91
Initial Volume: 14.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.755)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Anthracene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Azobenzene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Benzo(a)anthracene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Benzo(a)pyrene	ND (0.189)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Benzo(b)fluoranthene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Benzo(g,h,i)perylene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Benzo(k)fluoranthene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Benzoic Acid	ND (1.89)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Benzyl Alcohol	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
bis(2-Chloroethoxy)methane	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
bis(2-Chloroethyl)ether	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
bis(2-chloroisopropyl)Ether	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
bis(2-Ethylhexyl)phthalate	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Butylbenzylphthalate	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Carbazole	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Chrysene	ND (0.189)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Dibenzo(a,h)Anthracene	ND (0.189)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Dibenzofuran	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Diethylphthalate	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Dimethylphthalate	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Di-n-butylphthalate	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Di-n-octylphthalate	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Fluoranthene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Fluorene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Hexachlorobenzene	ND (0.189)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Hexachlorobutadiene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Hexachlorocyclopentadiene	ND (1.89)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Hexachloroethane	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Indeno(1,2,3-cd)Pyrene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Isophorone	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Naphthalene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S and S Common Borrow 1N
 Date Sampled: 09/11/15 11:40
 Percent Solids: 91
 Initial Volume: 14.5
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1509304
 ESS Laboratory Sample ID: 1509304-01
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: IBM
 Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
N-Nitrosodimethylamine	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
N-Nitroso-Di-n-Propylamine	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
N-nitrosodiphenylamine	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Pentachlorophenol	ND (1.89)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Phenanthrene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Phenol	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Pyrene	ND (0.377)		8270D		1	09/14/15 16:13	CYI0143	CI51410
Pyridine	ND (1.89)		8270D		1	09/14/15 16:13	CYI0143	CI51410

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	73 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	73 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	76 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	76 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	77 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	74 %		30-130
<i>Surrogate: Phenol-d6</i>	80 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	85 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 1N
Date Sampled: 09/11/15 11:40
Percent Solids: 91

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-01
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	4.57 (N/A)		9045		1	MJV	09/12/15 9:05	S.U.	CI51208
Corrosivity (pH) Sample Temp	Soil pH measured in water at 21.5 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 2NE
Date Sampled: 09/11/15 11:50
Percent Solids: 92

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-02
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.72)		6010C		1	KJK	09/14/15 17:04	2.01	100	CI51405
Barium	7.77 (2.72)		6010C		1	KJK	09/14/15 17:04	2.01	100	CI51405
Cadmium	ND (0.54)		6010C		1	KJK	09/14/15 17:04	2.01	100	CI51405
Chromium	2.96 (1.09)		6010C		1	KJK	09/14/15 17:04	2.01	100	CI51405
Lead	ND (5.43)		6010C		1	KJK	09/14/15 17:04	2.01	100	CI51405
Mercury	ND (0.034)		7471B		1	BJV	09/14/15 13:18	0.64	40	CI51406
Selenium	ND (5.43)		6010C		1	ICP	09/14/15 17:04	2.01	100	CI51405
Silver	ND (0.54)		6010C		1	KJK	09/14/15 17:04	2.01	100	CI51405



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 2NE
Date Sampled: 09/11/15 11:50
Percent Solids: 92
Initial Volume: 7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,1,1-Trichloroethane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,1,2,2-Tetrachloroethane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,1,2-Trichloroethane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,1-Dichloroethane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,1-Dichloroethene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,1-Dichloropropene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,2,3-Trichlorobenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,2,3-Trichloropropane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,2,4-Trichlorobenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,2,4-Trimethylbenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,2-Dibromo-3-Chloropropane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,2-Dibromoethane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,2-Dichlorobenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,2-Dichloroethane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,2-Dichloropropane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,3,5-Trimethylbenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,3-Dichlorobenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,3-Dichloropropane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,4-Dichlorobenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1,4-Dioxane	ND (0.0780)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
1-Chlorohexane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
2,2-Dichloropropane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
2-Butanone	ND (0.0390)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
2-Chlorotoluene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
2-Hexanone	ND (0.0390)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
4-Chlorotoluene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
4-Isopropyltoluene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
4-Methyl-2-Pentanone	ND (0.0390)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Acetone	ND (0.0390)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Benzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Bromobenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 2NE
Date Sampled: 09/11/15 11:50
Percent Solids: 92
Initial Volume: 7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Bromodichloromethane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Bromoform	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Bromomethane	ND (0.0078)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Carbon Disulfide	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Carbon Tetrachloride	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Chlorobenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Chloroethane	ND (0.0078)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Chloroform	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Chloromethane	ND (0.0078)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
cis-1,2-Dichloroethene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
cis-1,3-Dichloropropene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Dibromochloromethane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Dibromomethane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Dichlorodifluoromethane	ND (0.0078)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Diethyl Ether	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Di-isopropyl ether	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Ethyl tertiary-butyl ether	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Ethylbenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Hexachlorobutadiene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Isopropylbenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Methyl tert-Butyl Ether	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Methylene Chloride	ND (0.0195)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Naphthalene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
n-Butylbenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
n-Propylbenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
sec-Butylbenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Styrene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
tert-Butylbenzene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Tertiary-amyl methyl ether	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Tetrachloroethene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Tetrahydrofuran	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 2NE
Date Sampled: 09/11/15 11:50
Percent Solids: 92
Initial Volume: 7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
trans-1,2-Dichloroethene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
trans-1,3-Dichloropropene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Trichloroethene	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Trichlorofluoromethane	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Vinyl Acetate	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Vinyl Chloride	ND (0.0078)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Xylene O	ND (0.0039)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Xylene P,M	ND (0.0078)		8260B Low		1	09/15/15 12:04	CYI0160	CI51525
Xylenes (Total)	ND (0.0078)		8260B Low		1	09/15/15 12:04		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>118 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>96 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>106 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>104 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 2NE
Date Sampled: 09/11/15 11:50
Percent Solids: 92
Initial Volume: 20.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 9/11/15 18:54

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (39.9)		8100M		1	09/14/15 23:33	CY10155	CI51122
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		92 %		40-140				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 2NE
Date Sampled: 09/11/15 11:50
Percent Solids: 92
Initial Volume: 14.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
1,2,4-Trichlorobenzene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
1,2-Dichlorobenzene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
1,3-Dichlorobenzene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
1,4-Dichlorobenzene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2,3,4,6-Tetrachlorophenol	ND (1.85)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2,4,5-Trichlorophenol	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2,4,6-Trichlorophenol	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2,4-Dichlorophenol	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2,4-Dimethylphenol	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2,4-Dinitrophenol	ND (1.85)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2,4-Dinitrotoluene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2,6-Dinitrotoluene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2-Chloronaphthalene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2-Chlorophenol	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2-Methylnaphthalene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2-Methylphenol	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2-Nitroaniline	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
2-Nitrophenol	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
3,3'-Dichlorobenzidine	ND (0.738)		8270D		1	09/14/15 16:50	CYI0143	CI51410
3+4-Methylphenol	ND (0.738)		8270D		1	09/14/15 16:50	CYI0143	CI51410
3-Nitroaniline	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
4,6-Dinitro-2-Methylphenol	ND (1.85)		8270D		1	09/14/15 16:50	CYI0143	CI51410
4-Bromophenyl-phenylether	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
4-Chloro-3-Methylphenol	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
4-Chloroaniline	ND (0.738)		8270D		1	09/14/15 16:50	CYI0143	CI51410
4-Chloro-phenyl-phenyl ether	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
4-Nitroaniline	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
4-Nitrophenol	ND (1.85)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Acenaphthene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Acenaphthylene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Acetophenone	ND (0.738)		8270D		1	09/14/15 16:50	CYI0143	CI51410



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S and S Common Borrow 2NE
 Date Sampled: 09/11/15 11:50
 Percent Solids: 92
 Initial Volume: 14.8
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1509304
 ESS Laboratory Sample ID: 1509304-02
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: IBM
 Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.738)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Anthracene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Azobenzene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Benzo(a)anthracene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Benzo(a)pyrene	ND (0.185)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Benzo(b)fluoranthene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Benzo(g,h,i)perylene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Benzo(k)fluoranthene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Benzoic Acid	ND (1.85)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Benzyl Alcohol	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
bis(2-Chloroethoxy)methane	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
bis(2-Chloroethyl)ether	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
bis(2-chloroisopropyl)Ether	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
bis(2-Ethylhexyl)phthalate	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Butylbenzylphthalate	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Carbazole	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Chrysene	ND (0.185)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Dibenzo(a,h)Anthracene	ND (0.185)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Dibenzofuran	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Diethylphthalate	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Dimethylphthalate	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Di-n-butylphthalate	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Di-n-octylphthalate	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Fluoranthene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Fluorene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Hexachlorobenzene	ND (0.185)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Hexachlorobutadiene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Hexachlorocyclopentadiene	ND (1.85)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Hexachloroethane	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Indeno(1,2,3-cd)Pyrene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Isophorone	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Naphthalene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 2NE
Date Sampled: 09/11/15 11:50
Percent Solids: 92
Initial Volume: 14.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
N-Nitrosodimethylamine	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
N-Nitroso-Di-n-Propylamine	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
N-nitrosodiphenylamine	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Pentachlorophenol	ND (1.85)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Phenanthrene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Phenol	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Pyrene	ND (0.368)		8270D		1	09/14/15 16:50	CYI0143	CI51410
Pyridine	ND (1.85)		8270D		1	09/14/15 16:50	CYI0143	CI51410

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>70 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>74 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>74 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>74 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>77 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>72 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>79 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>86 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 2NE
Date Sampled: 09/11/15 11:50
Percent Solids: 92

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-02
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	4.55 (N/A)		9045		1	MJV	09/12/15 9:05	S.U.	CI51208
Corrosivity (pH) Sample Temp	Soil pH measured in water at 21.5 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 3SE
Date Sampled: 09/11/15 12:00
Percent Solids: 90

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-03
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	2.42 (2.21)		6010C		1	KJK	09/14/15 17:08	2.51	100	CI51405
Barium	7.81 (2.21)		6010C		1	KJK	09/14/15 17:08	2.51	100	CI51405
Cadmium	ND (0.44)		6010C		1	KJK	09/14/15 17:08	2.51	100	CI51405
Chromium	2.98 (0.89)		6010C		1	KJK	09/14/15 17:08	2.51	100	CI51405
Lead	ND (4.43)		6010C		1	KJK	09/14/15 17:08	2.51	100	CI51405
Mercury	ND (0.034)		7471B		1	BJV	09/14/15 13:19	0.65	40	CI51406
Selenium	ND (4.43)		6010C		1	ICP	09/14/15 17:08	2.51	100	CI51405
Silver	ND (0.44)		6010C		1	KJK	09/14/15 17:08	2.51	100	CI51405



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 3SE
Date Sampled: 09/11/15 12:00
Percent Solids: 90
Initial Volume: 7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,1,1-Trichloroethane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,1,2,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,1,2-Trichloroethane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,1-Dichloroethane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,1-Dichloroethene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,1-Dichloropropene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,2,3-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,2,3-Trichloropropane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,2,4-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,2,4-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,2-Dibromo-3-Chloropropane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,2-Dibromoethane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,2-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,2-Dichloroethane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,3,5-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,3-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,3-Dichloropropane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,4-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1,4-Dioxane	ND (0.0794)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
1-Chlorohexane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
2,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
2-Butanone	ND (0.0397)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
2-Chlorotoluene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
2-Hexanone	ND (0.0397)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
4-Chlorotoluene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
4-Isopropyltoluene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
4-Methyl-2-Pentanone	ND (0.0397)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Acetone	ND (0.0397)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Benzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Bromobenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 3SE
Date Sampled: 09/11/15 12:00
Percent Solids: 90
Initial Volume: 7
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Bromodichloromethane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Bromoform	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Bromomethane	ND (0.0079)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Carbon Disulfide	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Carbon Tetrachloride	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Chlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Chloroethane	ND (0.0079)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Chloroform	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Chloromethane	ND (0.0079)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
cis-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
cis-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Dibromochloromethane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Dibromomethane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Dichlorodifluoromethane	ND (0.0079)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Diethyl Ether	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Di-isopropyl ether	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Ethyl tertiary-butyl ether	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Ethylbenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Hexachlorobutadiene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Isopropylbenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Methyl tert-Butyl Ether	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Methylene Chloride	ND (0.0198)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Naphthalene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
n-Butylbenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
n-Propylbenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
sec-Butylbenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Styrene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
tert-Butylbenzene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Tertiary-amyl methyl ether	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Tetrachloroethene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Tetrahydrofuran	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S and S Common Borrow 3SE
 Date Sampled: 09/11/15 12:00
 Percent Solids: 90
 Initial Volume: 7
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1509304
 ESS Laboratory Sample ID: 1509304-03
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
trans-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
trans-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Trichloroethene	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Trichlorofluoromethane	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Vinyl Acetate	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Vinyl Chloride	ND (0.0079)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Xylene O	ND (0.0040)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Xylene P,M	ND (0.0079)		8260B Low		1	09/15/15 12:32	CYI0160	CI51525
Xylenes (Total)	ND (0.0079)		8260B Low		1	09/15/15 12:32		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	131 %	S+	70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	97 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	113 %		70-130
<i>Surrogate: Toluene-d8</i>	106 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 3SE
Date Sampled: 09/11/15 12:00
Percent Solids: 90
Initial Volume: 19.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 9/11/15 18:54

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (42.3)		8100M		1	09/15/15 0:12	CY10155	CI51122
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>88 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 3SE
Date Sampled: 09/11/15 12:00
Percent Solids: 90
Initial Volume: 14.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
1,2,4-Trichlorobenzene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
1,2-Dichlorobenzene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
1,3-Dichlorobenzene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
1,4-Dichlorobenzene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2,3,4,6-Tetrachlorophenol	ND (1.87)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2,4,5-Trichlorophenol	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2,4,6-Trichlorophenol	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2,4-Dichlorophenol	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2,4-Dimethylphenol	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2,4-Dinitrophenol	ND (1.87)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2,4-Dinitrotoluene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2,6-Dinitrotoluene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2-Chloronaphthalene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2-Chlorophenol	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2-Methylnaphthalene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2-Methylphenol	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2-Nitroaniline	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
2-Nitrophenol	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
3,3'-Dichlorobenzidine	ND (0.746)		8270D		1	09/14/15 17:26	CYI0143	CI51410
3+4-Methylphenol	ND (0.746)		8270D		1	09/14/15 17:26	CYI0143	CI51410
3-Nitroaniline	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
4,6-Dinitro-2-Methylphenol	ND (1.87)		8270D		1	09/14/15 17:26	CYI0143	CI51410
4-Bromophenyl-phenylether	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
4-Chloro-3-Methylphenol	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
4-Chloroaniline	ND (0.746)		8270D		1	09/14/15 17:26	CYI0143	CI51410
4-Chloro-phenyl-phenyl ether	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
4-Nitroaniline	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
4-Nitrophenol	ND (1.87)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Acenaphthene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Acenaphthylene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Acetophenone	ND (0.746)		8270D		1	09/14/15 17:26	CYI0143	CI51410



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 3SE
Date Sampled: 09/11/15 12:00
Percent Solids: 90
Initial Volume: 14.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.746)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Anthracene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Azobenzene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Benzo(a)anthracene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Benzo(a)pyrene	ND (0.187)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Benzo(b)fluoranthene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Benzo(g,h,i)perylene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Benzo(k)fluoranthene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Benzoic Acid	ND (1.87)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Benzyl Alcohol	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
bis(2-Chloroethoxy)methane	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
bis(2-Chloroethyl)ether	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
bis(2-chloroisopropyl)Ether	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
bis(2-Ethylhexyl)phthalate	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Butylbenzylphthalate	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Carbazole	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Chrysene	ND (0.187)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Dibenzo(a,h)Anthracene	ND (0.187)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Dibenzofuran	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Diethylphthalate	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Dimethylphthalate	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Di-n-butylphthalate	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Di-n-octylphthalate	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Fluoranthene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Fluorene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Hexachlorobenzene	ND (0.187)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Hexachlorobutadiene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Hexachlorocyclopentadiene	ND (1.87)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Hexachloroethane	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Indeno(1,2,3-cd)Pyrene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Isophorone	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Naphthalene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 3SE
Date Sampled: 09/11/15 12:00
Percent Solids: 90
Initial Volume: 14.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
N-Nitrosodimethylamine	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
N-Nitroso-Di-n-Propylamine	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
N-nitrosodiphenylamine	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Pentachlorophenol	ND (1.87)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Phenanthrene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Phenol	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Pyrene	ND (0.372)		8270D		1	09/14/15 17:26	CYI0143	CI51410
Pyridine	ND (1.87)		8270D		1	09/14/15 17:26	CYI0143	CI51410

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>77 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>76 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>82 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>81 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>85 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>80 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>86 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>88 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 3SE
Date Sampled: 09/11/15 12:00
Percent Solids: 90

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-03
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	4.59 (N/A)		9045		1	MJV	09/12/15 9:05	S.U.	CI51208
Corrosivity (pH) Sample Temp	Soil pH measured in water at 21.5 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 4SW
Date Sampled: 09/11/15 12:10
Percent Solids: 92

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-04
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.34)		6010C		1	KJK	09/14/15 17:12	2.33	100	CI51405
Barium	10.7 (2.34)		6010C		1	KJK	09/14/15 17:12	2.33	100	CI51405
Cadmium	ND (0.47)		6010C		1	KJK	09/14/15 17:12	2.33	100	CI51405
Chromium	3.10 (0.94)		6010C		1	KJK	09/14/15 17:12	2.33	100	CI51405
Lead	ND (4.68)		6010C		1	KJK	09/14/15 17:12	2.33	100	CI51405
Mercury	ND (0.029)		7471B		1	BJV	09/14/15 13:21	0.75	40	CI51406
Selenium	ND (9.37)		6010C		2	KJK	09/15/15 17:01	2.33	100	CI51405
Silver	ND (0.47)		6010C		1	KJK	09/14/15 17:12	2.33	100	CI51405



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 4SW
Date Sampled: 09/11/15 12:10
Percent Solids: 92
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,1,1-Trichloroethane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,1,2,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,1,2-Trichloroethane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,1-Dichloroethane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,1-Dichloroethene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,1-Dichloropropene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,2,3-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,2,3-Trichloropropane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,2,4-Trichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,2,4-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,2-Dibromo-3-Chloropropane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,2-Dibromoethane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,2-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,2-Dichloroethane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,3,5-Trimethylbenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,3-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,3-Dichloropropane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,4-Dichlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1,4-Dioxane	ND (0.0803)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
1-Chlorohexane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
2,2-Dichloropropane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
2-Butanone	ND (0.0401)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
2-Chlorotoluene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
2-Hexanone	ND (0.0401)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
4-Chlorotoluene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
4-Isopropyltoluene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
4-Methyl-2-Pentanone	ND (0.0401)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Acetone	ND (0.0401)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Benzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Bromobenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 4SW
Date Sampled: 09/11/15 12:10
Percent Solids: 92
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Bromodichloromethane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Bromoform	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Bromomethane	ND (0.0080)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Carbon Disulfide	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Carbon Tetrachloride	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Chlorobenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Chloroethane	ND (0.0080)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Chloroform	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Chloromethane	ND (0.0080)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
cis-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
cis-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Dibromochloromethane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Dibromomethane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Dichlorodifluoromethane	ND (0.0080)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Diethyl Ether	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Di-isopropyl ether	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Ethyl tertiary-butyl ether	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Ethylbenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Hexachlorobutadiene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Isopropylbenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Methyl tert-Butyl Ether	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Methylene Chloride	ND (0.0201)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Naphthalene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
n-Butylbenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
n-Propylbenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
sec-Butylbenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Styrene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
tert-Butylbenzene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Tertiary-amyl methyl ether	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Tetrachloroethene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Tetrahydrofuran	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 4SW
Date Sampled: 09/11/15 12:10
Percent Solids: 92
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
trans-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
trans-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Trichloroethene	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Trichlorofluoromethane	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Vinyl Acetate	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Vinyl Chloride	ND (0.0080)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Xylene O	ND (0.0040)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Xylene P,M	ND (0.0080)		8260B Low		1	09/15/15 13:01	CYI0160	CI51525
Xylenes (Total)	ND (0.0080)		8260B Low		1	09/15/15 13:01		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>119 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>95 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>106 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>104 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 4SW
Date Sampled: 09/11/15 12:10
Percent Solids: 92
Initial Volume: 20
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 9/11/15 18:54

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (40.9)		8100M		1	09/15/15 0:51	CY10155	CI51122
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		97 %		40-140				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 4SW
Date Sampled: 09/11/15 12:10
Percent Solids: 92
Initial Volume: 14.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
1,2,4-Trichlorobenzene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
1,2-Dichlorobenzene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
1,3-Dichlorobenzene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
1,4-Dichlorobenzene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2,3,4,6-Tetrachlorophenol	ND (1.83)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2,4,5-Trichlorophenol	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2,4,6-Trichlorophenol	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2,4-Dichlorophenol	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2,4-Dimethylphenol	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2,4-Dinitrophenol	ND (1.83)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2,4-Dinitrotoluene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2,6-Dinitrotoluene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2-Chloronaphthalene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2-Chlorophenol	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2-Methylnaphthalene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2-Methylphenol	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2-Nitroaniline	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
2-Nitrophenol	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
3,3'-Dichlorobenzidine	ND (0.733)		8270D		1	09/14/15 18:04	CYI0143	CI51410
3+4-Methylphenol	ND (0.733)		8270D		1	09/14/15 18:04	CYI0143	CI51410
3-Nitroaniline	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
4,6-Dinitro-2-Methylphenol	ND (1.83)		8270D		1	09/14/15 18:04	CYI0143	CI51410
4-Bromophenyl-phenylether	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
4-Chloro-3-Methylphenol	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
4-Chloroaniline	ND (0.733)		8270D		1	09/14/15 18:04	CYI0143	CI51410
4-Chloro-phenyl-phenyl ether	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
4-Nitroaniline	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
4-Nitrophenol	ND (1.83)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Acenaphthene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Acenaphthylene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Acetophenone	ND (0.733)		8270D		1	09/14/15 18:04	CYI0143	CI51410



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 4SW
Date Sampled: 09/11/15 12:10
Percent Solids: 92
Initial Volume: 14.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.733)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Anthracene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Azobenzene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Benzo(a)anthracene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Benzo(a)pyrene	ND (0.183)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Benzo(b)fluoranthene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Benzo(g,h,i)perylene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Benzo(k)fluoranthene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Benzoic Acid	ND (1.83)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Benzyl Alcohol	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
bis(2-Chloroethoxy)methane	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
bis(2-Chloroethyl)ether	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
bis(2-chloroisopropyl)Ether	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
bis(2-Ethylhexyl)phthalate	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Butylbenzylphthalate	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Carbazole	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Chrysene	ND (0.183)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Dibenzo(a,h)Anthracene	ND (0.183)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Dibenzofuran	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Diethylphthalate	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Dimethylphthalate	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Di-n-butylphthalate	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Di-n-octylphthalate	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Fluoranthene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Fluorene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Hexachlorobenzene	ND (0.183)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Hexachlorobutadiene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Hexachlorocyclopentadiene	ND (1.83)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Hexachloroethane	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Indeno(1,2,3-cd)Pyrene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Isophorone	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Naphthalene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 4SW
Date Sampled: 09/11/15 12:10
Percent Solids: 92
Initial Volume: 14.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
N-Nitrosodimethylamine	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
N-Nitroso-Di-n-Propylamine	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
N-nitrosodiphenylamine	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Pentachlorophenol	ND (1.83)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Phenanthrene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Phenol	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Pyrene	ND (0.366)		8270D		1	09/14/15 18:04	CYI0143	CI51410
Pyridine	ND (1.83)		8270D		1	09/14/15 18:04	CYI0143	CI51410

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>69 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>71 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>72 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>73 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>75 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>70 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>77 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>87 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 4SW
Date Sampled: 09/11/15 12:10
Percent Solids: 92

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-04
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	4.62 (N/A)		9045		1	MJV	09/12/15 9:05	S.U.	CI51208
Corrosivity (pH) Sample Temp	Soil pH measured in water at 21.5 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 5W
Date Sampled: 09/11/15 12:20
Percent Solids: 91

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-05
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.66)		6010C		1	KJK	09/14/15 17:33	2.07	100	CI51405
Barium	8.23 (2.66)		6010C		1	KJK	09/14/15 17:33	2.07	100	CI51405
Cadmium	ND (0.53)		6010C		1	KJK	09/14/15 17:33	2.07	100	CI51405
Chromium	2.78 (1.06)		6010C		1	KJK	09/14/15 17:33	2.07	100	CI51405
Lead	ND (5.32)		6010C		1	KJK	09/14/15 17:33	2.07	100	CI51405
Mercury	ND (0.036)		7471B		1	BJV	09/14/15 13:23	0.61	40	CI51406
Selenium	ND (5.32)		6010C		1	ICP	09/14/15 17:33	2.07	100	CI51405
Silver	ND (0.53)		6010C		1	KJK	09/14/15 17:33	2.07	100	CI51405



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 5W
Date Sampled: 09/11/15 12:20
Percent Solids: 91
Initial Volume: 7.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,1,1-Trichloroethane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,1,2,2-Tetrachloroethane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,1,2-Trichloroethane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,1-Dichloroethane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,1-Dichloroethene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,1-Dichloropropene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,2,3-Trichlorobenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,2,3-Trichloropropane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,2,4-Trichlorobenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,2,4-Trimethylbenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,2-Dibromo-3-Chloropropane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,2-Dibromoethane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,2-Dichlorobenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,2-Dichloroethane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,2-Dichloropropane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,3,5-Trimethylbenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,3-Dichlorobenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,3-Dichloropropane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,4-Dichlorobenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1,4-Dioxane	ND (0.0775)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
1-Chlorohexane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
2,2-Dichloropropane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
2-Butanone	ND (0.0387)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
2-Chlorotoluene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
2-Hexanone	ND (0.0387)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
4-Chlorotoluene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
4-Isopropyltoluene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
4-Methyl-2-Pentanone	ND (0.0387)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Acetone	ND (0.0387)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Benzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Bromobenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 5W
Date Sampled: 09/11/15 12:20
Percent Solids: 91
Initial Volume: 7.1
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Bromodichloromethane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Bromoform	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Bromomethane	ND (0.0077)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Carbon Disulfide	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Carbon Tetrachloride	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Chlorobenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Chloroethane	ND (0.0077)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Chloroform	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Chloromethane	ND (0.0077)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
cis-1,2-Dichloroethene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
cis-1,3-Dichloropropene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Dibromochloromethane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Dibromomethane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Dichlorodifluoromethane	ND (0.0077)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Diethyl Ether	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Di-isopropyl ether	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Ethyl tertiary-butyl ether	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Ethylbenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Hexachlorobutadiene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Isopropylbenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Methyl tert-Butyl Ether	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Methylene Chloride	ND (0.0194)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Naphthalene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
n-Butylbenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
n-Propylbenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
sec-Butylbenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Styrene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
tert-Butylbenzene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Tertiary-amyl methyl ether	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Tetrachloroethene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Tetrahydrofuran	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S and S Common Borrow 5W
 Date Sampled: 09/11/15 12:20
 Percent Solids: 91
 Initial Volume: 7.1
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1509304
 ESS Laboratory Sample ID: 1509304-05
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
trans-1,2-Dichloroethene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
trans-1,3-Dichloropropene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Trichloroethene	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Trichlorofluoromethane	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Vinyl Acetate	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Vinyl Chloride	ND (0.0077)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Xylene O	ND (0.0039)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Xylene P,M	ND (0.0077)		8260B Low		1	09/15/15 13:29	CYI0160	CI51525
Xylenes (Total)	ND (0.0077)		8260B Low		1	09/15/15 13:29		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	116 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	94 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	105 %		70-130
<i>Surrogate: Toluene-d8</i>	104 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 5W
Date Sampled: 09/11/15 12:20
Percent Solids: 91
Initial Volume: 19.1
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 9/11/15 18:54

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (43.2)		8100M		1	09/15/15 1:30	CY10155	CI51122
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>90 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 5W
Date Sampled: 09/11/15 12:20
Percent Solids: 91
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
1,2,4-Trichlorobenzene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
1,2-Dichlorobenzene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
1,3-Dichlorobenzene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
1,4-Dichlorobenzene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2,3,4,6-Tetrachlorophenol	ND (1.81)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2,4,5-Trichlorophenol	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2,4,6-Trichlorophenol	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2,4-Dichlorophenol	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2,4-Dimethylphenol	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2,4-Dinitrophenol	ND (1.81)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2,4-Dinitrotoluene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2,6-Dinitrotoluene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2-Chloronaphthalene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2-Chlorophenol	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2-Methylnaphthalene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2-Methylphenol	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2-Nitroaniline	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
2-Nitrophenol	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
3,3'-Dichlorobenzidine	ND (0.724)		8270D		1	09/14/15 18:40	CYI0143	CI51410
3+4-Methylphenol	ND (0.724)		8270D		1	09/14/15 18:40	CYI0143	CI51410
3-Nitroaniline	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
4,6-Dinitro-2-Methylphenol	ND (1.81)		8270D		1	09/14/15 18:40	CYI0143	CI51410
4-Bromophenyl-phenylether	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
4-Chloro-3-Methylphenol	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
4-Chloroaniline	ND (0.724)		8270D		1	09/14/15 18:40	CYI0143	CI51410
4-Chloro-phenyl-phenyl ether	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
4-Nitroaniline	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
4-Nitrophenol	ND (1.81)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Acenaphthene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Acenaphthylene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Acetophenone	ND (0.724)		8270D		1	09/14/15 18:40	CYI0143	CI51410



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 5W
Date Sampled: 09/11/15 12:20
Percent Solids: 91
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.724)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Anthracene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Azobenzene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Benzo(a)anthracene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Benzo(a)pyrene	ND (0.181)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Benzo(b)fluoranthene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Benzo(g,h,i)perylene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Benzo(k)fluoranthene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Benzoic Acid	ND (1.81)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Benzyl Alcohol	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
bis(2-Chloroethoxy)methane	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
bis(2-Chloroethyl)ether	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
bis(2-chloroisopropyl)Ether	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
bis(2-Ethylhexyl)phthalate	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Butylbenzylphthalate	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Carbazole	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Chrysene	ND (0.181)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Dibenzo(a,h)Anthracene	ND (0.181)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Dibenzofuran	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Diethylphthalate	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Dimethylphthalate	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Di-n-butylphthalate	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Di-n-octylphthalate	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Fluoranthene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Fluorene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Hexachlorobenzene	ND (0.181)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Hexachlorobutadiene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Hexachlorocyclopentadiene	ND (1.81)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Hexachloroethane	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Indeno(1,2,3-cd)Pyrene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Isophorone	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Naphthalene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 5W
Date Sampled: 09/11/15 12:20
Percent Solids: 91
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 9/14/15 12:33

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
N-Nitrosodimethylamine	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
N-Nitroso-Di-n-Propylamine	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
N-nitrosodiphenylamine	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Pentachlorophenol	ND (1.81)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Phenanthrene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Phenol	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Pyrene	ND (0.362)		8270D		1	09/14/15 18:40	CYI0143	CI51410
Pyridine	ND (1.81)		8270D		1	09/14/15 18:40	CYI0143	CI51410

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>77 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>74 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>80 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>81 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>82 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>79 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>83 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>91 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Borrow 5W
Date Sampled: 09/11/15 12:20
Percent Solids: 91

ESS Laboratory Work Order: 1509304
ESS Laboratory Sample ID: 1509304-05
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	4.67 (N/A)		9045		1	MJV	09/12/15 9:05	S.U.	CI51208
Corrosivity (pH) Sample Temp	Soil pH measured in water at 21.6 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1509304

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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Total Metals

Batch CI51405 - 3050B

Blank

Arsenic	ND	2.50	mg/kg wet
Barium	ND	2.50	mg/kg wet
Cadmium	ND	0.50	mg/kg wet
Chromium	ND	1.00	mg/kg wet
Lead	ND	5.00	mg/kg wet
Selenium	ND	5.00	mg/kg wet
Silver	ND	0.50	mg/kg wet

LCS

Arsenic	50.8	7.94	mg/kg wet	52.30	97	80-120
Barium	190	7.94	mg/kg wet	145.0	131	69-131
Cadmium	60.4	1.59	mg/kg wet	71.60	84	80-120
Chromium	84.0	3.17	mg/kg wet	88.50	95	80-120
Lead	57.7	15.9	mg/kg wet	77.80	74	69-131
Selenium	80.6	15.9	mg/kg wet	81.10	99	80-120
Silver	130	1.59	mg/kg wet	114.0	114	80-120

LCS Dup

Arsenic	51.3	7.46	mg/kg wet	52.30	98	80-120	1	20	
Barium	147	7.46	mg/kg wet	145.0	101	69-131	25	20	D+
Cadmium	58.7	1.49	mg/kg wet	71.60	82	80-120	3	20	
Chromium	81.7	2.99	mg/kg wet	88.50	92	80-120	3	20	
Lead	56.0	14.9	mg/kg wet	77.80	72	69-131	3	20	
Selenium	80.4	14.9	mg/kg wet	81.10	99	80-120	0.3	20	
Silver	125	1.49	mg/kg wet	114.0	110	80-120	4	20	

Batch CI51406 - 245.1/7470A

Blank

Mercury	ND	0.033	mg/kg wet
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LCS

Mercury	10.6	1.38	mg/kg wet	9.700	110	80-120
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LCS Dup

Mercury	10.7	1.50	mg/kg wet	9.700	111	80-120	1	20
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5035/8260B Volatile Organic Compounds / Low Level

Batch CI51525 - 5035

Blank

1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethene	ND	0.0050	mg/kg wet
1,1-Dichloropropene	ND	0.0050	mg/kg wet
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1509304

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CI51525 - 5035

1,2,3-Trichloropropane	ND	0.0050	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet
1,2-Dibromoethane	ND	0.0050	mg/kg wet
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet
1,2-Dichloroethane	ND	0.0050	mg/kg wet
1,2-Dichloropropane	ND	0.0050	mg/kg wet
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet
1,3-Dichloropropane	ND	0.0050	mg/kg wet
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet
1,4-Dioxane	ND	0.100	mg/kg wet
1-Chlorohexane	ND	0.0050	mg/kg wet
2,2-Dichloropropane	ND	0.0050	mg/kg wet
2-Butanone	ND	0.0500	mg/kg wet
2-Chlorotoluene	ND	0.0050	mg/kg wet
2-Hexanone	ND	0.0500	mg/kg wet
4-Chlorotoluene	ND	0.0050	mg/kg wet
4-Isopropyltoluene	ND	0.0050	mg/kg wet
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet
Acetone	ND	0.0500	mg/kg wet
Benzene	ND	0.0050	mg/kg wet
Bromobenzene	ND	0.0050	mg/kg wet
Bromochloromethane	ND	0.0050	mg/kg wet
Bromodichloromethane	ND	0.0050	mg/kg wet
Bromoform	ND	0.0050	mg/kg wet
Bromomethane	ND	0.0100	mg/kg wet
Carbon Disulfide	ND	0.0050	mg/kg wet
Carbon Tetrachloride	ND	0.0050	mg/kg wet
Chlorobenzene	ND	0.0050	mg/kg wet
Chloroethane	ND	0.0100	mg/kg wet
Chloroform	ND	0.0050	mg/kg wet
Chloromethane	ND	0.0100	mg/kg wet
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet
Dibromochloromethane	ND	0.0050	mg/kg wet
Dibromomethane	ND	0.0050	mg/kg wet
Dichlorodifluoromethane	ND	0.0100	mg/kg wet
Diethyl Ether	ND	0.0050	mg/kg wet
Di-isopropyl ether	ND	0.0050	mg/kg wet
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet
Ethylbenzene	ND	0.0050	mg/kg wet
Hexachlorobutadiene	ND	0.0050	mg/kg wet
Isopropylbenzene	ND	0.0050	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1509304

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CI51525 - 5035

Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0250	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0541		mg/kg wet	0.05000		108	70-130			
Surrogate: 4-Bromofluorobenzene	0.0481		mg/kg wet	0.05000		96	70-130			
Surrogate: Dibromofluoromethane	0.0513		mg/kg wet	0.05000		103	70-130			
Surrogate: Toluene-d8	0.0513		mg/kg wet	0.05000		103	70-130			

LCS

1,1,1,2-Tetrachloroethane	0.0538	0.0050	mg/kg wet	0.05000		108	70-130			
1,1,1-Trichloroethane	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
1,1,2,2-Tetrachloroethane	0.0533	0.0050	mg/kg wet	0.05000		107	70-130			
1,1,2-Trichloroethane	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,1-Dichloroethane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
1,1-Dichloroethene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
1,1-Dichloropropene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
1,2,3-Trichlorobenzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
1,2,3-Trichloropropane	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
1,2,4-Trichlorobenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
1,2,4-Trimethylbenzene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
1,2-Dibromo-3-Chloropropane	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
1,2-Dibromoethane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
1,2-Dichlorobenzene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
1,2-Dichloroethane	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,2-Dichloropropane	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
1,3,5-Trimethylbenzene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
1,3-Dichlorobenzene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
1,3-Dichloropropane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1509304

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CI51525 - 5035

1,4-Dichlorobenzene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
1,4-Dioxane	1.10	0.100	mg/kg wet	1.000		110	70-130			
1-Chlorohexane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130			
2,2-Dichloropropane	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
2-Butanone	0.260	0.0500	mg/kg wet	0.2500		104	70-130			
2-Chlorotoluene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
2-Hexanone	0.279	0.0500	mg/kg wet	0.2500		112	70-130			
4-Chlorotoluene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
4-Isopropyltoluene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
4-Methyl-2-Pentanone	0.249	0.0500	mg/kg wet	0.2500		100	70-130			
Acetone	0.321	0.0500	mg/kg wet	0.2500		128	70-130			
Benzene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130			
Bromobenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
Bromochloromethane	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
Bromodichloromethane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			
Bromoform	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
Bromomethane	0.0511	0.0100	mg/kg wet	0.05000		102	70-130			
Carbon Disulfide	0.0497	0.0050	mg/kg wet	0.05000		99	70-130			
Carbon Tetrachloride	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
Chlorobenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
Chloroethane	0.0465	0.0100	mg/kg wet	0.05000		93	70-130			
Chloroform	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
Chloromethane	0.0468	0.0100	mg/kg wet	0.05000		94	70-130			
cis-1,2-Dichloroethene	0.0478	0.0050	mg/kg wet	0.05000		96	70-130			
cis-1,3-Dichloropropene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
Dibromochloromethane	0.0556	0.0050	mg/kg wet	0.05000		111	70-130			
Dibromomethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Dichlorodifluoromethane	0.0528	0.0100	mg/kg wet	0.05000		106	70-130			
Diethyl Ether	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
Di-isopropyl ether	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
Ethyl tertiary-butyl ether	0.0479	0.0050	mg/kg wet	0.05000		96	70-130			
Ethylbenzene	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
Hexachlorobutadiene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
Isopropylbenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
Methyl tert-Butyl Ether	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
Methylene Chloride	0.0546	0.0250	mg/kg wet	0.05000		109	70-130			
Naphthalene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
n-Butylbenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
n-Propylbenzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
sec-Butylbenzene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Styrene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
tert-Butylbenzene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
Tertiary-amyl methyl ether	0.0501	0.0050	mg/kg wet	0.05000		100	70-130			
Tetrachloroethene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130			
Tetrahydrofuran	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1509304

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CI51525 - 5035

Toluene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
trans-1,2-Dichloroethene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
trans-1,3-Dichloropropene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Trichloroethene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
Trichlorofluoromethane	0.0515	0.0050	mg/kg wet	0.05000		103	70-130			
Vinyl Acetate	0.0698	0.0050	mg/kg wet	0.05000		140	70-130			B+
Vinyl Chloride	0.0455	0.0100	mg/kg wet	0.05000		91	70-130			
Xylene O	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
Xylene P,M	0.103	0.0100	mg/kg wet	0.1000		103	70-130			
Xylenes (Total)	0.154	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0513		mg/kg wet	0.05000		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.0502		mg/kg wet	0.05000		100	70-130			
Surrogate: Dibromofluoromethane	0.0519		mg/kg wet	0.05000		104	70-130			
Surrogate: Toluene-d8	0.0488		mg/kg wet	0.05000		98	70-130			

LCS Dup

1,1,1,2-Tetrachloroethane	0.0529	0.0050	mg/kg wet	0.05000		106	70-130	2	25	
1,1,1-Trichloroethane	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	4	25	
1,1,2,2-Tetrachloroethane	0.0570	0.0050	mg/kg wet	0.05000		114	70-130	7	25	
1,1,2-Trichloroethane	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	7	25	
1,1-Dichloroethane	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	9	25	
1,1-Dichloroethene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	5	25	
1,1-Dichloropropene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	6	25	
1,2,3-Trichlorobenzene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	2	25	
1,2,3-Trichloropropane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	7	25	
1,2,4-Trichlorobenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130	2	25	
1,2,4-Trimethylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	3	25	
1,2-Dibromo-3-Chloropropane	0.0569	0.0050	mg/kg wet	0.05000		114	70-130	11	25	
1,2-Dibromoethane	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	1	25	
1,2-Dichlorobenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	1	25	
1,2-Dichloroethane	0.0551	0.0050	mg/kg wet	0.05000		110	70-130	10	25	
1,2-Dichloropropane	0.0551	0.0050	mg/kg wet	0.05000		110	70-130	9	25	
1,3,5-Trimethylbenzene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	1	25	
1,3-Dichlorobenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	0.9	25	
1,3-Dichloropropane	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	3	25	
1,4-Dichlorobenzene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130	1	25	
1,4-Dioxane	1.06	0.100	mg/kg wet	1.000		106	70-130	3	20	
1-Chlorohexane	0.0531	0.0050	mg/kg wet	0.05000		106	70-130	2	25	
2,2-Dichloropropane	0.0523	0.0050	mg/kg wet	0.05000		105	70-130	8	25	
2-Butanone	0.290	0.0500	mg/kg wet	0.2500		116	70-130	11	25	
2-Chlorotoluene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	3	25	
2-Hexanone	0.283	0.0500	mg/kg wet	0.2500		113	70-130	2	25	
4-Chlorotoluene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	4	25	
4-Isopropyltoluene	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	0.08	25	
4-Methyl-2-Pentanone	0.272	0.0500	mg/kg wet	0.2500		109	70-130	9	25	
Acetone	0.313	0.0500	mg/kg wet	0.2500		125	70-130	3	25	



CERTIFICATE OF ANALYSIS

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5035/8260B Volatile Organic Compounds / Low Level

Batch CI51525 - 5035

Benzene	0.0540	0.0050	mg/kg wet	0.05000		108	70-130	5	25	
Bromobenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	0.04	25	
Bromochloromethane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	3	25	
Bromodichloromethane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	5	25	
Bromoform	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	3	25	
Bromomethane	0.0545	0.0100	mg/kg wet	0.05000		109	70-130	7	25	
Carbon Disulfide	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	7	25	
Carbon Tetrachloride	0.0518	0.0050	mg/kg wet	0.05000		104	70-130	3	25	
Chlorobenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130	1	25	
Chloroethane	0.0498	0.0100	mg/kg wet	0.05000		100	70-130	7	25	
Chloroform	0.0532	0.0050	mg/kg wet	0.05000		106	70-130	7	25	
Chloromethane	0.0532	0.0100	mg/kg wet	0.05000		106	70-130	13	25	
cis-1,2-Dichloroethene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	6	25	
cis-1,3-Dichloropropene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	6	25	
Dibromochloromethane	0.0551	0.0050	mg/kg wet	0.05000		110	70-130	1	25	
Dibromomethane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	4	25	
Dichlorodifluoromethane	0.0562	0.0100	mg/kg wet	0.05000		112	70-130	6	25	
Diethyl Ether	0.0550	0.0050	mg/kg wet	0.05000		110	70-130	11	25	
Di-isopropyl ether	0.0556	0.0050	mg/kg wet	0.05000		111	70-130	11	25	
Ethyl tertiary-butyl ether	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	10	25	
Ethylbenzene	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	1	25	
Hexachlorobutadiene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	3	25	
Isopropylbenzene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
Methyl tert-Butyl Ether	0.0526	0.0050	mg/kg wet	0.05000		105	70-130	7	25	
Methylene Chloride	0.0579	0.0250	mg/kg wet	0.05000		116	70-130	6	25	
Naphthalene	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	0.7	25	
n-Butylbenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	4	25	
n-Propylbenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	4	25	
sec-Butylbenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	1	25	
Styrene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	0.4	25	
tert-Butylbenzene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	1	25	
Tertiary-amyl methyl ether	0.0536	0.0050	mg/kg wet	0.05000		107	70-130	7	25	
Tetrachloroethene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	5	25	
Tetrahydrofuran	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	7	25	
Toluene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	3	25	
trans-1,2-Dichloroethene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	6	25	
trans-1,3-Dichloropropene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	7	25	
Trichloroethene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	5	25	
Trichlorofluoromethane	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	5	25	
Vinyl Acetate	0.0786	0.0050	mg/kg wet	0.05000		157	70-130	12	25	B+
Vinyl Chloride	0.0503	0.0100	mg/kg wet	0.05000		101	70-130	10	25	
Xylene O	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
Xylene P,M	0.102	0.0100	mg/kg wet	0.1000		102	70-130	1	25	
Xylenes (Total)	0.152	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0575		mg/kg wet	0.05000		115	70-130			



CERTIFICATE OF ANALYSIS

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5035/8260B Volatile Organic Compounds / Low Level

Batch CI51525 - 5035

Surrogate: 4-Bromofluorobenzene	0.0520		mg/kg wet	0.05000		104	70-130			
Surrogate: Dibromofluoromethane	0.0551		mg/kg wet	0.05000		110	70-130			
Surrogate: Toluene-d8	0.0496		mg/kg wet	0.05000		99	70-130			

8100M Total Petroleum Hydrocarbons

Batch CI51122 - 3546

Blank

Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							

Surrogate: O-Terphenyl	5.02		mg/kg wet	5.000		100	40-140			
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LCS

Decane (C10)	2.2	0.2	mg/kg wet	2.500		89	40-140			
Docosane (C22)	2.7	0.2	mg/kg wet	2.500		106	40-140			
Dodecane (C12)	2.6	0.2	mg/kg wet	2.500		104	40-140			
Eicosane (C20)	2.6	0.2	mg/kg wet	2.500		105	40-140			
Hexacosane (C26)	2.7	0.2	mg/kg wet	2.500		108	40-140			
Hexadecane (C16)	2.7	0.2	mg/kg wet	2.500		109	40-140			
Nonadecane (C19)	2.7	0.2	mg/kg wet	2.500		109	40-140			
Nonane (C9)	1.9	0.2	mg/kg wet	2.500		78	30-140			
Octacosane (C28)	2.6	0.2	mg/kg wet	2.500		105	40-140			
Octadecane (C18)	2.6	0.2	mg/kg wet	2.500		105	40-140			
Tetracosane (C24)	2.5	0.2	mg/kg wet	2.500		100	40-140			
Tetradecane (C14)	2.7	0.2	mg/kg wet	2.500		107	40-140			
Total Petroleum Hydrocarbons	36.1	37.5	mg/kg wet	35.00		103	40-140			
Triacontane (C30)	2.6	0.2	mg/kg wet	2.500		105	40-140			

Surrogate: O-Terphenyl	5.31		mg/kg wet	5.000		106	40-140			
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LCS Dup

Decane (C10)	2.1	0.2	mg/kg wet	2.500		83	40-140	6	25	
Docosane (C22)	2.5	0.2	mg/kg wet	2.500		100	40-140	6	25	
Dodecane (C12)	2.4	0.2	mg/kg wet	2.500		97	40-140	7	25	



CERTIFICATE OF ANALYSIS

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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8100M Total Petroleum Hydrocarbons										
Batch CI51122 - 3546										
Eicosane (C20)	2.5	0.2	mg/kg wet	2.500		101	40-140	4	25	
Hexacosane (C26)	2.6	0.2	mg/kg wet	2.500		103	40-140	5	25	
Hexadecane (C16)	2.6	0.2	mg/kg wet	2.500		104	40-140	5	25	
Nonadecane (C19)	2.6	0.2	mg/kg wet	2.500		104	40-140	5	25	
Nonane (C9)	1.9	0.2	mg/kg wet	2.500		75	30-140	4	25	
Octacosane (C28)	2.5	0.2	mg/kg wet	2.500		101	40-140	4	25	
Octadecane (C18)	2.5	0.2	mg/kg wet	2.500		101	40-140	5	25	
Tetracosane (C24)	2.4	0.2	mg/kg wet	2.500		95	40-140	5	25	
Tetradecane (C14)	2.5	0.2	mg/kg wet	2.500		102	40-140	5	25	
Total Petroleum Hydrocarbons	34.6	37.5	mg/kg wet	35.00		99	40-140	4	25	
Triacotane (C30)	2.5	0.2	mg/kg wet	2.500		101	40-140	5	25	

Surrogate: O-Terphenyl 4.97 mg/kg wet 5.000 99 40-140

8270D Semi-Volatile Organic Compounds

Batch CI51410 - 3546										
Blank										
1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,3,4,6-Tetrachlorophenol	ND	1.67	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitroaniline	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3'-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
3-Nitroaniline	ND	0.333	mg/kg wet							
4,6-Dinitro-2-Methylphenol	ND	1.67	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloro-3-Methylphenol	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Chloro-phenyl-phenyl ether	ND	0.333	mg/kg wet							
4-Nitroaniline	ND	0.333	mg/kg wet							



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8270D Semi-Volatile Organic Compounds

Batch CI51410 - 3546

4-Nitrophenol	ND	1.67	mg/kg wet
Acenaphthene	ND	0.333	mg/kg wet
Acenaphthylene	ND	0.333	mg/kg wet
Acetophenone	ND	0.667	mg/kg wet
Aniline	ND	0.667	mg/kg wet
Anthracene	ND	0.333	mg/kg wet
Azobenzene	ND	0.333	mg/kg wet
Benzo(a)anthracene	ND	0.333	mg/kg wet
Benzo(a)pyrene	ND	0.167	mg/kg wet
Benzo(b)fluoranthene	ND	0.333	mg/kg wet
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet
Benzo(k)fluoranthene	ND	0.333	mg/kg wet
Benzoic Acid	ND	1.67	mg/kg wet
Benzyl Alcohol	ND	0.333	mg/kg wet
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet
Butylbenzylphthalate	ND	0.333	mg/kg wet
Carbazole	ND	0.333	mg/kg wet
Chrysene	ND	0.167	mg/kg wet
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet
Dibenzofuran	ND	0.333	mg/kg wet
Diethylphthalate	ND	0.333	mg/kg wet
Dimethylphthalate	ND	0.333	mg/kg wet
Di-n-butylphthalate	ND	0.333	mg/kg wet
Di-n-octylphthalate	ND	0.333	mg/kg wet
Fluoranthene	ND	0.333	mg/kg wet
Fluorene	ND	0.333	mg/kg wet
Hexachlorobenzene	ND	0.167	mg/kg wet
Hexachlorobutadiene	ND	0.333	mg/kg wet
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet
Hexachloroethane	ND	0.333	mg/kg wet
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet
Isophorone	ND	0.333	mg/kg wet
Naphthalene	ND	0.333	mg/kg wet
Nitrobenzene	ND	0.333	mg/kg wet
N-Nitrosodimethylamine	ND	0.333	mg/kg wet
N-Nitroso-Di-n-Propylamine	ND	0.333	mg/kg wet
N-nitrosodiphenylamine	ND	0.333	mg/kg wet
Pentachlorophenol	ND	1.67	mg/kg wet
Phenanthrene	ND	0.333	mg/kg wet
Phenol	ND	0.333	mg/kg wet
Pyrene	ND	0.333	mg/kg wet
Pyridine	ND	1.67	mg/kg wet



CERTIFICATE OF ANALYSIS

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Quality Control Data

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8270D Semi-Volatile Organic Compounds

Batch CI51410 - 3546

Surrogate: 1,2-Dichlorobenzene-d4	2.49		mg/kg wet	3.333		75	30-130			
Surrogate: 2,4,6-Tribromophenol	3.45		mg/kg wet	5.000		69	30-130			
Surrogate: 2-Chlorophenol-d4	3.76		mg/kg wet	5.000		75	30-130			
Surrogate: 2-Fluorobiphenyl	2.52		mg/kg wet	3.333		76	30-130			
Surrogate: 2-Fluorophenol	3.96		mg/kg wet	5.000		79	30-130			
Surrogate: Nitrobenzene-d5	2.59		mg/kg wet	3.333		78	30-130			
Surrogate: Phenol-d6	4.04		mg/kg wet	5.000		81	30-130			
Surrogate: p-Terphenyl-d14	2.87		mg/kg wet	3.333		86	30-130			

LCS

1,1-Biphenyl	2.72	0.333	mg/kg wet	3.333		82	40-140			
1,2,4-Trichlorobenzene	2.44	0.333	mg/kg wet	3.333		73	40-140			
1,2-Dichlorobenzene	2.41	0.333	mg/kg wet	3.333		72	40-140			
1,3-Dichlorobenzene	2.37	0.333	mg/kg wet	3.333		71	40-140			
1,4-Dichlorobenzene	2.33	0.333	mg/kg wet	3.333		70	40-140			
2,3,4,6-Tetrachlorophenol	2.48	1.67	mg/kg wet	3.333		74	30-130			
2,4,5-Trichlorophenol	3.05	0.333	mg/kg wet	3.333		92	30-130			
2,4,6-Trichlorophenol	3.04	0.333	mg/kg wet	3.333		91	30-130			
2,4-Dichlorophenol	2.67	0.333	mg/kg wet	3.333		80	30-130			
2,4-Dimethylphenol	2.79	0.333	mg/kg wet	3.333		84	30-130			
2,4-Dinitrophenol	2.56	1.67	mg/kg wet	3.333		77	30-130			
2,4-Dinitrotoluene	3.29	0.333	mg/kg wet	3.333		99	40-140			
2,6-Dinitrotoluene	2.96	0.333	mg/kg wet	3.333		89	40-140			
2-Chloronaphthalene	2.50	0.333	mg/kg wet	3.333		75	40-140			
2-Chlorophenol	2.46	0.333	mg/kg wet	3.333		74	30-130			
2-Methylnaphthalene	2.42	0.333	mg/kg wet	3.333		73	40-140			
2-Methylphenol	2.61	0.333	mg/kg wet	3.333		78	30-130			
2-Nitroaniline	2.54	0.333	mg/kg wet	3.333		76	40-140			
2-Nitrophenol	2.60	0.333	mg/kg wet	3.333		78	30-130			
3,3'-Dichlorobenzidine	2.53	0.667	mg/kg wet	3.333		76	40-140			
3+4-Methylphenol	5.25	0.667	mg/kg wet	6.667		79	30-130			
3-Nitroaniline	3.24	0.333	mg/kg wet	3.333		97	40-140			
4,6-Dinitro-2-Methylphenol	2.87	1.67	mg/kg wet	3.333		86	30-130			
4-Bromophenyl-phenylether	3.08	0.333	mg/kg wet	3.333		92	40-140			
4-Chloro-3-Methylphenol	2.87	0.333	mg/kg wet	3.333		86	30-130			
4-Chloroaniline	2.36	0.667	mg/kg wet	3.333		71	40-140			
4-Chloro-phenyl-phenyl ether	2.96	0.333	mg/kg wet	3.333		89	40-140			
4-Nitroaniline	3.46	0.333	mg/kg wet	3.333		104	40-140			
4-Nitrophenol	2.62	1.67	mg/kg wet	3.333		79	30-130			
Acenaphthene	2.85	0.333	mg/kg wet	3.333		86	40-140			
Acenaphthylene	2.77	0.333	mg/kg wet	3.333		83	40-140			
Acetophenone	2.57	0.667	mg/kg wet	3.333		77	40-140			
Aniline	2.13	0.667	mg/kg wet	3.333		64	40-140			
Anthracene	3.12	0.333	mg/kg wet	3.333		94	40-140			
Azobenzene	3.08	0.333	mg/kg wet	3.333		92	40-140			
Benzo(a)anthracene	3.00	0.333	mg/kg wet	3.333		90	40-140			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1509304

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CI51410 - 3546

Benzo(a)pyrene	3.15	0.167	mg/kg wet	3.333		94	40-140			
Benzo(b)fluoranthene	3.10	0.333	mg/kg wet	3.333		93	40-140			
Benzo(g,h,i)perylene	2.90	0.333	mg/kg wet	3.333		87	40-140			
Benzo(k)fluoranthene	3.16	0.333	mg/kg wet	3.333		95	40-140			
Benzoic Acid	2.52	1.67	mg/kg wet	3.333		76	40-140			
Benzyl Alcohol	2.35	0.333	mg/kg wet	3.333		70	40-140			
bis(2-Chloroethoxy)methane	2.62	0.333	mg/kg wet	3.333		79	40-140			
bis(2-Chloroethyl)ether	2.73	0.333	mg/kg wet	3.333		82	40-140			
bis(2-chloroisopropyl)Ether	2.40	0.333	mg/kg wet	3.333		72	40-140			
bis(2-Ethylhexyl)phthalate	3.05	0.333	mg/kg wet	3.333		91	40-140			
Butylbenzylphthalate	3.01	0.333	mg/kg wet	3.333		90	40-140			
Carbazole	3.21	0.333	mg/kg wet	3.333		96	40-140			
Chrysene	3.11	0.167	mg/kg wet	3.333		93	40-140			
Dibenzo(a,h)Anthracene	2.98	0.167	mg/kg wet	3.333		89	40-140			
Dibenzofuran	2.79	0.333	mg/kg wet	3.333		84	40-140			
Diethylphthalate	3.02	0.333	mg/kg wet	3.333		91	40-140			
Dimethylphthalate	2.96	0.333	mg/kg wet	3.333		89	40-140			
Di-n-butylphthalate	3.15	0.333	mg/kg wet	3.333		95	40-140			
Di-n-octylphthalate	3.02	0.333	mg/kg wet	3.333		91	40-140			
Fluoranthene	3.07	0.333	mg/kg wet	3.333		92	40-140			
Fluorene	2.99	0.333	mg/kg wet	3.333		90	40-140			
Hexachlorobenzene	2.86	0.167	mg/kg wet	3.333		86	40-140			
Hexachlorobutadiene	2.32	0.333	mg/kg wet	3.333		70	40-140			
Hexachlorocyclopentadiene	2.59	1.67	mg/kg wet	3.333		78	40-140			
Hexachloroethane	2.30	0.333	mg/kg wet	3.333		69	40-140			
Indeno(1,2,3-cd)Pyrene	2.96	0.333	mg/kg wet	3.333		89	40-140			
Isophorone	2.55	0.333	mg/kg wet	3.333		76	40-140			
Naphthalene	2.45	0.333	mg/kg wet	3.333		74	40-140			
Nitrobenzene	2.47	0.333	mg/kg wet	3.333		74	40-140			
N-Nitrosodimethylamine	2.49	0.333	mg/kg wet	3.333		75	40-140			
N-Nitroso-Di-n-Propylamine	2.53	0.333	mg/kg wet	3.333		76	40-140			
N-nitrosodiphenylamine	3.02	0.333	mg/kg wet	3.333		91	40-140			
Pentachlorophenol	3.02	1.67	mg/kg wet	3.333		91	30-130			
Phenanthrene	3.04	0.333	mg/kg wet	3.333		91	40-140			
Phenol	2.45	0.333	mg/kg wet	3.333		74	30-130			
Pyrene	3.07	0.333	mg/kg wet	3.333		92	40-140			
Pyridine	2.11	1.67	mg/kg wet	3.333		63	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	2.22		mg/kg wet	3.333		67	30-130			
Surrogate: 2,4,6-Tribromophenol	3.91		mg/kg wet	5.000		78	30-130			
Surrogate: 2-Chlorophenol-d4	3.49		mg/kg wet	5.000		70	30-130			
Surrogate: 2-Fluorobiphenyl	2.47		mg/kg wet	3.333		74	30-130			
Surrogate: 2-Fluorophenol	3.53		mg/kg wet	5.000		71	30-130			
Surrogate: Nitrobenzene-d5	2.36		mg/kg wet	3.333		71	30-130			
Surrogate: Phenol-d6	3.74		mg/kg wet	5.000		75	30-130			
Surrogate: p-Terphenyl-d14	2.72		mg/kg wet	3.333		82	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1509304

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CI51410 - 3546

LCS Dup

1,1-Biphenyl	3.12	0.333	mg/kg wet	3.333		94	40-140	14	30	
1,2,4-Trichlorobenzene	2.96	0.333	mg/kg wet	3.333		89	40-140	19	30	
1,2-Dichlorobenzene	2.94	0.333	mg/kg wet	3.333		88	40-140	20	30	
1,3-Dichlorobenzene	2.89	0.333	mg/kg wet	3.333		87	40-140	20	30	
1,4-Dichlorobenzene	2.81	0.333	mg/kg wet	3.333		84	40-140	19	30	
2,3,4,6-Tetrachlorophenol	2.65	1.67	mg/kg wet	3.333		80	30-130	7	30	
2,4,5-Trichlorophenol	3.35	0.333	mg/kg wet	3.333		101	30-130	9	30	
2,4,6-Trichlorophenol	3.40	0.333	mg/kg wet	3.333		102	30-130	11	30	
2,4-Dichlorophenol	3.16	0.333	mg/kg wet	3.333		95	30-130	17	30	
2,4-Dimethylphenol	3.29	0.333	mg/kg wet	3.333		99	30-130	16	30	
2,4-Dinitrophenol	2.73	1.67	mg/kg wet	3.333		82	30-130	6	30	
2,4-Dinitrotoluene	3.54	0.333	mg/kg wet	3.333		106	40-140	7	30	
2,6-Dinitrotoluene	3.18	0.333	mg/kg wet	3.333		95	40-140	7	30	
2-Chloronaphthalene	2.88	0.333	mg/kg wet	3.333		86	40-140	14	30	
2-Chlorophenol	2.97	0.333	mg/kg wet	3.333		89	30-130	19	30	
2-Methylnaphthalene	2.89	0.333	mg/kg wet	3.333		87	40-140	18	30	
2-Methylphenol	3.11	0.333	mg/kg wet	3.333		93	30-130	18	30	
2-Nitroaniline	2.73	0.333	mg/kg wet	3.333		82	40-140	7	30	
2-Nitrophenol	3.31	0.333	mg/kg wet	3.333		99	30-130	24	30	
3,3'-Dichlorobenzidine	2.63	0.667	mg/kg wet	3.333		79	40-140	4	30	
3+4-Methylphenol	6.17	0.667	mg/kg wet	6.667		93	30-130	16	30	
3-Nitroaniline	3.45	0.333	mg/kg wet	3.333		103	40-140	6	30	
4,6-Dinitro-2-Methylphenol	3.13	1.67	mg/kg wet	3.333		94	30-130	9	30	
4-Bromophenyl-phenylether	3.34	0.333	mg/kg wet	3.333		100	40-140	8	30	
4-Chloro-3-Methylphenol	3.15	0.333	mg/kg wet	3.333		95	30-130	9	30	
4-Chloroaniline	2.78	0.667	mg/kg wet	3.333		83	40-140	16	30	
4-Chloro-phenyl-phenyl ether	3.21	0.333	mg/kg wet	3.333		96	40-140	8	30	
4-Nitroaniline	3.67	0.333	mg/kg wet	3.333		110	40-140	6	30	
4-Nitrophenol	2.83	1.67	mg/kg wet	3.333		85	30-130	8	30	
Acenaphthene	3.17	0.333	mg/kg wet	3.333		95	40-140	11	30	
Acenaphthylene	3.08	0.333	mg/kg wet	3.333		92	40-140	10	30	
Acetophenone	3.09	0.667	mg/kg wet	3.333		93	40-140	19	30	
Aniline	2.60	0.667	mg/kg wet	3.333		78	40-140	20	30	
Anthracene	3.33	0.333	mg/kg wet	3.333		100	40-140	6	30	
Azobenzene	3.33	0.333	mg/kg wet	3.333		100	40-140	8	30	
Benzo(a)anthracene	3.20	0.333	mg/kg wet	3.333		96	40-140	7	30	
Benzo(a)pyrene	3.41	0.167	mg/kg wet	3.333		102	40-140	8	30	
Benzo(b)fluoranthene	3.37	0.333	mg/kg wet	3.333		101	40-140	8	30	
Benzo(g,h,i)perylene	3.09	0.333	mg/kg wet	3.333		93	40-140	6	30	
Benzo(k)fluoranthene	3.39	0.333	mg/kg wet	3.333		102	40-140	7	30	
Benzoic Acid	2.82	1.67	mg/kg wet	3.333		84	40-140	11	30	
Benzyl Alcohol	2.75	0.333	mg/kg wet	3.333		83	40-140	16	30	
bis(2-Chloroethoxy)methane	3.18	0.333	mg/kg wet	3.333		95	40-140	19	30	
bis(2-Chloroethyl)ether	3.33	0.333	mg/kg wet	3.333		100	40-140	20	30	



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1509304

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CI51410 - 3546										
bis(2-chloroisopropyl)Ether	2.94	0.333	mg/kg wet	3.333		88	40-140	20	30	
bis(2-Ethylhexyl)phthalate	3.32	0.333	mg/kg wet	3.333		100	40-140	8	30	
Butylbenzylphthalate	3.27	0.333	mg/kg wet	3.333		98	40-140	8	30	
Carbazole	3.44	0.333	mg/kg wet	3.333		103	40-140	7	30	
Chrysene	3.29	0.167	mg/kg wet	3.333		99	40-140	6	30	
Dibenzo(a,h)Anthracene	3.21	0.167	mg/kg wet	3.333		96	40-140	7	30	
Dibenzofuran	3.05	0.333	mg/kg wet	3.333		91	40-140	9	30	
Diethylphthalate	3.25	0.333	mg/kg wet	3.333		97	40-140	7	30	
Dimethylphthalate	3.19	0.333	mg/kg wet	3.333		96	40-140	8	30	
Di-n-butylphthalate	3.44	0.333	mg/kg wet	3.333		103	40-140	9	30	
Di-n-octylphthalate	3.32	0.333	mg/kg wet	3.333		100	40-140	9	30	
Fluoranthene	3.27	0.333	mg/kg wet	3.333		98	40-140	7	30	
Fluorene	3.23	0.333	mg/kg wet	3.333		97	40-140	8	30	
Hexachlorobenzene	3.07	0.167	mg/kg wet	3.333		92	40-140	7	30	
Hexachlorobutadiene	2.89	0.333	mg/kg wet	3.333		87	40-140	22	30	
Hexachlorocyclopentadiene	3.27	1.67	mg/kg wet	3.333		98	40-140	23	30	
Hexachloroethane	2.79	0.333	mg/kg wet	3.333		84	40-140	19	30	
Indeno(1,2,3-cd)Pyrene	3.18	0.333	mg/kg wet	3.333		95	40-140	7	30	
Isophorone	3.02	0.333	mg/kg wet	3.333		91	40-140	17	30	
Naphthalene	2.96	0.333	mg/kg wet	3.333		89	40-140	19	30	
Nitrobenzene	3.00	0.333	mg/kg wet	3.333		90	40-140	20	30	
N-Nitrosodimethylamine	2.85	0.333	mg/kg wet	3.333		85	40-140	13	30	
N-Nitroso-Di-n-Propylamine	2.99	0.333	mg/kg wet	3.333		90	40-140	17	30	
N-nitrosodiphenylamine	3.26	0.333	mg/kg wet	3.333		98	40-140	7	30	
Pentachlorophenol	3.29	1.67	mg/kg wet	3.333		99	30-130	9	30	
Phenanthrene	3.25	0.333	mg/kg wet	3.333		97	40-140	7	30	
Phenol	2.95	0.333	mg/kg wet	3.333		88	30-130	18	30	
Pyrene	3.27	0.333	mg/kg wet	3.333		98	40-140	6	30	
Pyridine	2.37	1.67	mg/kg wet	3.333		71	40-140	12	30	
Surrogate: 1,2-Dichlorobenzene-d4	2.61		mg/kg wet	3.333		78	30-130			
Surrogate: 2,4,6-Tribromophenol	4.11		mg/kg wet	5.000		82	30-130			
Surrogate: 2-Chlorophenol-d4	4.10		mg/kg wet	5.000		82	30-130			
Surrogate: 2-Fluorobiphenyl	2.73		mg/kg wet	3.333		82	30-130			
Surrogate: 2-Fluorophenol	4.13		mg/kg wet	5.000		83	30-130			
Surrogate: Nitrobenzene-d5	2.79		mg/kg wet	3.333		84	30-130			
Surrogate: Phenol-d6	4.34		mg/kg wet	5.000		87	30-130			
Surrogate: p-Terphenyl-d14	2.86		mg/kg wet	3.333		86	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1509304

Notes and Definitions

- Z-10a Soil pH measured in water at 21.6 °C.
- Z-10 Soil pH measured in water at 21.5 °C.
- U Analyte included in the analysis, but not detected
- S+ Surrogate recovery(ies) above upper control limit (S+).
- Q Calibration required quadratic regression (Q).
- D+ Relative percent difference for duplicate is outside of criteria (D+).
- D Diluted.
- CD+ Continuing Calibration %Diff/Drift is above control limit (CD+).
- CD- Continuing Calibration %Diff/Drift is below control limit (CD-).
- B+ Blank Spike recovery is above upper control limit (B+).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1509304

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

Sample and Cooler Receipt Checklist

Client: Charter Environmental
 Client Project ID: _____
 Shipped/Delivered Via: ESS-Courier Other DJ 9/14/15 Days For Project: 2 Day

ESS Project ID: 15090304
 Date Project Due: 9/15/15

Items to be checked upon receipt:

- | | | | |
|---|-------------------------------|---|---|
| 1. Air Bill Manifest Present? | <input type="checkbox"/> * No | 10. Are the samples properly preserved? | <input type="checkbox"/> Yes |
| Air No.: | | 11. Proper sample containers used? | <input type="checkbox"/> Yes |
| 2. Were Custody Seals Present? | <input type="checkbox"/> No | 12. Any air bubbles in the VOA vials? | <input type="checkbox"/> N/A |
| 3. Were Custody Seals Intact? | <input type="checkbox"/> N/A | 13. Holding times exceeded? | <input type="checkbox"/> No |
| 4. Is Radiation count < 100 CPM? | <input type="checkbox"/> Yes | 14. Sufficient sample volumes? | <input type="checkbox"/> Yes |
| 5. Is a cooler present? | <input type="checkbox"/> Yes | 15. Any Subcontracting needed? | <input type="checkbox"/> No |
| <input type="text" value="Cooler Temp: 4.6"/> | | 16. Are ESS labels on correct containers? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| <input type="text" value="Iced With: Ice"/> | | 17. Were samples received intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 6. Was COC included with samples? | <input type="checkbox"/> Yes | ESS Sample IDs: _____ | |
| 7. Was COC signed and dated by client? | <input type="checkbox"/> Yes | Sub Lab: _____ | |
| 8. Does the COC match the sample | <input type="checkbox"/> Yes | Analysis: _____ | |
| 9. Is COC complete and correct? | <input type="checkbox"/> Yes | TAT: _____ | |

18. Was there need to call project manager to discuss status? If yes, please explain.
 LL Vials frozen 9/11/14 @ 1830 LAS

Who was called?: _____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	40 ml - VOA	1	MeOH
1	Yes	40 ml - VOA	2	other
1	Yes	8 oz Soil Jar	1	NP
2	Yes	40 ml - VOA	1	MeOH
2	Yes	40 ml - VOA	2	other
2	Yes	8 oz Soil Jar	1	NP
3	Yes	40 ml - VOA	1	MeOH
3	Yes	40 ml - VOA	2	other
3	Yes	8 oz Soil Jar	1	NP
4	Yes	40 ml - VOA	1	MeOH
4	Yes	40 ml - VOA	2	other
4	Yes	8 oz Soil Jar	1	NP
5	Yes	40 ml - VOA	1	MeOH
5	Yes	40 ml - VOA	2	other
5	Yes	8 oz Soil Jar	1	NP

Completed By: [Signature]
 Reviewed By: [Signature]

Date/Time: 9/11/15 1745
 Date/Time: 9/11/15 1815



CERTIFICATE OF ANALYSIS

Paul J. Leofanti, Jr.
Charter Environmental, Inc.
500 Harrison Avenue, Suite 4R
Boston, MA 02118

RE: Textron Providence (74-15-0002.134)
ESS Laboratory Work Order Number: 1510057

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED

By ESS Laboratory at 2:22 pm, Oct 09, 2015

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

SAMPLE RECEIPT

The following samples were received on October 02, 2015 for the analyses specified on the enclosed Chain of Custody Record.

Low Level VOA vials were frozen by ESS Laboratory on October 2, 2015 at 17:30.

The cooler temperature was not within the acceptance limit of <6°C, however, samples were delivered on ice.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1510057-01	Material S&S Common Borrow 1	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1510057-02	Material S&S Common Borrow 2	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1510057-03	Material S&S Common Borrow 3	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1510057-04	Material S&S Common Borrow 4	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045
1510057-05	Material S&S Common Borrow 5	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D, 9045



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

- 1510057-05 Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).
1,4-Dichlorobenzene-D4 (44% @ 50-200%), Chlorobenzene-d5 (49% @ 50-200%), Pentafluorobenzene (43% @ 50-200%)
- 1510057-05RE1 Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).
1,4-Dichlorobenzene-D4 (21% @ 50-200%), Chlorobenzene-d5 (23% @ 50-200%), Pentafluorobenzene (20% @ 50-200%)
- 1510057-05RE1 Surrogate recovery(ies) above upper control limit (S+).
1,2-Dichloroethane-d4 (146% @ 70-130%)
- CJ50313-BS1 Blank Spike recovery is above upper control limit (B+).
Vinyl Acetate (151% @ 70-130%)
- CJ50313-BSD1 Blank Spike recovery is above upper control limit (B+).
Vinyl Acetate (150% @ 70-130%)
- CJ50520-BS1 Blank Spike recovery is above upper control limit (B+).
Acetone (146% @ 70-130%), Vinyl Acetate (158% @ 70-130%)
- CJ50520-BSD1 Blank Spike recovery is above upper control limit (B+).
Vinyl Acetate (166% @ 70-130%)
- CYJ0038-CCV1 Continuing Calibration %Diff/Drift is below control limit (CD-).
1,2-Dichloropropane (22% @ 20%)

8100M Total Petroleum Hydrocarbons

- CYJ0063-CCV3 Continuing Calibration %Diff/Drift is above control limit (CD+).
Total Petroleum Hydrocarbons (21% @ 20%)

8270D Semi-Volatile Organic Compounds

- CYJ0066-CCV1 Calibration required quadratic regression (Q).
2,4-Dinitrophenol (101% @ 80-120%), Benzoic Acid (76% @ 80-120%)
- CYJ0066-CCV1 Continuing Calibration %Diff/Drift is above control limit (CD+).
Aniline (32% @ 20%), Azobenzene (24% @ 20%), bis(2-Chloroethyl)ether (29% @ 20%), Di-n-octylphthalate (22% @ 20%)
- CYJ0066-CCV1 Continuing Calibration %Diff/Drift is below control limit (CD-).
Benzoic Acid (24% @ 20%), N-Nitrosodimethylamine (22% @ 20%), Pyridine (29% @ 20%)
- CYJ0076-CCV1 Calibration required quadratic regression (Q).
2,4-Dinitrophenol (106% @ 80-120%), Benzoic Acid (81% @ 80-120%)
- CYJ0076-CCV1 Continuing Calibration %Diff/Drift is above control limit (CD+).
bis(2-Chloroethyl)ether (30% @ 20%)
- CYJ0076-CCV1 Continuing Calibration %Diff/Drift is below control limit (CD-).
Hexachlorocyclopentadiene (30% @ 20%), N-Nitrosodimethylamine (26% @ 20%), Pyridine (28% @ 20%)

Total Metals

- CJ50535-BSD1 Relative percent difference for duplicate is outside of criteria (D+).



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Arsenic (32% @ 20%)

ESS Laboratory Work Order: 1510057

No other observations noted.

End of Project Narrative.

DATA USABILITY LINKS

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015D - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 1
Date Sampled: 10/02/15 12:15
Percent Solids: 99

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.50)		6010C		1	KJK	10/06/15 20:40	2.02	100	CJ50535
Barium	5.50 (2.50)		6010C		1	KJK	10/06/15 20:40	2.02	100	CJ50535
Cadmium	ND (0.50)		6010C		1	KJK	10/06/15 20:40	2.02	100	CJ50535
Chromium	1.71 (1.00)		6010C		1	KJK	10/06/15 20:40	2.02	100	CJ50535
Lead	ND (5.01)		6010C		1	KJK	10/06/15 20:40	2.02	100	CJ50535
Mercury	ND (0.031)		7471B		1	PJP	10/06/15 13:38	0.64	40	CJ50536
Selenium	ND (5.01)		6010C		1	KJK	10/06/15 20:40	2.02	100	CJ50535
Silver	ND (0.50)		6010C		1	KJK	10/06/15 20:40	2.02	100	CJ50535



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 1
Date Sampled: 10/02/15 12:15
Percent Solids: 99
Initial Volume: 6.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,1,1-Trichloroethane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,1,2,2-Tetrachloroethane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,1,2-Trichloroethane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,1-Dichloroethane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,1-Dichloroethene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,1-Dichloropropene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,2,3-Trichlorobenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,2,3-Trichloropropane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,2,4-Trichlorobenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,2,4-Trimethylbenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,2-Dibromo-3-Chloropropane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,2-Dibromoethane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,2-Dichlorobenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,2-Dichloroethane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,2-Dichloropropane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,3,5-Trimethylbenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,3-Dichlorobenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,3-Dichloropropane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,4-Dichlorobenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1,4-Dioxane	ND (0.0790)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
1-Chlorohexane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
2,2-Dichloropropane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
2-Butanone	ND (0.0395)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
2-Chlorotoluene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
2-Hexanone	ND (0.0395)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
4-Chlorotoluene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
4-Isopropyltoluene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
4-Methyl-2-Pentanone	ND (0.0395)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Acetone	ND (0.0395)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Benzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Bromobenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 1
Date Sampled: 10/02/15 12:15
Percent Solids: 99
Initial Volume: 6.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Bromodichloromethane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Bromoform	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Bromomethane	ND (0.0079)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Carbon Disulfide	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Carbon Tetrachloride	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Chlorobenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Chloroethane	ND (0.0079)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Chloroform	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Chloromethane	ND (0.0079)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
cis-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
cis-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Dibromochloromethane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Dibromomethane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Dichlorodifluoromethane	ND (0.0079)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Diethyl Ether	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Di-isopropyl ether	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Ethyl tertiary-butyl ether	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Ethylbenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Hexachlorobutadiene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Isopropylbenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Methyl tert-Butyl Ether	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Methylene Chloride	ND (0.0198)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Naphthalene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
n-Butylbenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
n-Propylbenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
sec-Butylbenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Styrene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
tert-Butylbenzene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Tertiary-amyl methyl ether	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Tetrachloroethene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Tetrahydrofuran	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 1
Date Sampled: 10/02/15 12:15
Percent Solids: 99
Initial Volume: 6.4
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
trans-1,2-Dichloroethene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
trans-1,3-Dichloropropene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Trichloroethene	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Trichlorofluoromethane	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Vinyl Acetate	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Vinyl Chloride	ND (0.0079)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Xylene O	ND (0.0040)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Xylene P,M	ND (0.0079)		8260B Low		1	10/04/15 21:05	CYJ0046	CJ50520
Xylenes (Total)	ND (0.0079)		8260B Low		1	10/04/15 21:05		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>130 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>83 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>99 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>92 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 1
Date Sampled: 10/02/15 12:15
Percent Solids: 99
Initial Volume: 19.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ZLC
Prepared: 10/2/15 18:05

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (39.3)		8100M		1	10/05/15 19:53	CYJ0063	CJ50214
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>78 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 1
Date Sampled: 10/02/15 12:15
Percent Solids: 99
Initial Volume: 15.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
1,2,4-Trichlorobenzene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
1,2-Dichlorobenzene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
1,3-Dichlorobenzene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
1,4-Dichlorobenzene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2,3,4,6-Tetrachlorophenol	ND (1.59)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2,4,5-Trichlorophenol	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2,4,6-Trichlorophenol	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2,4-Dichlorophenol	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2,4-Dimethylphenol	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2,4-Dinitrophenol	ND (1.59)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2,4-Dinitrotoluene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2,6-Dinitrotoluene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2-Chloronaphthalene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2-Chlorophenol	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2-Methylnaphthalene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2-Methylphenol	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2-Nitroaniline	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
2-Nitrophenol	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
3,3'-Dichlorobenzidine	ND (0.637)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
3+4-Methylphenol	ND (0.637)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
3-Nitroaniline	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
4,6-Dinitro-2-Methylphenol	ND (1.59)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
4-Bromophenyl-phenylether	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
4-Chloro-3-Methylphenol	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
4-Chloroaniline	ND (0.637)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
4-Chloro-phenyl-phenyl ether	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
4-Nitroaniline	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
4-Nitrophenol	ND (1.59)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Acenaphthene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Acenaphthylene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Acetophenone	ND (0.637)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 1
Date Sampled: 10/02/15 12:15
Percent Solids: 99
Initial Volume: 15.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.637)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Anthracene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Azobenzene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Benzo(a)anthracene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Benzo(a)pyrene	ND (0.159)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Benzo(b)fluoranthene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Benzo(g,h,i)perylene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Benzo(k)fluoranthene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Benzoic Acid	ND (1.59)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Benzyl Alcohol	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
bis(2-Chloroethoxy)methane	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
bis(2-Chloroethyl)ether	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
bis(2-chloroisopropyl)Ether	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
bis(2-Ethylhexyl)phthalate	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Butylbenzylphthalate	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Carbazole	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Chrysene	ND (0.159)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Dibenzo(a,h)Anthracene	ND (0.159)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Dibenzofuran	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Diethylphthalate	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Dimethylphthalate	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Di-n-butylphthalate	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Di-n-octylphthalate	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Fluoranthene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Fluorene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Hexachlorobenzene	ND (0.159)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Hexachlorobutadiene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Hexachlorocyclopentadiene	ND (1.59)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Hexachloroethane	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Indeno(1,2,3-cd)Pyrene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Isophorone	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Naphthalene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 1
Date Sampled: 10/02/15 12:15
Percent Solids: 99
Initial Volume: 15.9
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
N-Nitrosodimethylamine	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
N-Nitroso-Di-n-Propylamine	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
N-nitrosodiphenylamine	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Pentachlorophenol	ND (1.59)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Phenanthrene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Phenol	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Pyrene	ND (0.318)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515
Pyridine	ND (1.59)		8270D		1	10/06/15 14:27	CYJ0066	CJ50515

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>66 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>63 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>71 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>66 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>74 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>74 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>77 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>81 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 1
Date Sampled: 10/02/15 12:15
Percent Solids: 99

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-01
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	6.89 (N/A)		9045		1	MJV	10/02/15 18:16	S.U.	CJ50239
Corrosivity (pH) Sample Temp	Soil pH measured in water at 20.4 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 2
Date Sampled: 10/02/15 12:25
Percent Solids: 99

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-02
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.53)		6010C		1	KJK	10/06/15 20:57	2	100	CJ50535
Barium	5.80 (2.53)		6010C		1	KJK	10/06/15 20:57	2	100	CJ50535
Cadmium	ND (0.51)		6010C		1	KJK	10/06/15 20:57	2	100	CJ50535
Chromium	1.42 (1.01)		6010C		1	KJK	10/06/15 20:57	2	100	CJ50535
Lead	ND (5.05)		6010C		1	KJK	10/06/15 20:57	2	100	CJ50535
Mercury	ND (0.030)		7471B		1	PJP	10/06/15 13:40	0.66	40	CJ50536
Selenium	ND (5.05)		6010C		1	KJK	10/06/15 20:57	2	100	CJ50535
Silver	ND (0.51)		6010C		1	KJK	10/06/15 20:57	2	100	CJ50535



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 2
Date Sampled: 10/02/15 12:25
Percent Solids: 99
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,1,1-Trichloroethane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,1,2,2-Tetrachloroethane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,1,2-Trichloroethane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,1-Dichloroethane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,1-Dichloroethene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,1-Dichloropropene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,2,3-Trichlorobenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,2,3-Trichloropropane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,2,4-Trichlorobenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,2,4-Trimethylbenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,2-Dibromo-3-Chloropropane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,2-Dibromoethane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,2-Dichlorobenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,2-Dichloroethane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,2-Dichloropropane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,3,5-Trimethylbenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,3-Dichlorobenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,3-Dichloropropane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,4-Dichlorobenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1,4-Dioxane	ND (0.0815)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
1-Chlorohexane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
2,2-Dichloropropane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
2-Butanone	ND (0.0407)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
2-Chlorotoluene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
2-Hexanone	ND (0.0407)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
4-Chlorotoluene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
4-Isopropyltoluene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
4-Methyl-2-Pentanone	ND (0.0407)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Acetone	ND (0.0407)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Benzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Bromobenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 2
Date Sampled: 10/02/15 12:25
Percent Solids: 99
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Bromodichloromethane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Bromoform	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Bromomethane	ND (0.0081)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Carbon Disulfide	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Carbon Tetrachloride	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Chlorobenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Chloroethane	ND (0.0081)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Chloroform	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Chloromethane	ND (0.0081)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
cis-1,2-Dichloroethene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
cis-1,3-Dichloropropene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Dibromochloromethane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Dibromomethane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Dichlorodifluoromethane	ND (0.0081)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Diethyl Ether	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Di-isopropyl ether	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Ethyl tertiary-butyl ether	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Ethylbenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Hexachlorobutadiene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Isopropylbenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Methyl tert-Butyl Ether	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Methylene Chloride	ND (0.0204)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Naphthalene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
n-Butylbenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
n-Propylbenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
sec-Butylbenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Styrene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
tert-Butylbenzene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Tertiary-amyl methyl ether	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Tetrachloroethene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Tetrahydrofuran	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 2
Date Sampled: 10/02/15 12:25
Percent Solids: 99
Initial Volume: 6.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
trans-1,2-Dichloroethene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
trans-1,3-Dichloropropene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Trichloroethene	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Trichlorofluoromethane	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Vinyl Acetate	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Vinyl Chloride	ND (0.0081)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Xylene O	ND (0.0041)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Xylene P,M	ND (0.0081)		8260B Low		1	10/04/15 21:33	CYJ0046	CJ50520
Xylenes (Total)	ND (0.0081)		8260B Low		1	10/04/15 21:33		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>116 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>81 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>91 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>91 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 2
Date Sampled: 10/02/15 12:25
Percent Solids: 99
Initial Volume: 20.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ZLC
Prepared: 10/2/15 18:05

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (37.0)		8100M		1	10/05/15 20:31	CYJ0063	CJ50214
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>85 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 2
Date Sampled: 10/02/15 12:25
Percent Solids: 99
Initial Volume: 14.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
1,2,4-Trichlorobenzene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
1,2-Dichlorobenzene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
1,3-Dichlorobenzene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
1,4-Dichlorobenzene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2,3,4,6-Tetrachlorophenol	ND (1.77)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2,4,5-Trichlorophenol	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2,4,6-Trichlorophenol	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2,4-Dichlorophenol	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2,4-Dimethylphenol	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2,4-Dinitrophenol	ND (1.77)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2,4-Dinitrotoluene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2,6-Dinitrotoluene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2-Chloronaphthalene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2-Chlorophenol	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2-Methylnaphthalene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2-Methylphenol	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2-Nitroaniline	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
2-Nitrophenol	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
3,3'-Dichlorobenzidine	ND (0.707)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
3+4-Methylphenol	ND (0.707)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
3-Nitroaniline	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
4,6-Dinitro-2-Methylphenol	ND (1.77)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
4-Bromophenyl-phenylether	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
4-Chloro-3-Methylphenol	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
4-Chloroaniline	ND (0.707)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
4-Chloro-phenyl-phenyl ether	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
4-Nitroaniline	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
4-Nitrophenol	ND (1.77)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Acenaphthene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Acenaphthylene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Acetophenone	ND (0.707)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 2
Date Sampled: 10/02/15 12:25
Percent Solids: 99
Initial Volume: 14.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.707)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Anthracene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Azobenzene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Benzo(a)anthracene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Benzo(a)pyrene	ND (0.177)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Benzo(b)fluoranthene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Benzo(g,h,i)perylene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Benzo(k)fluoranthene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Benzoic Acid	ND (1.77)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Benzyl Alcohol	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
bis(2-Chloroethoxy)methane	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
bis(2-Chloroethyl)ether	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
bis(2-chloroisopropyl)Ether	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
bis(2-Ethylhexyl)phthalate	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Butylbenzylphthalate	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Carbazole	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Chrysene	ND (0.177)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Dibenzo(a,h)Anthracene	ND (0.177)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Dibenzofuran	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Diethylphthalate	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Dimethylphthalate	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Di-n-butylphthalate	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Di-n-octylphthalate	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Fluoranthene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Fluorene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Hexachlorobenzene	ND (0.177)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Hexachlorobutadiene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Hexachlorocyclopentadiene	ND (1.77)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Hexachloroethane	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Indeno(1,2,3-cd)Pyrene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Isophorone	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Naphthalene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 2
Date Sampled: 10/02/15 12:25
Percent Solids: 99
Initial Volume: 14.3
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
N-Nitrosodimethylamine	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
N-Nitroso-Di-n-Propylamine	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
N-nitrosodiphenylamine	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Pentachlorophenol	ND (1.77)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Phenanthrene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Phenol	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Pyrene	ND (0.353)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515
Pyridine	ND (1.77)		8270D		1	10/06/15 15:04	CYJ0066	CJ50515

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>68 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>66 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>73 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>69 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>77 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>76 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>80 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>88 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 2
Date Sampled: 10/02/15 12:25
Percent Solids: 99

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-02
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.63 (N/A)		9045		1	MJV	10/02/15 18:16	S.U.	CJ50239
Corrosivity (pH) Sample Temp	Soil pH measured in water at 20.3 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 3
Date Sampled: 10/02/15 13:00
Percent Solids: 99

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-03
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.49)		6010C		1	KJK	10/06/15 21:01	2.03	100	CJ50535
Barium	6.31 (2.49)		6010C		1	KJK	10/06/15 21:01	2.03	100	CJ50535
Cadmium	ND (0.50)		6010C		1	KJK	10/06/15 21:01	2.03	100	CJ50535
Chromium	1.65 (0.99)		6010C		1	KJK	10/06/15 21:01	2.03	100	CJ50535
Lead	ND (4.97)		6010C		1	KJK	10/06/15 21:01	2.03	100	CJ50535
Mercury	ND (0.032)		7471B		1	PJP	10/06/15 13:43	0.62	40	CJ50536
Selenium	ND (4.97)		6010C		1	KJK	10/06/15 21:01	2.03	100	CJ50535
Silver	ND (0.50)		6010C		1	KJK	10/06/15 21:01	2.03	100	CJ50535



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 3
Date Sampled: 10/02/15 13:00
Percent Solids: 99
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,1,1-Trichloroethane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,1,2,2-Tetrachloroethane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,1,2-Trichloroethane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,1-Dichloroethane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,1-Dichloroethene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,1-Dichloropropene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,2,3-Trichlorobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,2,3-Trichloropropane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,2,4-Trichlorobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,2,4-Trimethylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,2-Dibromo-3-Chloropropane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,2-Dibromoethane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,2-Dichlorobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,2-Dichloroethane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,2-Dichloropropane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,3,5-Trimethylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,3-Dichlorobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,3-Dichloropropane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,4-Dichlorobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1,4-Dioxane	ND (0.0742)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
1-Chlorohexane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
2,2-Dichloropropane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
2-Butanone	ND (0.0371)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
2-Chlorotoluene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
2-Hexanone	ND (0.0371)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
4-Chlorotoluene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
4-Isopropyltoluene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
4-Methyl-2-Pentanone	ND (0.0371)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Acetone	ND (0.0371)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Benzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Bromobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 3
Date Sampled: 10/02/15 13:00
Percent Solids: 99
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Bromodichloromethane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Bromoform	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Bromomethane	ND (0.0074)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Carbon Disulfide	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Carbon Tetrachloride	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Chlorobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Chloroethane	ND (0.0074)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Chloroform	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Chloromethane	ND (0.0074)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
cis-1,2-Dichloroethene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
cis-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Dibromochloromethane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Dibromomethane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Dichlorodifluoromethane	ND (0.0074)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Diethyl Ether	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Di-isopropyl ether	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Ethyl tertiary-butyl ether	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Ethylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Hexachlorobutadiene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Isopropylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Methyl tert-Butyl Ether	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Methylene Chloride	ND (0.0185)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Naphthalene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
n-Butylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
n-Propylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
sec-Butylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Styrene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
tert-Butylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Tertiary-amyl methyl ether	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Tetrachloroethene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Tetrahydrofuran	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 3
Date Sampled: 10/02/15 13:00
Percent Solids: 99
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
trans-1,2-Dichloroethene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
trans-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Trichloroethene	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Trichlorofluoromethane	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Vinyl Acetate	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Vinyl Chloride	ND (0.0074)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Xylene O	ND (0.0037)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Xylene P,M	ND (0.0074)		8260B Low		1	10/04/15 22:01	CYJ0046	CJ50520
Xylenes (Total)	ND (0.0074)		8260B Low		1	10/04/15 22:01		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>120 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>82 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>94 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>91 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 3
Date Sampled: 10/02/15 13:00
Percent Solids: 99
Initial Volume: 20
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ZLC
Prepared: 10/2/15 18:05

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (37.8)		8100M		1	10/05/15 21:11	CYJ0063	CJ50214
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>79 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 3
Date Sampled: 10/02/15 13:00
Percent Solids: 99
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
1,2,4-Trichlorobenzene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
1,2-Dichlorobenzene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
1,3-Dichlorobenzene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
1,4-Dichlorobenzene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2,3,4,6-Tetrachlorophenol	ND (1.63)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2,4,5-Trichlorophenol	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2,4,6-Trichlorophenol	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2,4-Dichlorophenol	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2,4-Dimethylphenol	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2,4-Dinitrophenol	ND (1.63)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2,4-Dinitrotoluene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2,6-Dinitrotoluene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2-Chloronaphthalene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2-Chlorophenol	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2-Methylnaphthalene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2-Methylphenol	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2-Nitroaniline	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
2-Nitrophenol	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
3,3'-Dichlorobenzidine	ND (0.651)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
3+4-Methylphenol	ND (0.651)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
3-Nitroaniline	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
4,6-Dinitro-2-Methylphenol	ND (1.63)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
4-Bromophenyl-phenylether	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
4-Chloro-3-Methylphenol	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
4-Chloroaniline	ND (0.651)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
4-Chloro-phenyl-phenyl ether	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
4-Nitroaniline	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
4-Nitrophenol	ND (1.63)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Acenaphthene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Acenaphthylene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Acetophenone	ND (0.651)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 3
Date Sampled: 10/02/15 13:00
Percent Solids: 99
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.651)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Anthracene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Azobenzene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Benzo(a)anthracene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Benzo(a)pyrene	ND (0.163)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Benzo(b)fluoranthene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Benzo(g,h,i)perylene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Benzo(k)fluoranthene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Benzoic Acid	ND (1.63)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Benzyl Alcohol	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
bis(2-Chloroethoxy)methane	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
bis(2-Chloroethyl)ether	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
bis(2-chloroisopropyl)Ether	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
bis(2-Ethylhexyl)phthalate	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Butylbenzylphthalate	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Carbazole	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Chrysene	ND (0.163)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Dibenzo(a,h)Anthracene	ND (0.163)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Dibenzofuran	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Diethylphthalate	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Dimethylphthalate	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Di-n-butylphthalate	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Di-n-octylphthalate	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Fluoranthene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Fluorene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Hexachlorobenzene	ND (0.163)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Hexachlorobutadiene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Hexachlorocyclopentadiene	ND (1.63)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Hexachloroethane	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Indeno(1,2,3-cd)Pyrene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Isophorone	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Naphthalene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 3
Date Sampled: 10/02/15 13:00
Percent Solids: 99
Initial Volume: 15.5
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
N-Nitrosodimethylamine	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
N-Nitroso-Di-n-Propylamine	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
N-nitrosodiphenylamine	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Pentachlorophenol	ND (1.63)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Phenanthrene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Phenol	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Pyrene	ND (0.325)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515
Pyridine	ND (1.63)		8270D		1	10/06/15 15:41	CYJ0066	CJ50515

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>77 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>70 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>84 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>80 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>88 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>88 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>91 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>85 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 3
Date Sampled: 10/02/15 13:00
Percent Solids: 99

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-03
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.09 (N/A)		9045		1	MJV	10/02/15 18:16	S.U.	CJ50239
Corrosivity (pH) Sample Temp	Soil pH measured in water at 20.2 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 4
Date Sampled: 10/02/15 13:15
Percent Solids: 98

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-04
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.48)		6010C		1	KJK	10/06/15 21:06	2.05	100	CJ50535
Barium	5.77 (2.48)		6010C		1	KJK	10/06/15 21:06	2.05	100	CJ50535
Cadmium	ND (0.50)		6010C		1	KJK	10/06/15 21:06	2.05	100	CJ50535
Chromium	1.45 (0.99)		6010C		1	KJK	10/06/15 21:06	2.05	100	CJ50535
Lead	ND (4.95)		6010C		1	KJK	10/06/15 21:06	2.05	100	CJ50535
Mercury	ND (0.030)		7471B		1	PJP	10/06/15 13:45	0.67	40	CJ50536
Selenium	ND (4.95)		6010C		1	KJK	10/06/15 21:06	2.05	100	CJ50535
Silver	ND (0.50)		6010C		1	KJK	10/06/15 21:06	2.05	100	CJ50535



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 4
Date Sampled: 10/02/15 13:15
Percent Solids: 98
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,1,1-Trichloroethane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,1,2,2-Tetrachloroethane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,1,2-Trichloroethane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,1-Dichloroethane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,1-Dichloroethene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,1-Dichloropropene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,2,3-Trichlorobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,2,3-Trichloropropane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,2,4-Trichlorobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,2,4-Trimethylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,2-Dibromo-3-Chloropropane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,2-Dibromoethane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,2-Dichlorobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,2-Dichloroethane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,2-Dichloropropane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,3,5-Trimethylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,3-Dichlorobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,3-Dichloropropane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,4-Dichlorobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1,4-Dioxane	ND (0.0747)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
1-Chlorohexane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
2,2-Dichloropropane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
2-Butanone	ND (0.0373)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
2-Chlorotoluene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
2-Hexanone	ND (0.0373)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
4-Chlorotoluene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
4-Isopropyltoluene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
4-Methyl-2-Pentanone	ND (0.0373)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Acetone	ND (0.0373)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Benzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Bromobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 4
Date Sampled: 10/02/15 13:15
Percent Solids: 98
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Bromodichloromethane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Bromoform	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Bromomethane	ND (0.0075)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Carbon Disulfide	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Carbon Tetrachloride	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Chlorobenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Chloroethane	ND (0.0075)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Chloroform	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Chloromethane	ND (0.0075)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
cis-1,2-Dichloroethene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
cis-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Dibromochloromethane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Dibromomethane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Dichlorodifluoromethane	ND (0.0075)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Diethyl Ether	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Di-isopropyl ether	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Ethyl tertiary-butyl ether	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Ethylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Hexachlorobutadiene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Isopropylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Methyl tert-Butyl Ether	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Methylene Chloride	ND (0.0187)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Naphthalene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
n-Butylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
n-Propylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
sec-Butylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Styrene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
tert-Butylbenzene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Tertiary-amyl methyl ether	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Tetrachloroethene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Tetrahydrofuran	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 4
Date Sampled: 10/02/15 13:15
Percent Solids: 98
Initial Volume: 6.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
trans-1,2-Dichloroethene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
trans-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Trichloroethene	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Trichlorofluoromethane	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Vinyl Acetate	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Vinyl Chloride	ND (0.0075)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Xylene O	ND (0.0037)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Xylene P,M	ND (0.0075)		8260B Low		1	10/04/15 22:30	CYJ0046	CJ50520
Xylenes (Total)	ND (0.0075)		8260B Low		1	10/04/15 22:30		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>130 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>81 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>99 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>93 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 4
Date Sampled: 10/02/15 13:15
Percent Solids: 98
Initial Volume: 19.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ZLC
Prepared: 10/2/15 18:05

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (39.5)		8100M		1	10/05/15 21:49	CYJ0063	CJ50214
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>68 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 4
Date Sampled: 10/02/15 13:15
Percent Solids: 98
Initial Volume: 14.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
1,2,4-Trichlorobenzene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
1,2-Dichlorobenzene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
1,3-Dichlorobenzene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
1,4-Dichlorobenzene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2,3,4,6-Tetrachlorophenol	ND (1.72)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2,4,5-Trichlorophenol	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2,4,6-Trichlorophenol	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2,4-Dichlorophenol	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2,4-Dimethylphenol	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2,4-Dinitrophenol	ND (1.72)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2,4-Dinitrotoluene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2,6-Dinitrotoluene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2-Chloronaphthalene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2-Chlorophenol	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2-Methylnaphthalene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2-Methylphenol	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2-Nitroaniline	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
2-Nitrophenol	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
3,3'-Dichlorobenzidine	ND (0.686)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
3+4-Methylphenol	ND (0.686)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
3-Nitroaniline	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
4,6-Dinitro-2-Methylphenol	ND (1.72)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
4-Bromophenyl-phenylether	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
4-Chloro-3-Methylphenol	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
4-Chloroaniline	ND (0.686)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
4-Chloro-phenyl-phenyl ether	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
4-Nitroaniline	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
4-Nitrophenol	ND (1.72)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Acenaphthene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Acenaphthylene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Acetophenone	ND (0.686)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 4
Date Sampled: 10/02/15 13:15
Percent Solids: 98
Initial Volume: 14.8
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.686)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Anthracene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Azobenzene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Benzo(a)anthracene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Benzo(a)pyrene	ND (0.172)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Benzo(b)fluoranthene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Benzo(g,h,i)perylene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Benzo(k)fluoranthene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Benzoic Acid	ND (1.72)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Benzyl Alcohol	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
bis(2-Chloroethoxy)methane	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
bis(2-Chloroethyl)ether	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
bis(2-chloroisopropyl)Ether	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
bis(2-Ethylhexyl)phthalate	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Butylbenzylphthalate	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Carbazole	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Chrysene	ND (0.172)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Dibenzo(a,h)Anthracene	ND (0.172)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Dibenzofuran	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Diethylphthalate	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Dimethylphthalate	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Di-n-butylphthalate	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Di-n-octylphthalate	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Fluoranthene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Fluorene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Hexachlorobenzene	ND (0.172)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Hexachlorobutadiene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Hexachlorocyclopentadiene	ND (1.72)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Hexachloroethane	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Indeno(1,2,3-cd)Pyrene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Isophorone	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Naphthalene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S&S Common Borrow 4
 Date Sampled: 10/02/15 13:15
 Percent Solids: 98
 Initial Volume: 14.8
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1510057
 ESS Laboratory Sample ID: 1510057-04
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: JXS
 Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
N-Nitrosodimethylamine	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
N-Nitroso-Di-n-Propylamine	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
N-nitrosodiphenylamine	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Pentachlorophenol	ND (1.72)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Phenanthrene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Phenol	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Pyrene	ND (0.343)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515
Pyridine	ND (1.72)		8270D		1	10/06/15 16:18	CYJ0066	CJ50515

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>77 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>73 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>82 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>79 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>88 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>87 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>90 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>92 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 4
Date Sampled: 10/02/15 13:15
Percent Solids: 98

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-04
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	5.00 (N/A)		9045		1	MJV	10/02/15 18:16	S.U.	CJ50239
Corrosivity (pH) Sample Temp	Soil pH measured in water at 20.4 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 5
Date Sampled: 10/02/15 13:45
Percent Solids: 99

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-05
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.49)		6010C		1	KJK	10/06/15 21:10	2.03	100	CJ50535
Barium	5.79 (2.49)		6010C		1	KJK	10/06/15 21:10	2.03	100	CJ50535
Cadmium	ND (0.50)		6010C		1	KJK	10/06/15 21:10	2.03	100	CJ50535
Chromium	1.37 (1.00)		6010C		1	KJK	10/06/15 21:10	2.03	100	CJ50535
Lead	ND (4.98)		6010C		1	KJK	10/06/15 21:10	2.03	100	CJ50535
Mercury	ND (0.032)		7471B		1	PJP	10/06/15 13:48	0.62	40	CJ50536
Selenium	ND (4.98)		6010C		1	KJK	10/06/15 21:10	2.03	100	CJ50535
Silver	ND (0.50)		6010C		1	KJK	10/06/15 21:10	2.03	100	CJ50535



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 5
Date Sampled: 10/02/15 13:45
Percent Solids: 99
Initial Volume: 6.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,1,1-Trichloroethane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,1,2,2-Tetrachloroethane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,1,2-Trichloroethane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,1-Dichloroethane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,1-Dichloroethene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,1-Dichloropropene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,2,3-Trichlorobenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,2,3-Trichloropropane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,2,4-Trichlorobenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,2,4-Trimethylbenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,2-Dibromo-3-Chloropropane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,2-Dibromoethane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,2-Dichlorobenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,2-Dichloroethane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,2-Dichloropropane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,3,5-Trimethylbenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,3-Dichlorobenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,3-Dichloropropane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,4-Dichlorobenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1,4-Dioxane	ND (0.0733)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
1-Chlorohexane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
2,2-Dichloropropane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
2-Butanone	ND (0.0366)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
2-Chlorotoluene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
2-Hexanone	ND (0.0366)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
4-Chlorotoluene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
4-Isopropyltoluene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
4-Methyl-2-Pentanone	ND (0.0366)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Acetone	ND (0.0366)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Benzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Bromobenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 5
Date Sampled: 10/02/15 13:45
Percent Solids: 99
Initial Volume: 6.9
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Bromodichloromethane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Bromoform	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Bromomethane	ND (0.0073)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Carbon Disulfide	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Carbon Tetrachloride	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Chlorobenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Chloroethane	ND (0.0073)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Chloroform	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Chloromethane	ND (0.0073)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
cis-1,2-Dichloroethene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
cis-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Dibromochloromethane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Dibromomethane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Dichlorodifluoromethane	ND (0.0073)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Diethyl Ether	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Di-isopropyl ether	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Ethyl tertiary-butyl ether	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Ethylbenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Hexachlorobutadiene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Isopropylbenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Methyl tert-Butyl Ether	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Methylene Chloride	ND (0.0183)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Naphthalene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
n-Butylbenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
n-Propylbenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
sec-Butylbenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Styrene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
tert-Butylbenzene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Tertiary-amyl methyl ether	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Tetrachloroethene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Tetrahydrofuran	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S&S Common Borrow 5
 Date Sampled: 10/02/15 13:45
 Percent Solids: 99
 Initial Volume: 6.9
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1510057
 ESS Laboratory Sample ID: 1510057-05
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
trans-1,2-Dichloroethene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
trans-1,3-Dichloropropene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Trichloroethene	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Trichlorofluoromethane	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Vinyl Acetate	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Vinyl Chloride	ND (0.0073)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Xylene O	ND (0.0037)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Xylene P,M	ND (0.0073)		8260B Low		1	10/03/15 22:49	CYJ0038	CJ50313
Xylenes (Total)	ND (0.0073)		8260B Low		1	10/03/15 22:49		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	123 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	84 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	93 %		70-130
<i>Surrogate: Toluene-d8</i>	92 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 5
Date Sampled: 10/02/15 13:45
Percent Solids: 99
Initial Volume: 19.7
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: ZLC
Prepared: 10/2/15 18:05

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (38.5)		8100M		1	10/05/15 22:28	CYJ0063	CJ50214
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		69 %		40-140				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 5
Date Sampled: 10/02/15 13:45
Percent Solids: 99
Initial Volume: 14.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
1,2,4-Trichlorobenzene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
1,2-Dichlorobenzene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
1,3-Dichlorobenzene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
1,4-Dichlorobenzene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2,3,4,6-Tetrachlorophenol	ND (1.76)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2,4,5-Trichlorophenol	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2,4,6-Trichlorophenol	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2,4-Dichlorophenol	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2,4-Dimethylphenol	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2,4-Dinitrophenol	ND (1.76)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2,4-Dinitrotoluene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2,6-Dinitrotoluene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2-Chloronaphthalene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2-Chlorophenol	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2-Methylnaphthalene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2-Methylphenol	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2-Nitroaniline	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
2-Nitrophenol	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
3,3'-Dichlorobenzidine	ND (0.702)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
3+4-Methylphenol	ND (0.702)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
3-Nitroaniline	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
4,6-Dinitro-2-Methylphenol	ND (1.76)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
4-Bromophenyl-phenylether	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
4-Chloro-3-Methylphenol	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
4-Chloroaniline	ND (0.702)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
4-Chloro-phenyl-phenyl ether	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
4-Nitroaniline	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
4-Nitrophenol	ND (1.76)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Acenaphthene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Acenaphthylene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Acetophenone	ND (0.702)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 5
Date Sampled: 10/02/15 13:45
Percent Solids: 99
Initial Volume: 14.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.702)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Anthracene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Azobenzene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Benzo(a)anthracene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Benzo(a)pyrene	ND (0.176)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Benzo(b)fluoranthene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Benzo(g,h,i)perylene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Benzo(k)fluoranthene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Benzoic Acid	ND (1.76)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Benzyl Alcohol	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
bis(2-Chloroethoxy)methane	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
bis(2-Chloroethyl)ether	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
bis(2-chloroisopropyl)Ether	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
bis(2-Ethylhexyl)phthalate	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Butylbenzylphthalate	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Carbazole	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Chrysene	ND (0.176)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Dibenzo(a,h)Anthracene	ND (0.176)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Dibenzofuran	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Diethylphthalate	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Dimethylphthalate	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Di-n-butylphthalate	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Di-n-octylphthalate	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Fluoranthene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Fluorene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Hexachlorobenzene	ND (0.176)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Hexachlorobutadiene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Hexachlorocyclopentadiene	ND (1.76)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Hexachloroethane	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Indeno(1,2,3-cd)Pyrene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Isophorone	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Naphthalene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 5
Date Sampled: 10/02/15 13:45
Percent Solids: 99
Initial Volume: 14.4
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: JXS
Prepared: 10/5/15 14:04

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
N-Nitrosodimethylamine	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
N-Nitroso-Di-n-Propylamine	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
N-nitrosodiphenylamine	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Pentachlorophenol	ND (1.76)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Phenanthrene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Phenol	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Pyrene	ND (0.351)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515
Pyridine	ND (1.76)		8270D		1	10/06/15 16:55	CYJ0066	CJ50515

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	63 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	62 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	67 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	68 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	71 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	71 %		30-130
<i>Surrogate: Phenol-d6</i>	73 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	81 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 5
Date Sampled: 10/02/15 13:45
Percent Solids: 99

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-05
Sample Matrix: Soil

Classical Chemistry

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>Units</u>	<u>Batch</u>
Corrosivity (pH)	4.97 (N/A)		9045		1	MJV	10/02/15 18:16	S.U.	CJ50239
Corrosivity (pH) Sample Temp	Soil pH measured in water at 20.4 °C.								



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 5
Date Sampled: 10/02/15 13:45
Percent Solids: 99
Initial Volume: 6.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-05RE1
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,1,1-Trichloroethane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,1,2,2-Tetrachloroethane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,1,2-Trichloroethane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,1-Dichloroethane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,1-Dichloroethene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,1-Dichloropropene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,2,3-Trichlorobenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,2,3-Trichloropropane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,2,4-Trichlorobenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,2,4-Trimethylbenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,2-Dibromo-3-Chloropropane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,2-Dibromoethane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,2-Dichlorobenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,2-Dichloroethane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,2-Dichloropropane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,3,5-Trimethylbenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,3-Dichlorobenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,3-Dichloropropane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,4-Dichlorobenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1,4-Dioxane	ND (0.0766)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
1-Chlorohexane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
2,2-Dichloropropane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
2-Butanone	ND (0.0383)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
2-Chlorotoluene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
2-Hexanone	ND (0.0383)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
4-Chlorotoluene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
4-Isopropyltoluene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
4-Methyl-2-Pentanone	ND (0.0383)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Acetone	ND (0.0383)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Benzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Bromobenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S&S Common Borrow 5
Date Sampled: 10/02/15 13:45
Percent Solids: 99
Initial Volume: 6.6
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510057
ESS Laboratory Sample ID: 1510057-05RE1
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Bromodichloromethane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Bromoform	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Bromomethane	ND (0.0077)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Carbon Disulfide	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Carbon Tetrachloride	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Chlorobenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Chloroethane	ND (0.0077)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Chloroform	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Chloromethane	ND (0.0077)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
cis-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
cis-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Dibromochloromethane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Dibromomethane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Dichlorodifluoromethane	ND (0.0077)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Diethyl Ether	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Di-isopropyl ether	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Ethyl tertiary-butyl ether	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Ethylbenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Hexachlorobutadiene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Isopropylbenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Methyl tert-Butyl Ether	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Methylene Chloride	ND (0.0191)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Naphthalene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
n-Butylbenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
n-Propylbenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
sec-Butylbenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Styrene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
tert-Butylbenzene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Tertiary-amyl methyl ether	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Tetrachloroethene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Tetrahydrofuran	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S&S Common Borrow 5
 Date Sampled: 10/02/15 13:45
 Percent Solids: 99
 Initial Volume: 6.6
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1510057
 ESS Laboratory Sample ID: 1510057-05RE1
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
trans-1,2-Dichloroethene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
trans-1,3-Dichloropropene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Trichloroethene	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Trichlorofluoromethane	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Vinyl Acetate	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Vinyl Chloride	ND (0.0077)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Xylene O	ND (0.0038)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Xylene P,M	ND (0.0077)		8260B Low		1	10/04/15 19:40	CYJ0046	CJ50520
Xylenes (Total)	ND (0.0077)		8260B Low		1	10/04/15 19:40		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	146 %	S+	70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	81 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	101 %		70-130
<i>Surrogate: Toluene-d8</i>	90 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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Total Metals

Batch CJ50535 - 3050B

Blank

Arsenic	ND	2.50	mg/kg wet
Barium	ND	2.50	mg/kg wet
Cadmium	ND	0.50	mg/kg wet
Chromium	ND	1.00	mg/kg wet
Lead	ND	5.00	mg/kg wet
Selenium	ND	5.00	mg/kg wet
Silver	ND	0.50	mg/kg wet

LCS

Arsenic	63.4	9.80	mg/kg wet	52.30	121	43-169
Barium	141	9.80	mg/kg wet	145.0	97	80-120
Cadmium	55.0	1.96	mg/kg wet	71.60	77	62-138
Chromium	79.9	3.92	mg/kg wet	88.50	90	80-120
Lead	54.7	19.6	mg/kg wet	77.80	70	69-131
Selenium	77.5	19.6	mg/kg wet	81.10	96	80-120
Silver	117	1.96	mg/kg wet	114.0	102	80-120

LCS Dup

Arsenic	45.8	9.26	mg/kg wet	52.30	88	43-169	32	20	D+
Barium	146	9.26	mg/kg wet	145.0	101	80-120	4	20	
Cadmium	56.0	1.85	mg/kg wet	71.60	78	62-138	2	20	
Chromium	82.7	3.70	mg/kg wet	88.50	93	80-120	3	20	
Lead	55.4	18.5	mg/kg wet	77.80	71	69-131	1	20	
Selenium	80.2	18.5	mg/kg wet	81.10	99	80-120	3	20	
Silver	121	1.85	mg/kg wet	114.0	106	80-120	4	20	

Batch CJ50536 - 7471A

Blank

Mercury	ND	0.033	mg/kg wet
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LCS

Mercury	9.40	3.81	mg/kg wet	9.700	97	80-120
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LCS Dup

Mercury	10.5	3.60	mg/kg wet	9.700	109	80-120	11	20	
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ50313 - 5035

Blank

1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethene	ND	0.0050	mg/kg wet
1,1-Dichloropropene	ND	0.0050	mg/kg wet
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ50313 - 5035

1,2,3-Trichloropropane	ND	0.0050	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet
1,2-Dibromoethane	ND	0.0050	mg/kg wet
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet
1,2-Dichloroethane	ND	0.0050	mg/kg wet
1,2-Dichloropropane	ND	0.0050	mg/kg wet
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet
1,3-Dichloropropane	ND	0.0050	mg/kg wet
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet
1,4-Dioxane	ND	0.100	mg/kg wet
1-Chlorohexane	ND	0.0050	mg/kg wet
2,2-Dichloropropane	ND	0.0050	mg/kg wet
2-Butanone	ND	0.0500	mg/kg wet
2-Chlorotoluene	ND	0.0050	mg/kg wet
2-Hexanone	ND	0.0500	mg/kg wet
4-Chlorotoluene	ND	0.0050	mg/kg wet
4-Isopropyltoluene	ND	0.0050	mg/kg wet
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet
Acetone	ND	0.0500	mg/kg wet
Benzene	ND	0.0050	mg/kg wet
Bromobenzene	ND	0.0050	mg/kg wet
Bromochloromethane	ND	0.0050	mg/kg wet
Bromodichloromethane	ND	0.0050	mg/kg wet
Bromoform	ND	0.0050	mg/kg wet
Bromomethane	ND	0.0100	mg/kg wet
Carbon Disulfide	ND	0.0050	mg/kg wet
Carbon Tetrachloride	ND	0.0050	mg/kg wet
Chlorobenzene	ND	0.0050	mg/kg wet
Chloroethane	ND	0.0100	mg/kg wet
Chloroform	ND	0.0050	mg/kg wet
Chloromethane	ND	0.0100	mg/kg wet
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet
Dibromochloromethane	ND	0.0050	mg/kg wet
Dibromomethane	ND	0.0050	mg/kg wet
Dichlorodifluoromethane	ND	0.0100	mg/kg wet
Diethyl Ether	ND	0.0050	mg/kg wet
Di-isopropyl ether	ND	0.0050	mg/kg wet
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet
Ethylbenzene	ND	0.0050	mg/kg wet
Hexachlorobutadiene	ND	0.0050	mg/kg wet
Isopropylbenzene	ND	0.0050	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ50313 - 5035

Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0250	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0480		mg/kg wet	0.05000		96	70-130			
Surrogate: 4-Bromofluorobenzene	0.0434		mg/kg wet	0.05000		87	70-130			
Surrogate: Dibromofluoromethane	0.0394		mg/kg wet	0.05000		79	70-130			
Surrogate: Toluene-d8	0.0446		mg/kg wet	0.05000		89	70-130			

LCS

1,1,1,2-Tetrachloroethane	0.0503	0.0050	mg/kg wet	0.05000		101	70-130			
1,1,1-Trichloroethane	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
1,1,2,2-Tetrachloroethane	0.0437	0.0050	mg/kg wet	0.05000		87	70-130			
1,1,2-Trichloroethane	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
1,1-Dichloroethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
1,1-Dichloroethene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,1-Dichloropropene	0.0436	0.0050	mg/kg wet	0.05000		87	70-130			
1,2,3-Trichlorobenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
1,2,3-Trichloropropane	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
1,2,4-Trichlorobenzene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130			
1,2,4-Trimethylbenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
1,2-Dibromo-3-Chloropropane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130			
1,2-Dibromoethane	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dichlorobenzene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dichloroethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130			
1,2-Dichloropropane	0.0429	0.0050	mg/kg wet	0.05000		86	70-130			
1,3,5-Trimethylbenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
1,3-Dichlorobenzene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
1,3-Dichloropropane	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ50313 - 5035

1,4-Dichlorobenzene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130			
1,4-Dioxane	0.959	0.100	mg/kg wet	1.000		96	70-130			
1-Chlorohexane	0.0483	0.0050	mg/kg wet	0.05000		97	70-130			
2,2-Dichloropropane	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
2-Butanone	0.221	0.0500	mg/kg wet	0.2500		88	70-130			
2-Chlorotoluene	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
2-Hexanone	0.253	0.0500	mg/kg wet	0.2500		101	70-130			
4-Chlorotoluene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
4-Isopropyltoluene	0.0449	0.0050	mg/kg wet	0.05000		90	70-130			
4-Methyl-2-Pentanone	0.244	0.0500	mg/kg wet	0.2500		98	70-130			
Acetone	0.250	0.0500	mg/kg wet	0.2500		100	70-130			
Benzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130			
Bromobenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
Bromochloromethane	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
Bromodichloromethane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
Bromoform	0.0488	0.0050	mg/kg wet	0.05000		98	70-130			
Bromomethane	0.0460	0.0100	mg/kg wet	0.05000		92	70-130			
Carbon Disulfide	0.0464	0.0050	mg/kg wet	0.05000		93	70-130			
Carbon Tetrachloride	0.0475	0.0050	mg/kg wet	0.05000		95	70-130			
Chlorobenzene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Chloroethane	0.0419	0.0100	mg/kg wet	0.05000		84	70-130			
Chloroform	0.0431	0.0050	mg/kg wet	0.05000		86	70-130			
Chloromethane	0.0451	0.0100	mg/kg wet	0.05000		90	70-130			
cis-1,2-Dichloroethene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
cis-1,3-Dichloropropene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130			
Dibromochloromethane	0.0561	0.0050	mg/kg wet	0.05000		112	70-130			
Dibromomethane	0.0451	0.0050	mg/kg wet	0.05000		90	70-130			
Dichlorodifluoromethane	0.0472	0.0100	mg/kg wet	0.05000		94	70-130			
Diethyl Ether	0.0437	0.0050	mg/kg wet	0.05000		87	70-130			
Di-isopropyl ether	0.0426	0.0050	mg/kg wet	0.05000		85	70-130			
Ethyl tertiary-butyl ether	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Ethylbenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
Hexachlorobutadiene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Isopropylbenzene	0.0458	0.0050	mg/kg wet	0.05000		92	70-130			
Methyl tert-Butyl Ether	0.0455	0.0050	mg/kg wet	0.05000		91	70-130			
Methylene Chloride	0.0512	0.0250	mg/kg wet	0.05000		102	70-130			
Naphthalene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
n-Butylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
n-Propylbenzene	0.0446	0.0050	mg/kg wet	0.05000		89	70-130			
sec-Butylbenzene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
Styrene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130			
tert-Butylbenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Tertiary-amyl methyl ether	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Tetrachloroethene	0.0482	0.0050	mg/kg wet	0.05000		96	70-130			
Tetrahydrofuran	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ50313 - 5035

Toluene	0.0435	0.0050	mg/kg wet	0.05000		87	70-130			
trans-1,2-Dichloroethene	0.0457	0.0050	mg/kg wet	0.05000		91	70-130			
trans-1,3-Dichloropropene	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
Trichloroethene	0.0425	0.0050	mg/kg wet	0.05000		85	70-130			
Trichlorofluoromethane	0.0471	0.0050	mg/kg wet	0.05000		94	70-130			
Vinyl Acetate	0.0757	0.0050	mg/kg wet	0.05000		151	70-130			B+
Vinyl Chloride	0.0462	0.0100	mg/kg wet	0.05000		92	70-130			
Xylene O	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Xylene P,M	0.0931	0.0100	mg/kg wet	0.1000		93	70-130			
Xylenes (Total)	0.139	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0503		mg/kg wet	0.05000		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.0488		mg/kg wet	0.05000		98	70-130			
Surrogate: Dibromofluoromethane	0.0445		mg/kg wet	0.05000		89	70-130			
Surrogate: Toluene-d8	0.0489		mg/kg wet	0.05000		98	70-130			

LCS Dup

1,1,1,2-Tetrachloroethane	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	3	25	
1,1,1-Trichloroethane	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
1,1,2,2-Tetrachloroethane	0.0444	0.0050	mg/kg wet	0.05000		89	70-130	2	25	
1,1,2-Trichloroethane	0.0482	0.0050	mg/kg wet	0.05000		96	70-130	0.9	25	
1,1-Dichloroethane	0.0475	0.0050	mg/kg wet	0.05000		95	70-130	0.8	25	
1,1-Dichloroethene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	1	25	
1,1-Dichloropropene	0.0445	0.0050	mg/kg wet	0.05000		89	70-130	2	25	
1,2,3-Trichlorobenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	0.2	25	
1,2,3-Trichloropropane	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	0.8	25	
1,2,4-Trichlorobenzene	0.0500	0.0050	mg/kg wet	0.05000		100	70-130	0.7	25	
1,2,4-Trimethylbenzene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	2	25	
1,2-Dibromo-3-Chloropropane	0.0463	0.0050	mg/kg wet	0.05000		93	70-130	0.6	25	
1,2-Dibromoethane	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	0.5	25	
1,2-Dichlorobenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	2	25	
1,2-Dichloroethane	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	1	25	
1,2-Dichloropropane	0.0428	0.0050	mg/kg wet	0.05000		86	70-130	0.2	25	
1,3,5-Trimethylbenzene	0.0483	0.0050	mg/kg wet	0.05000		97	70-130	2	25	
1,3-Dichlorobenzene	0.0460	0.0050	mg/kg wet	0.05000		92	70-130	1	25	
1,3-Dichloropropane	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.2	25	
1,4-Dichlorobenzene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130	0.4	25	
1,4-Dioxane	0.962	0.100	mg/kg wet	1.000		96	70-130	0.3	20	
1-Chlorohexane	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	1	25	
2,2-Dichloropropane	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	1	25	
2-Butanone	0.221	0.0500	mg/kg wet	0.2500		88	70-130	0.05	25	
2-Chlorotoluene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	3	25	
2-Hexanone	0.250	0.0500	mg/kg wet	0.2500		100	70-130	1	25	
4-Chlorotoluene	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	2	25	
4-Isopropyltoluene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130	1	25	
4-Methyl-2-Pentanone	0.238	0.0500	mg/kg wet	0.2500		95	70-130	2	25	
Acetone	0.245	0.0500	mg/kg wet	0.2500		98	70-130	2	25	



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ50313 - 5035

Benzene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130	0.8	25	
Bromobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	0.9	25	
Bromochloromethane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	0.8	25	
Bromodichloromethane	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	0.4	25	
Bromoform	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	1	25	
Bromomethane	0.0476	0.0100	mg/kg wet	0.05000		95	70-130	3	25	
Carbon Disulfide	0.0476	0.0050	mg/kg wet	0.05000		95	70-130	2	25	
Carbon Tetrachloride	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	0.5	25	
Chlorobenzene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	0.4	25	
Chloroethane	0.0436	0.0100	mg/kg wet	0.05000		87	70-130	4	25	
Chloroform	0.0433	0.0050	mg/kg wet	0.05000		87	70-130	0.5	25	
Chloromethane	0.0453	0.0100	mg/kg wet	0.05000		91	70-130	0.6	25	
cis-1,2-Dichloroethene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	2	25	
cis-1,3-Dichloropropene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	1	25	
Dibromochloromethane	0.0568	0.0050	mg/kg wet	0.05000		114	70-130	1	25	
Dibromomethane	0.0449	0.0050	mg/kg wet	0.05000		90	70-130	0.4	25	
Dichlorodifluoromethane	0.0468	0.0100	mg/kg wet	0.05000		94	70-130	0.7	25	
Diethyl Ether	0.0440	0.0050	mg/kg wet	0.05000		88	70-130	0.5	25	
Di-isopropyl ether	0.0435	0.0050	mg/kg wet	0.05000		87	70-130	2	25	
Ethyl tertiary-butyl ether	0.0464	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
Ethylbenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	0.3	25	
Hexachlorobutadiene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	2	25	
Isopropylbenzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	2	25	
Methyl tert-Butyl Ether	0.0458	0.0050	mg/kg wet	0.05000		92	70-130	0.6	25	
Methylene Chloride	0.0519	0.0250	mg/kg wet	0.05000		104	70-130	1	25	
Naphthalene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
n-Butylbenzene	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
n-Propylbenzene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	2	25	
sec-Butylbenzene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	1	25	
Styrene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130	1	25	
tert-Butylbenzene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130	0.8	25	
Tertiary-amyl methyl ether	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	0.7	25	
Tetrachloroethene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	1	25	
Tetrahydrofuran	0.0457	0.0050	mg/kg wet	0.05000		91	70-130	1	25	
Toluene	0.0435	0.0050	mg/kg wet	0.05000		87	70-130	0.1	25	
trans-1,2-Dichloroethene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	0.4	25	
trans-1,3-Dichloropropene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130	1	25	
Trichloroethene	0.0435	0.0050	mg/kg wet	0.05000		87	70-130	2	25	
Trichlorofluoromethane	0.0466	0.0050	mg/kg wet	0.05000		93	70-130	1	25	
Vinyl Acetate	0.0750	0.0050	mg/kg wet	0.05000		150	70-130	1	25	B+
Vinyl Chloride	0.0462	0.0100	mg/kg wet	0.05000		92	70-130	0.04	25	
Xylene O	0.0461	0.0050	mg/kg wet	0.05000		92	70-130	0.3	25	
Xylene P,M	0.0937	0.0100	mg/kg wet	0.1000		94	70-130	0.6	25	
Xylenes (Total)	0.140	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0505		mg/kg wet	0.05000		101	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ50313 - 5035

Surrogate: 4-Bromofluorobenzene	0.0486		mg/kg wet	0.05000		97	70-130			
Surrogate: Dibromofluoromethane	0.0445		mg/kg wet	0.05000		89	70-130			
Surrogate: Toluene-d8	0.0493		mg/kg wet	0.05000		99	70-130			

Batch CJ50520 - 5035

Blank										
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet							
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethane	ND	0.0050	mg/kg wet							
1,1-Dichloroethene	ND	0.0050	mg/kg wet							
1,1-Dichloropropene	ND	0.0050	mg/kg wet							
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet							
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet							
1,2-Dibromoethane	ND	0.0050	mg/kg wet							
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,2-Dichloroethane	ND	0.0050	mg/kg wet							
1,2-Dichloropropane	ND	0.0050	mg/kg wet							
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet							
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,3-Dichloropropane	ND	0.0050	mg/kg wet							
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet							
1,4-Dioxane	ND	0.100	mg/kg wet							
1-Chlorohexane	ND	0.0050	mg/kg wet							
2,2-Dichloropropane	ND	0.0050	mg/kg wet							
2-Butanone	ND	0.0500	mg/kg wet							
2-Chlorotoluene	ND	0.0050	mg/kg wet							
2-Hexanone	ND	0.0500	mg/kg wet							
4-Chlorotoluene	ND	0.0050	mg/kg wet							
4-Isopropyltoluene	ND	0.0050	mg/kg wet							
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet							
Acetone	ND	0.0500	mg/kg wet							
Benzene	ND	0.0050	mg/kg wet							
Bromobenzene	ND	0.0050	mg/kg wet							
Bromochloromethane	ND	0.0050	mg/kg wet							
Bromodichloromethane	ND	0.0050	mg/kg wet							
Bromoform	ND	0.0050	mg/kg wet							
Bromomethane	ND	0.0100	mg/kg wet							
Carbon Disulfide	ND	0.0050	mg/kg wet							
Carbon Tetrachloride	ND	0.0050	mg/kg wet							
Chlorobenzene	ND	0.0050	mg/kg wet							



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
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Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ50520 - 5035

Chloroethane	ND	0.0100	mg/kg wet							
Chloroform	ND	0.0050	mg/kg wet							
Chloromethane	ND	0.0100	mg/kg wet							
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Dibromochloromethane	ND	0.0050	mg/kg wet							
Dibromomethane	ND	0.0050	mg/kg wet							
Dichlorodifluoromethane	ND	0.0100	mg/kg wet							
Diethyl Ether	ND	0.0050	mg/kg wet							
Di-isopropyl ether	ND	0.0050	mg/kg wet							
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet							
Ethylbenzene	ND	0.0050	mg/kg wet							
Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0250	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0530		mg/kg wet	0.05000		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.0415		mg/kg wet	0.05000		83	70-130			
Surrogate: Dibromofluoromethane	0.0427		mg/kg wet	0.05000		85	70-130			
Surrogate: Toluene-d8	0.0455		mg/kg wet	0.05000		91	70-130			

LCS

1,1,1,2-Tetrachloroethane	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
1,1,1-Trichloroethane	0.0514	0.0050	mg/kg wet	0.05000		103	70-130			
1,1,2,2-Tetrachloroethane	0.0448	0.0050	mg/kg wet	0.05000		90	70-130			
1,1,2-Trichloroethane	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
1,1-Dichloroethane	0.0546	0.0050	mg/kg wet	0.05000		109	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ50520 - 5035

1,1-Dichloroethene	0.0506	0.0050	mg/kg wet	0.05000		101	70-130			
1,1-Dichloropropene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
1,2,3-Trichlorobenzene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
1,2,3-Trichloropropane	0.0447	0.0050	mg/kg wet	0.05000		89	70-130			
1,2,4-Trichlorobenzene	0.0456	0.0050	mg/kg wet	0.05000		91	70-130			
1,2,4-Trimethylbenzene	0.0467	0.0050	mg/kg wet	0.05000		93	70-130			
1,2-Dibromo-3-Chloropropane	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
1,2-Dibromoethane	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
1,2-Dichlorobenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130			
1,2-Dichloroethane	0.0545	0.0050	mg/kg wet	0.05000		109	70-130			
1,2-Dichloropropane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
1,3,5-Trimethylbenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130			
1,3-Dichlorobenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130			
1,3-Dichloropropane	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
1,4-Dichlorobenzene	0.0454	0.0050	mg/kg wet	0.05000		91	70-130			
1,4-Dioxane	0.972	0.100	mg/kg wet	1.000		97	70-130			
1-Chlorohexane	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
2,2-Dichloropropane	0.0543	0.0050	mg/kg wet	0.05000		109	70-130			
2-Butanone	0.266	0.0500	mg/kg wet	0.2500		106	70-130			
2-Chlorotoluene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
2-Hexanone	0.282	0.0500	mg/kg wet	0.2500		113	70-130			
4-Chlorotoluene	0.0476	0.0050	mg/kg wet	0.05000		95	70-130			
4-Isopropyltoluene	0.0461	0.0050	mg/kg wet	0.05000		92	70-130			
4-Methyl-2-Pentanone	0.257	0.0500	mg/kg wet	0.2500		103	70-130			
Acetone	0.365	0.0500	mg/kg wet	0.2500		146	70-130			B+
Benzene	0.0556	0.0050	mg/kg wet	0.05000		111	70-130			
Bromobenzene	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Bromochloromethane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			
Bromodichloromethane	0.0540	0.0050	mg/kg wet	0.05000		108	70-130			
Bromoform	0.0415	0.0050	mg/kg wet	0.05000		83	70-130			
Bromomethane	0.0498	0.0100	mg/kg wet	0.05000		100	70-130			
Carbon Disulfide	0.0534	0.0050	mg/kg wet	0.05000		107	70-130			
Carbon Tetrachloride	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
Chlorobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
Chloroethane	0.0504	0.0100	mg/kg wet	0.05000		101	70-130			
Chloroform	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
Chloromethane	0.0550	0.0100	mg/kg wet	0.05000		110	70-130			
cis-1,2-Dichloroethene	0.0560	0.0050	mg/kg wet	0.05000		112	70-130			
cis-1,3-Dichloropropene	0.0516	0.0050	mg/kg wet	0.05000		103	70-130			
Dibromochloromethane	0.0531	0.0050	mg/kg wet	0.05000		106	70-130			
Dibromomethane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130			
Dichlorodifluoromethane	0.0537	0.0100	mg/kg wet	0.05000		107	70-130			
Diethyl Ether	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
Di-isopropyl ether	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
Ethyl tertiary-butyl ether	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			



CERTIFICATE OF ANALYSIS

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Quality Control Data

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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ50520 - 5035

Ethylbenzene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130			
Hexachlorobutadiene	0.0453	0.0050	mg/kg wet	0.05000		91	70-130			
Isopropylbenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
Methyl tert-Butyl Ether	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
Methylene Chloride	0.0567	0.0250	mg/kg wet	0.05000		113	70-130			
Naphthalene	0.0418	0.0050	mg/kg wet	0.05000		84	70-130			
n-Butylbenzene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130			
n-Propylbenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130			
sec-Butylbenzene	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
Styrene	0.0474	0.0050	mg/kg wet	0.05000		95	70-130			
tert-Butylbenzene	0.0469	0.0050	mg/kg wet	0.05000		94	70-130			
Tertiary-amyl methyl ether	0.0518	0.0050	mg/kg wet	0.05000		104	70-130			
Tetrachloroethene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Tetrahydrofuran	0.0463	0.0050	mg/kg wet	0.05000		93	70-130			
Toluene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130			
trans-1,2-Dichloroethene	0.0502	0.0050	mg/kg wet	0.05000		100	70-130			
trans-1,3-Dichloropropene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
Trichloroethene	0.0481	0.0050	mg/kg wet	0.05000		96	70-130			
Trichlorofluoromethane	0.0524	0.0050	mg/kg wet	0.05000		105	70-130			
Vinyl Acetate	0.0791	0.0050	mg/kg wet	0.05000		158	70-130			B+
Vinyl Chloride	0.0560	0.0100	mg/kg wet	0.05000		112	70-130			
Xylene O	0.0459	0.0050	mg/kg wet	0.05000		92	70-130			
Xylene P,M	0.0940	0.0100	mg/kg wet	0.1000		94	70-130			
Xylenes (Total)	0.140	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0597		mg/kg wet	0.05000		119	70-130			
Surrogate: 4-Bromofluorobenzene	0.0494		mg/kg wet	0.05000		99	70-130			
Surrogate: Dibromofluoromethane	0.0510		mg/kg wet	0.05000		102	70-130			
Surrogate: Toluene-d8	0.0501		mg/kg wet	0.05000		100	70-130			

LCS Dup

1,1,1,2-Tetrachloroethane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	7	25	
1,1,1-Trichloroethane	0.0517	0.0050	mg/kg wet	0.05000		103	70-130	0.7	25	
1,1,2,2-Tetrachloroethane	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	12	25	
1,1,2-Trichloroethane	0.0548	0.0050	mg/kg wet	0.05000		110	70-130	3	25	
1,1-Dichloroethane	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	2	25	
1,1-Dichloroethene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	0.9	25	
1,1-Dichloropropene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	1	25	
1,2,3-Trichlorobenzene	0.0470	0.0050	mg/kg wet	0.05000		94	70-130	6	25	
1,2,3-Trichloropropane	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	14	25	
1,2,4-Trichlorobenzene	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	5	25	
1,2,4-Trimethylbenzene	0.0487	0.0050	mg/kg wet	0.05000		97	70-130	4	25	
1,2-Dibromo-3-Chloropropane	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	1	25	
1,2-Dibromoethane	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	10	25	
1,2-Dichlorobenzene	0.0455	0.0050	mg/kg wet	0.05000		91	70-130	0.7	25	
1,2-Dichloroethane	0.0547	0.0050	mg/kg wet	0.05000		109	70-130	0.4	25	
1,2-Dichloropropane	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	2	25	



CERTIFICATE OF ANALYSIS

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Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ50520 - 5035

1,3,5-Trimethylbenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	5	25	
1,3-Dichlorobenzene	0.0477	0.0050	mg/kg wet	0.05000		95	70-130	6	25	
1,3-Dichloropropane	0.0537	0.0050	mg/kg wet	0.05000		107	70-130	10	25	
1,4-Dichlorobenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	8	25	
1,4-Dioxane	1.07	0.100	mg/kg wet	1.000		107	70-130	9	20	
1-Chlorohexane	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	5	25	
2,2-Dichloropropane	0.0546	0.0050	mg/kg wet	0.05000		109	70-130	0.7	25	
2-Butanone	0.255	0.0500	mg/kg wet	0.2500		102	70-130	4	25	
2-Chlorotoluene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	4	25	
2-Hexanone	0.290	0.0500	mg/kg wet	0.2500		116	70-130	3	25	
4-Chlorotoluene	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	4	25	
4-Isopropyltoluene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	6	25	
4-Methyl-2-Pentanone	0.293	0.0500	mg/kg wet	0.2500		117	70-130	13	25	
Acetone	0.292	0.0500	mg/kg wet	0.2500		117	70-130	22	25	
Benzene	0.0551	0.0050	mg/kg wet	0.05000		110	70-130	0.9	25	
Bromobenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	5	25	
Bromochloromethane	0.0555	0.0050	mg/kg wet	0.05000		111	70-130	5	25	
Bromodichloromethane	0.0545	0.0050	mg/kg wet	0.05000		109	70-130	0.9	25	
Bromoform	0.0468	0.0050	mg/kg wet	0.05000		94	70-130	12	25	
Bromomethane	0.0494	0.0100	mg/kg wet	0.05000		99	70-130	0.9	25	
Carbon Disulfide	0.0534	0.0050	mg/kg wet	0.05000		107	70-130	0.04	25	
Carbon Tetrachloride	0.0533	0.0050	mg/kg wet	0.05000		107	70-130	3	25	
Chlorobenzene	0.0488	0.0050	mg/kg wet	0.05000		98	70-130	8	25	
Chloroethane	0.0486	0.0100	mg/kg wet	0.05000		97	70-130	4	25	
Chloroform	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	0.9	25	
Chloromethane	0.0507	0.0100	mg/kg wet	0.05000		101	70-130	8	25	
cis-1,2-Dichloroethene	0.0567	0.0050	mg/kg wet	0.05000		113	70-130	1	25	
cis-1,3-Dichloropropene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	0.7	25	
Dibromochloromethane	0.0617	0.0050	mg/kg wet	0.05000		123	70-130	15	25	
Dibromomethane	0.0506	0.0050	mg/kg wet	0.05000		101	70-130	4	25	
Dichlorodifluoromethane	0.0524	0.0100	mg/kg wet	0.05000		105	70-130	2	25	
Diethyl Ether	0.0498	0.0050	mg/kg wet	0.05000		100	70-130	5	25	
Di-isopropyl ether	0.0479	0.0050	mg/kg wet	0.05000		96	70-130	3	25	
Ethyl tertiary-butyl ether	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
Ethylbenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	4	25	
Hexachlorobutadiene	0.0459	0.0050	mg/kg wet	0.05000		92	70-130	1	25	
Isopropylbenzene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	5	25	
Methyl tert-Butyl Ether	0.0508	0.0050	mg/kg wet	0.05000		102	70-130	8	25	
Methylene Chloride	0.0587	0.0250	mg/kg wet	0.05000		117	70-130	3	25	
Naphthalene	0.0465	0.0050	mg/kg wet	0.05000		93	70-130	11	25	
n-Butylbenzene	0.0491	0.0050	mg/kg wet	0.05000		98	70-130	1	25	
n-Propylbenzene	0.0493	0.0050	mg/kg wet	0.05000		99	70-130	5	25	
sec-Butylbenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130	4	25	
Styrene	0.0501	0.0050	mg/kg wet	0.05000		100	70-130	6	25	
tert-Butylbenzene	0.0494	0.0050	mg/kg wet	0.05000		99	70-130	5	25	



CERTIFICATE OF ANALYSIS

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Quality Control Data

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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ50520 - 5035

Tertiary-amyl methyl ether	0.0549	0.0050	mg/kg wet	0.05000		110	70-130	6	25	
Tetrachloroethene	0.0495	0.0050	mg/kg wet	0.05000		99	70-130	8	25	
Tetrahydrofuran	0.0509	0.0050	mg/kg wet	0.05000		102	70-130	10	25	
Toluene	0.0496	0.0050	mg/kg wet	0.05000		99	70-130	0.2	25	
trans-1,2-Dichloroethene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
trans-1,3-Dichloropropene	0.0504	0.0050	mg/kg wet	0.05000		101	70-130	4	25	
Trichloroethene	0.0485	0.0050	mg/kg wet	0.05000		97	70-130	0.8	25	
Trichlorofluoromethane	0.0544	0.0050	mg/kg wet	0.05000		109	70-130	4	25	
Vinyl Acetate	0.0830	0.0050	mg/kg wet	0.05000		166	70-130	5	25	B+
Vinyl Chloride	0.0544	0.0100	mg/kg wet	0.05000		109	70-130	3	25	
Xylene O	0.0478	0.0050	mg/kg wet	0.05000		96	70-130	4	25	
Xylene P,M	0.0989	0.0100	mg/kg wet	0.1000		99	70-130	5	25	
Xylenes (Total)	0.147	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0556		mg/kg wet	0.05000		111	70-130			
Surrogate: 4-Bromofluorobenzene	0.0480		mg/kg wet	0.05000		96	70-130			
Surrogate: Dibromofluoromethane	0.0484		mg/kg wet	0.05000		97	70-130			
Surrogate: Toluene-d8	0.0506		mg/kg wet	0.05000		101	70-130			

8100M Total Petroleum Hydrocarbons

Batch CJ50214 - 3546

Blank

Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacotane (C30)	ND	0.2	mg/kg wet							

Surrogate: O-Terphenyl	4.95		mg/kg wet	5.000		99	40-140			
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LCS

Decane (C10)	1.7	0.2	mg/kg wet	2.500		69	40-140			
Docosane (C22)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Dodecane (C12)	1.8	0.2	mg/kg wet	2.500		73	40-140			
Eicosane (C20)	2.3	0.2	mg/kg wet	2.500		91	40-140			
Hexacosane (C26)	2.3	0.2	mg/kg wet	2.500		93	40-140			
Hexadecane (C16)	2.2	0.2	mg/kg wet	2.500		89	40-140			
Nonadecane (C19)	2.4	0.2	mg/kg wet	2.500		97	40-140			



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8100M Total Petroleum Hydrocarbons

Batch CJ50214 - 3546

Nonane (C9)	1.7	0.2	mg/kg wet	2.500		66	30-140			
Octacosane (C28)	2.3	0.2	mg/kg wet	2.500		90	40-140			
Octadecane (C18)	2.2	0.2	mg/kg wet	2.500		90	40-140			
Tetracosane (C24)	2.1	0.2	mg/kg wet	2.500		86	40-140			
Tetradecane (C14)	1.9	0.2	mg/kg wet	2.500		75	40-140			
Total Petroleum Hydrocarbons	30.4	37.5	mg/kg wet	35.00		87	40-140			
Triacotane (C30)	2.3	0.2	mg/kg wet	2.500		90	40-140			

Surrogate: O-Terphenyl

4.38 mg/kg wet 5.000 88 40-140

LCS Dup

Decane (C10)	1.9	0.2	mg/kg wet	2.500		77	40-140	11	25	
Docosane (C22)	2.6	0.2	mg/kg wet	2.500		103	40-140	13	25	
Dodecane (C12)	2.1	0.2	mg/kg wet	2.500		84	40-140	14	25	
Eicosane (C20)	2.6	0.2	mg/kg wet	2.500		105	40-140	15	25	
Hexacosane (C26)	2.6	0.2	mg/kg wet	2.500		104	40-140	12	25	
Hexadecane (C16)	2.5	0.2	mg/kg wet	2.500		98	40-140	10	25	
Nonadecane (C19)	2.8	0.2	mg/kg wet	2.500		112	40-140	14	25	
Nonane (C9)	1.8	0.2	mg/kg wet	2.500		72	30-140	8	25	
Octacosane (C28)	2.5	0.2	mg/kg wet	2.500		100	40-140	10	25	
Octadecane (C18)	2.6	0.2	mg/kg wet	2.500		104	40-140	15	25	
Tetracosane (C24)	2.4	0.2	mg/kg wet	2.500		97	40-140	13	25	
Tetradecane (C14)	2.2	0.2	mg/kg wet	2.500		87	40-140	14	25	
Total Petroleum Hydrocarbons	34.6	37.5	mg/kg wet	35.00		99	40-140	13	25	
Triacotane (C30)	2.5	0.2	mg/kg wet	2.500		99	40-140	9	25	

Surrogate: O-Terphenyl

4.93 mg/kg wet 5.000 99 40-140

8270D Semi-Volatile Organic Compounds

Batch CJ50515 - 3546

Blank

1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,3,4,6-Tetrachlorophenol	ND	1.67	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CJ50515 - 3546

2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitroaniline	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3'-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
3-Nitroaniline	ND	0.333	mg/kg wet							
4,6-Dinitro-2-Methylphenol	ND	1.67	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloro-3-Methylphenol	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Chloro-phenyl-phenyl ether	ND	0.333	mg/kg wet							
4-Nitroaniline	ND	0.333	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	0.667	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
Benzoic Acid	ND	1.67	mg/kg wet							
Benzyl Alcohol	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.167	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							



CERTIFICATE OF ANALYSIS

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ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CJ50515 - 3546

Hexachloroethane	ND	0.333	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
N-Nitroso-Di-n-Propylamine	ND	0.333	mg/kg wet							
N-nitrosodiphenylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							
Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	2.79		mg/kg wet	3.333		84	30-130			
Surrogate: 2,4,6-Tribromophenol	3.89		mg/kg wet	5.000		78	30-130			
Surrogate: 2-Chlorophenol-d4	4.51		mg/kg wet	5.000		90	30-130			
Surrogate: 2-Fluorobiphenyl	2.85		mg/kg wet	3.333		86	30-130			
Surrogate: 2-Fluorophenol	4.76		mg/kg wet	5.000		95	30-130			
Surrogate: Nitrobenzene-d5	3.22		mg/kg wet	3.333		97	30-130			
Surrogate: Phenol-d6	4.96		mg/kg wet	5.000		99	30-130			
Surrogate: p-Terphenyl-d14	3.46		mg/kg wet	3.333		104	30-130			

LCS

1,1-Biphenyl	2.91	0.333	mg/kg wet	3.333		87	40-140			
1,2,4-Trichlorobenzene	2.71	0.333	mg/kg wet	3.333		81	40-140			
1,2-Dichlorobenzene	2.73	0.333	mg/kg wet	3.333		82	40-140			
1,3-Dichlorobenzene	2.73	0.333	mg/kg wet	3.333		82	40-140			
1,4-Dichlorobenzene	2.74	0.333	mg/kg wet	3.333		82	40-140			
2,3,4,6-Tetrachlorophenol	2.50	1.67	mg/kg wet	3.333		75	30-130			
2,4,5-Trichlorophenol	3.14	0.333	mg/kg wet	3.333		94	30-130			
2,4,6-Trichlorophenol	3.23	0.333	mg/kg wet	3.333		97	30-130			
2,4-Dichlorophenol	2.97	0.333	mg/kg wet	3.333		89	30-130			
2,4-Dimethylphenol	3.19	0.333	mg/kg wet	3.333		96	30-130			
2,4-Dinitrophenol	2.83	1.67	mg/kg wet	3.333		85	30-130			
2,4-Dinitrotoluene	3.34	0.333	mg/kg wet	3.333		100	40-140			
2,6-Dinitrotoluene	3.00	0.333	mg/kg wet	3.333		90	40-140			
2-Chloronaphthalene	2.70	0.333	mg/kg wet	3.333		81	40-140			
2-Chlorophenol	2.90	0.333	mg/kg wet	3.333		87	30-130			
2-Methylnaphthalene	2.73	0.333	mg/kg wet	3.333		82	40-140			
2-Methylphenol	3.02	0.333	mg/kg wet	3.333		90	30-130			
2-Nitroaniline	2.84	0.333	mg/kg wet	3.333		85	40-140			
2-Nitrophenol	3.23	0.333	mg/kg wet	3.333		97	30-130			
3,3'-Dichlorobenzidine	2.14	0.667	mg/kg wet	3.333		64	40-140			
3+4-Methylphenol	6.13	0.667	mg/kg wet	6.667		92	30-130			
3-Nitroaniline	3.26	0.333	mg/kg wet	3.333		98	40-140			
4,6-Dinitro-2-Methylphenol	3.01	1.67	mg/kg wet	3.333		90	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CJ50515 - 3546

4-Bromophenyl-phenylether	2.95	0.333	mg/kg wet	3.333		89	40-140			
4-Chloro-3-Methylphenol	3.05	0.333	mg/kg wet	3.333		92	30-130			
4-Chloroaniline	2.53	0.667	mg/kg wet	3.333		76	40-140			
4-Chloro-phenyl-phenyl ether	2.95	0.333	mg/kg wet	3.333		88	40-140			
4-Nitroaniline	3.45	0.333	mg/kg wet	3.333		104	40-140			
4-Nitrophenol	3.37	1.67	mg/kg wet	3.333		101	30-130			
Acenaphthene	2.99	0.333	mg/kg wet	3.333		90	40-140			
Acenaphthylene	2.89	0.333	mg/kg wet	3.333		87	40-140			
Acetophenone	3.09	0.667	mg/kg wet	3.333		93	40-140			
Aniline	2.45	0.667	mg/kg wet	3.333		73	40-140			
Anthracene	3.06	0.333	mg/kg wet	3.333		92	40-140			
Azobenzene	3.31	0.333	mg/kg wet	3.333		99	40-140			
Benzo(a)anthracene	3.01	0.333	mg/kg wet	3.333		90	40-140			
Benzo(a)pyrene	3.08	0.167	mg/kg wet	3.333		92	40-140			
Benzo(b)fluoranthene	3.25	0.333	mg/kg wet	3.333		97	40-140			
Benzo(g,h,i)perylene	2.94	0.333	mg/kg wet	3.333		88	40-140			
Benzo(k)fluoranthene	3.07	0.333	mg/kg wet	3.333		92	40-140			
Benzoic Acid	2.34	1.67	mg/kg wet	3.333		70	40-140			
Benzyl Alcohol	2.68	0.333	mg/kg wet	3.333		80	40-140			
bis(2-Chloroethoxy)methane	3.15	0.333	mg/kg wet	3.333		95	40-140			
bis(2-Chloroethyl)ether	3.43	0.333	mg/kg wet	3.333		103	40-140			
bis(2-chloroisopropyl)Ether	2.80	0.333	mg/kg wet	3.333		84	40-140			
bis(2-Ethylhexyl)phthalate	3.25	0.333	mg/kg wet	3.333		98	40-140			
Butylbenzylphthalate	3.15	0.333	mg/kg wet	3.333		95	40-140			
Carbazole	3.21	0.333	mg/kg wet	3.333		96	40-140			
Chrysene	2.99	0.167	mg/kg wet	3.333		90	40-140			
Dibenzo(a,h)Anthracene	3.11	0.167	mg/kg wet	3.333		93	40-140			
Dibenzofuran	2.83	0.333	mg/kg wet	3.333		85	40-140			
Diethylphthalate	3.11	0.333	mg/kg wet	3.333		93	40-140			
Dimethylphthalate	3.00	0.333	mg/kg wet	3.333		90	40-140			
Di-n-butylphthalate	3.26	0.333	mg/kg wet	3.333		98	40-140			
Di-n-octylphthalate	3.37	0.333	mg/kg wet	3.333		101	40-140			
Fluoranthene	2.97	0.333	mg/kg wet	3.333		89	40-140			
Fluorene	3.03	0.333	mg/kg wet	3.333		91	40-140			
Hexachlorobenzene	2.63	0.167	mg/kg wet	3.333		79	40-140			
Hexachlorobutadiene	2.61	0.333	mg/kg wet	3.333		78	40-140			
Hexachlorocyclopentadiene	2.52	1.67	mg/kg wet	3.333		76	40-140			
Hexachloroethane	2.71	0.333	mg/kg wet	3.333		81	40-140			
Indeno(1,2,3-cd)Pyrene	3.08	0.333	mg/kg wet	3.333		93	40-140			
Isophorone	2.99	0.333	mg/kg wet	3.333		90	40-140			
Naphthalene	2.82	0.333	mg/kg wet	3.333		85	40-140			
Nitrobenzene	3.04	0.333	mg/kg wet	3.333		91	40-140			
N-Nitrosodimethylamine	1.93	0.333	mg/kg wet	3.333		58	40-140			
N-Nitroso-Di-n-Propylamine	2.99	0.333	mg/kg wet	3.333		90	40-140			
N-nitrosodiphenylamine	3.05	0.333	mg/kg wet	3.333		92	40-140			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CJ50515 - 3546

Pentachlorophenol	3.02	1.67	mg/kg wet	3.333		91	30-130			
Phenanthrene	3.00	0.333	mg/kg wet	3.333		90	40-140			
Phenol	2.97	0.333	mg/kg wet	3.333		89	30-130			
Pyrene	2.99	0.333	mg/kg wet	3.333		90	40-140			
Pyridine	1.51	1.67	mg/kg wet	3.333		45	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	2.73		mg/kg wet	3.333		82	30-130			
Surrogate: 2,4,6-Tribromophenol	4.10		mg/kg wet	5.000		82	30-130			
Surrogate: 2-Chlorophenol-d4	4.42		mg/kg wet	5.000		88	30-130			
Surrogate: 2-Fluorobiphenyl	2.86		mg/kg wet	3.333		86	30-130			
Surrogate: 2-Fluorophenol	4.66		mg/kg wet	5.000		93	30-130			
Surrogate: Nitrobenzene-d5	3.07		mg/kg wet	3.333		92	30-130			
Surrogate: Phenol-d6	4.82		mg/kg wet	5.000		96	30-130			
Surrogate: p-Terphenyl-d14	2.94		mg/kg wet	3.333		88	30-130			

LCS Dup

1,1-Biphenyl	2.74	0.333	mg/kg wet	3.333		82	40-140	6	30	
1,2,4-Trichlorobenzene	2.56	0.333	mg/kg wet	3.333		77	40-140	6	30	
1,2-Dichlorobenzene	2.61	0.333	mg/kg wet	3.333		78	40-140	5	30	
1,3-Dichlorobenzene	2.56	0.333	mg/kg wet	3.333		77	40-140	6	30	
1,4-Dichlorobenzene	2.55	0.333	mg/kg wet	3.333		76	40-140	7	30	
2,3,4,6-Tetrachlorophenol	2.32	1.67	mg/kg wet	3.333		70	30-130	8	30	
2,4,5-Trichlorophenol	2.97	0.333	mg/kg wet	3.333		89	30-130	6	30	
2,4,6-Trichlorophenol	3.03	0.333	mg/kg wet	3.333		91	30-130	6	30	
2,4-Dichlorophenol	2.80	0.333	mg/kg wet	3.333		84	30-130	6	30	
2,4-Dimethylphenol	3.00	0.333	mg/kg wet	3.333		90	30-130	6	30	
2,4-Dinitrophenol	2.68	1.67	mg/kg wet	3.333		80	30-130	5	30	
2,4-Dinitrotoluene	3.11	0.333	mg/kg wet	3.333		93	40-140	7	30	
2,6-Dinitrotoluene	2.81	0.333	mg/kg wet	3.333		84	40-140	7	30	
2-Chloronaphthalene	2.54	0.333	mg/kg wet	3.333		76	40-140	6	30	
2-Chlorophenol	2.70	0.333	mg/kg wet	3.333		81	30-130	7	30	
2-Methylnaphthalene	2.55	0.333	mg/kg wet	3.333		77	40-140	7	30	
2-Methylphenol	2.82	0.333	mg/kg wet	3.333		85	30-130	7	30	
2-Nitroaniline	2.66	0.333	mg/kg wet	3.333		80	40-140	6	30	
2-Nitrophenol	3.06	0.333	mg/kg wet	3.333		92	30-130	5	30	
3,3'-Dichlorobenzidine	2.14	0.667	mg/kg wet	3.333		64	40-140	0.02	30	
3+4-Methylphenol	5.68	0.667	mg/kg wet	6.667		85	30-130	8	30	
3-Nitroaniline	3.10	0.333	mg/kg wet	3.333		93	40-140	5	30	
4,6-Dinitro-2-Methylphenol	2.84	1.67	mg/kg wet	3.333		85	30-130	6	30	
4-Bromophenyl-phenylether	2.83	0.333	mg/kg wet	3.333		85	40-140	4	30	
4-Chloro-3-Methylphenol	2.88	0.333	mg/kg wet	3.333		86	30-130	6	30	
4-Chloroaniline	2.42	0.667	mg/kg wet	3.333		73	40-140	4	30	
4-Chloro-phenyl-phenyl ether	2.74	0.333	mg/kg wet	3.333		82	40-140	7	30	
4-Nitroaniline	3.28	0.333	mg/kg wet	3.333		98	40-140	5	30	
4-Nitrophenol	3.01	1.67	mg/kg wet	3.333		90	30-130	11	30	
Acenaphthene	2.81	0.333	mg/kg wet	3.333		84	40-140	6	30	
Acenaphthylene	2.73	0.333	mg/kg wet	3.333		82	40-140	6	30	



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
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ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CJ50515 - 3546

Acetophenone	2.87	0.667	mg/kg wet	3.333		86	40-140	7	30	
Aniline	2.30	0.667	mg/kg wet	3.333		69	40-140	6	30	
Anthracene	2.90	0.333	mg/kg wet	3.333		87	40-140	5	30	
Azobenzene	3.15	0.333	mg/kg wet	3.333		95	40-140	5	30	
Benzo(a)anthracene	2.85	0.333	mg/kg wet	3.333		85	40-140	6	30	
Benzo(a)pyrene	2.94	0.167	mg/kg wet	3.333		88	40-140	5	30	
Benzo(b)fluoranthene	3.15	0.333	mg/kg wet	3.333		94	40-140	3	30	
Benzo(g,h,i)perylene	2.78	0.333	mg/kg wet	3.333		83	40-140	6	30	
Benzo(k)fluoranthene	2.85	0.333	mg/kg wet	3.333		85	40-140	8	30	
Benzoic Acid	2.25	1.67	mg/kg wet	3.333		68	40-140	4	30	
Benzyl Alcohol	2.55	0.333	mg/kg wet	3.333		77	40-140	5	30	
bis(2-Chloroethoxy)methane	2.95	0.333	mg/kg wet	3.333		88	40-140	7	30	
bis(2-Chloroethyl)ether	3.20	0.333	mg/kg wet	3.333		96	40-140	7	30	
bis(2-chloroisopropyl)Ether	2.67	0.333	mg/kg wet	3.333		80	40-140	5	30	
bis(2-Ethylhexyl)phthalate	3.01	0.333	mg/kg wet	3.333		90	40-140	8	30	
Butylbenzylphthalate	2.93	0.333	mg/kg wet	3.333		88	40-140	7	30	
Carbazole	3.07	0.333	mg/kg wet	3.333		92	40-140	5	30	
Chrysene	2.82	0.167	mg/kg wet	3.333		85	40-140	6	30	
Dibenzo(a,h)Anthracene	2.95	0.167	mg/kg wet	3.333		88	40-140	5	30	
Dibenzofuran	2.66	0.333	mg/kg wet	3.333		80	40-140	6	30	
Diethylphthalate	2.89	0.333	mg/kg wet	3.333		87	40-140	7	30	
Dimethylphthalate	2.80	0.333	mg/kg wet	3.333		84	40-140	7	30	
Di-n-butylphthalate	3.06	0.333	mg/kg wet	3.333		92	40-140	6	30	
Di-n-octylphthalate	3.15	0.333	mg/kg wet	3.333		95	40-140	7	30	
Fluoranthene	2.82	0.333	mg/kg wet	3.333		85	40-140	5	30	
Fluorene	2.84	0.333	mg/kg wet	3.333		85	40-140	6	30	
Hexachlorobenzene	2.52	0.167	mg/kg wet	3.333		76	40-140	4	30	
Hexachlorobutadiene	2.46	0.333	mg/kg wet	3.333		74	40-140	6	30	
Hexachlorocyclopentadiene	2.36	1.67	mg/kg wet	3.333		71	40-140	6	30	
Hexachloroethane	2.55	0.333	mg/kg wet	3.333		76	40-140	6	30	
Indeno(1,2,3-cd)Pyrene	2.91	0.333	mg/kg wet	3.333		87	40-140	6	30	
Isophorone	2.81	0.333	mg/kg wet	3.333		84	40-140	6	30	
Naphthalene	2.67	0.333	mg/kg wet	3.333		80	40-140	6	30	
Nitrobenzene	2.86	0.333	mg/kg wet	3.333		86	40-140	6	30	
N-Nitrosodimethylamine	1.80	0.333	mg/kg wet	3.333		54	40-140	7	30	
N-Nitroso-Di-n-Propylamine	2.86	0.333	mg/kg wet	3.333		86	40-140	5	30	
N-nitrosodiphenylamine	2.93	0.333	mg/kg wet	3.333		88	40-140	4	30	
Pentachlorophenol	2.84	1.67	mg/kg wet	3.333		85	30-130	6	30	
Phenanthrene	2.86	0.333	mg/kg wet	3.333		86	40-140	5	30	
Phenol	2.72	0.333	mg/kg wet	3.333		82	30-130	9	30	
Pyrene	2.82	0.333	mg/kg wet	3.333		85	40-140	6	30	
Pyridine	1.35	1.67	mg/kg wet	3.333		40	40-140	11	30	
Surrogate: 1,2-Dichlorobenzene-d4	2.41		mg/kg wet	3.333		72	30-130			
Surrogate: 2,4,6-Tribromophenol	3.66		mg/kg wet	5.000		73	30-130			
Surrogate: 2-Chlorophenol-d4	3.91		mg/kg wet	5.000		78	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CJ50515 - 3546

<i>Surrogate: 2-Fluorobiphenyl</i>	2.54		mg/kg wet	3.333		76	30-130			
<i>Surrogate: 2-Fluorophenol</i>	4.11		mg/kg wet	5.000		82	30-130			
<i>Surrogate: Nitrobenzene-d5</i>	2.76		mg/kg wet	3.333		83	30-130			
<i>Surrogate: Phenol-d6</i>	4.24		mg/kg wet	5.000		85	30-130			
<i>Surrogate: p-Terphenyl-d14</i>	2.62		mg/kg wet	3.333		78	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

Notes and Definitions

- Z-10b Soil pH measured in water at 20.4 °C.
- Z-10a Soil pH measured in water at 20.3 °C.
- Z-10 Soil pH measured in water at 20.2 °C.
- U Analyte included in the analysis, but not detected
- S+ Surrogate recovery(ies) above upper control limit (S+).
- Q Calibration required quadratic regression (Q).
- IC Internal Standard(s) outside of criteria. Sample was reanalyzed to confirm (IC).
- D+ Relative percent difference for duplicate is outside of criteria (D+).
- D Diluted.
- CD+ Continuing Calibration %Diff/Drift is above control limit (CD+).
- CD- Continuing Calibration %Diff/Drift is below control limit (CD-).
- B+ Blank Spike recovery is above upper control limit (B+).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510057

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

Sample and Cooler Receipt Checklist

Client: Charter Environmental
Client Project ID: _____
Shipped/Delivered Via: Other

ESS Project ID: 15100057
Date Project Due: 10/9/15
Days For Project: 5 Day

Items to be checked upon receipt:

1. Air Bill Manifest Present?

* No

10. Are the samples properly preserved?

Yes

Air No.:

11. Proper sample containers used?

Yes

2. Were Custody Seals Present?

No

12. Any air bubbles in the VOA vials?

N/A

3. Were Custody Seals Intact?

N/A

13. Holding times exceeded?

No

4. Is Radiation count < 100 CPM?

Yes

14. Sufficient sample volumes?

Yes

5. Is a cooler present?

Yes

15. Any Subcontracting needed?

No

Cooler Temp: 10.8

16. Are ESS labels on correct containers? Yes No

Iced With: Ice

17. Were samples received intact? Yes No

6. Was COC included with samples?

Yes

ESS Sample IDs: _____

7. Was COC signed and dated by client?

Yes

Sub Lab: _____

8. Does the COC match the sample

Yes

Analysis: _____

9. Is COC complete and correct?

Yes

TAT: _____

18. Was there need to call project manager to discuss status? If yes, please explain.

LL VIALS FROZEN @ 1730 JL 10/2/15

Who was called?: _____

By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	40 ml - VOA	1	MeOH
1	Yes	40 ml - VOA	2	other
1	Yes	8 oz Soil Jar	1	NP
2	Yes	40 ml - VOA	1	MeOH
2	Yes	40 ml - VOA	2	other
2	Yes	8 oz Soil Jar	1	NP
3	Yes	40 ml - VOA	1	MeOH
3	Yes	40 ml - VOA	2	other
3	Yes	8 oz Soil Jar	1	NP
4	Yes	40 ml - VOA	1	MeOH
4	Yes	40 ml - VOA	2	other
4	Yes	8 oz Soil Jar	1	NP
5	Yes	40 ml - VOA	1	MeOH
5	Yes	40 ml - VOA	2	other
5	Yes	8 oz Soil Jar	1	NP

Completed By: [Signature]
Reviewed By: [Signature]

Date/Time: 10/2/15 1516
Date/Time: 10/2/15 1724



CERTIFICATE OF ANALYSIS

Paul J. Leofanti, Jr.
Charter Environmental, Inc.
500 Harrison Avenue, Suite 4R
Boston, MA 02118

RE: Textron Providence (74-15-0002.134)
ESS Laboratory Work Order Number: 1510737

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.

Laurel Stoddard
Laboratory Director

REVIEWED
By ESS Laboratory at 3:24 pm, Nov 02, 2015

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with NELAC Standards, A2LA and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510737

SAMPLE RECEIPT

The following samples were received on October 26, 2015 for the analyses specified on the enclosed Chain of Custody Record.

Low Level VOA vials were frozen by ESS Laboratory on October 26, 2015 at 17:33.

<u>Lab Number</u>	<u>Sample Name</u>	<u>Matrix</u>	<u>Analysis</u>
1510737-01	Material S and S Common Burrow A	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D
1510737-02	Material S and S Common Burrow B	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D
1510737-03	Material S and S Common Burrow C	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D
1510737-04	Material S and S Common Burrow D	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D
1510737-05	Material S and S Common Burrow E	Soil	6010C, 7471B, 8100M, 8260B Low, 8270D



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510737

PROJECT NARRATIVE

5035/8260B Volatile Organic Compounds / Low Level

- CJ52733-BS1 **Blank Spike recovery is above upper control limit (B+).**
1,2-Dibromoethane (131% @ 70-130%), 1,3-Dichloropropane (133% @ 70-130%), 2-Hexanone (147% @ 70-130%), Dibromochloromethane (153% @ 70-130%), Tetrachloroethene (133% @ 70-130%), Vinyl Acetate (192% @ 70-130%)
- CJ52733-BSD1 **Blank Spike recovery is above upper control limit (B+).**
1,2-Dibromo-3-Chloropropane (132% @ 70-130%), Acetone (132% @ 70-130%), Vinyl Acetate (194% @ 70-130%)
- CJ52733-BSD1 **Relative percent difference for duplicate is outside of criteria (D+).**
1,2,4-Trichlorobenzene (26% @ 25%), Bromobenzene (34% @ 25%), Dibromochloromethane (27% @ 25%), Hexachlorobutadiene (30% @ 25%), Isopropylbenzene (40% @ 25%), Naphthalene (32% @ 25%)
- CYJ0359-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
2-Hexanone (45% @ 30%), Dibromochloromethane (42% @ 30%)

8270D Semi-Volatile Organic Compounds

- CYJ0398-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (101% @ 80-120%), Benzoic Acid (116% @ 80-120%)
- CYJ0416-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (90% @ 80-120%), Benzoic Acid (83% @ 80-120%)
- CYJ0416-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
Di-n-octylphthalate (27% @ 20%)
- CYJ0416-CCV1 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
Pentachlorophenol (29% @ 20%)
- CYJ0417-CCV1 **Calibration required quadratic regression (Q).**
2,4-Dinitrophenol (92% @ 80-120%), Benzoic Acid (86% @ 80-120%)
- CYJ0417-CCV1 **Continuing Calibration %Diff/Drift is above control limit (CD+).**
Di-n-octylphthalate (22% @ 20%)
- CYJ0417-CCV1 **Continuing Calibration %Diff/Drift is below control limit (CD-).**
Pentachlorophenol (29% @ 20%)

No other observations noted.

End of Project Narrative.



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510737

DATA USABILITY LINKS

- [Definitions of Quality Control Parameters](#)
- [Semivolatile Organics Internal Standard Information](#)
- [Semivolatile Organics Surrogate Information](#)
- [Volatile Organics Internal Standard Information](#)
- [Volatile Organics Surrogate Information](#)
- [EPH and VPH Alkane Lists](#)

CURRENT SW-846 METHODOLOGY VERSIONS

Analytical Methods

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015D - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

Prep Methods

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow A
Date Sampled: 10/26/15 11:30
Percent Solids: 98

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-01
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	2.92 (2.37)		6010C		1	KJK	10/29/15 23:23	2.15	100	CJ52747
Barium	12.6 (2.37)		6010C		1	KJK	10/29/15 23:23	2.15	100	CJ52747
Cadmium	ND (0.47)		6010C		1	KJK	10/29/15 23:23	2.15	100	CJ52747
Chromium	1.96 (0.95)		6010C		1	KJK	10/29/15 23:23	2.15	100	CJ52747
Lead	ND (4.73)		6010C		1	KJK	10/29/15 23:23	2.15	100	CJ52747
Mercury	ND (0.029)		7471B		1	PJP	10/28/15 13:17	0.69	40	CJ52751
Selenium	ND (9.47)		6010C		2	KJK	10/30/15 17:02	2.15	100	CJ52747
Silver	ND (0.47)		6010C		1	KJK	10/29/15 23:23	2.15	100	CJ52747



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow A
Date Sampled: 10/26/15 11:30
Percent Solids: 98
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,1,1-Trichloroethane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,1,2,2-Tetrachloroethane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,1,2-Trichloroethane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,1-Dichloroethane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,1-Dichloroethene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,1-Dichloropropene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,2,3-Trichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,2,3-Trichloropropane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,2,4-Trichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,2,4-Trimethylbenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,2-Dibromo-3-Chloropropane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,2-Dibromoethane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,2-Dichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,2-Dichloroethane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,2-Dichloropropane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,3,5-Trimethylbenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,3-Dichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,3-Dichloropropane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,4-Dichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1,4-Dioxane	ND (0.0979)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
1-Chlorohexane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
2,2-Dichloropropane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
2-Butanone	ND (0.0489)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
2-Chlorotoluene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
2-Hexanone	ND (0.0489)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
4-Chlorotoluene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
4-Isopropyltoluene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
4-Methyl-2-Pentanone	ND (0.0489)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Acetone	ND (0.0489)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Benzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Bromobenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow A
Date Sampled: 10/26/15 11:30
Percent Solids: 98
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Bromodichloromethane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Bromoform	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Bromomethane	ND (0.0098)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Carbon Disulfide	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Carbon Tetrachloride	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Chlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Chloroethane	ND (0.0098)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Chloroform	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Chloromethane	ND (0.0098)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
cis-1,2-Dichloroethene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
cis-1,3-Dichloropropene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Dibromochloromethane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Dibromomethane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Dichlorodifluoromethane	ND (0.0098)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Diethyl Ether	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Di-isopropyl ether	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Ethyl tertiary-butyl ether	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Ethylbenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Hexachlorobutadiene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Isopropylbenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Methyl tert-Butyl Ether	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Methylene Chloride	ND (0.0245)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Naphthalene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
n-Butylbenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
n-Propylbenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
sec-Butylbenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Styrene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
tert-Butylbenzene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Tertiary-amyl methyl ether	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Tetrachloroethene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Tetrahydrofuran	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S and S Common Burrow A
 Date Sampled: 10/26/15 11:30
 Percent Solids: 98
 Initial Volume: 5.2
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1510737
 ESS Laboratory Sample ID: 1510737-01
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
trans-1,2-Dichloroethene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
trans-1,3-Dichloropropene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Trichloroethene	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Trichlorofluoromethane	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Vinyl Acetate	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Vinyl Chloride	ND (0.0098)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Xylene O	ND (0.0049)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Xylene P,M	ND (0.0098)		8260B Low		1	10/27/15 21:48	CYJ0359	CJ52733
Xylenes (Total)	ND (0.0098)		8260B Low		1	10/27/15 21:48		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	97 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	86 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	94 %		70-130
<i>Surrogate: Toluene-d8</i>	112 %		70-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow A
Date Sampled: 10/26/15 11:30
Percent Solids: 98
Initial Volume: 19.8
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 10/27/15 12:35

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (38.6)		8100M		1	10/28/15 3:31	CYJ0361	CJ52723
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>89 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow A
Date Sampled: 10/26/15 11:30
Percent Solids: 98
Initial Volume: 14.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
1,2,4-Trichlorobenzene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
1,2-Dichlorobenzene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
1,3-Dichlorobenzene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
1,4-Dichlorobenzene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2,3,4,6-Tetrachlorophenol	ND (1.75)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2,4,5-Trichlorophenol	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2,4,6-Trichlorophenol	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2,4-Dichlorophenol	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2,4-Dimethylphenol	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2,4-Dinitrophenol	ND (1.75)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2,4-Dinitrotoluene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2,6-Dinitrotoluene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2-Chloronaphthalene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2-Chlorophenol	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2-Methylnaphthalene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2-Methylphenol	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2-Nitroaniline	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
2-Nitrophenol	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
3,3'-Dichlorobenzidine	ND (0.698)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
3+4-Methylphenol	ND (0.698)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
3-Nitroaniline	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
4,6-Dinitro-2-Methylphenol	ND (1.75)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
4-Bromophenyl-phenylether	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
4-Chloro-3-Methylphenol	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
4-Chloroaniline	ND (0.698)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
4-Chloro-phenyl-phenyl ether	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
4-Nitroaniline	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
4-Nitrophenol	ND (1.75)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Acenaphthene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Acenaphthylene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Acetophenone	ND (0.698)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow A
Date Sampled: 10/26/15 11:30
Percent Solids: 98
Initial Volume: 14.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.698)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Anthracene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Azobenzene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Benzo(a)anthracene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Benzo(a)pyrene	ND (0.175)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Benzo(b)fluoranthene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Benzo(g,h,i)perylene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Benzo(k)fluoranthene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Benzoic Acid	ND (1.75)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Benzyl Alcohol	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
bis(2-Chloroethoxy)methane	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
bis(2-Chloroethyl)ether	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
bis(2-chloroisopropyl)Ether	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
bis(2-Ethylhexyl)phthalate	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Butylbenzylphthalate	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Carbazole	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Chrysene	ND (0.175)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Dibenzo(a,h)Anthracene	ND (0.175)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Dibenzofuran	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Diethylphthalate	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Dimethylphthalate	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Di-n-butylphthalate	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Di-n-octylphthalate	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Fluoranthene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Fluorene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Hexachlorobenzene	ND (0.175)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Hexachlorobutadiene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Hexachlorocyclopentadiene	ND (1.75)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Hexachloroethane	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Indeno(1,2,3-cd)Pyrene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Isophorone	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Naphthalene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow A
Date Sampled: 10/26/15 11:30
Percent Solids: 98
Initial Volume: 14.6
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-01
Sample Matrix: Soil
Units: mg/kg dry
Analyst: IBM
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
N-Nitrosodimethylamine	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
N-Nitroso-Di-n-Propylamine	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
N-nitrosodiphenylamine	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Pentachlorophenol	ND (1.75)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Phenanthrene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Phenol	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Pyrene	ND (0.348)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820
Pyridine	ND (1.75)		8270D		1	10/29/15 1:30	CYJ0417	CJ52820

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	72 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	57 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	73 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	74 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	71 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	74 %		30-130
<i>Surrogate: Phenol-d6</i>	75 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	87 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow B
Date Sampled: 10/26/15 11:45
Percent Solids: 99

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-02
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	ND (2.46)		6010C		1	KJK	10/29/15 23:41	2.06	100	CJ52747
Barium	12.4 (2.46)		6010C		1	KJK	10/29/15 23:41	2.06	100	CJ52747
Cadmium	ND (0.49)		6010C		1	KJK	10/29/15 23:41	2.06	100	CJ52747
Chromium	1.98 (0.99)		6010C		1	KJK	10/29/15 23:41	2.06	100	CJ52747
Lead	ND (4.93)		6010C		1	KJK	10/29/15 23:41	2.06	100	CJ52747
Mercury	ND (0.033)		7471B		1	PJP	10/28/15 13:19	0.61	40	CJ52751
Selenium	ND (9.86)		6010C		2	KJK	10/30/15 17:06	2.06	100	CJ52747
Silver	ND (0.49)		6010C		1	KJK	10/29/15 23:41	2.06	100	CJ52747



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow B
Date Sampled: 10/26/15 11:45
Percent Solids: 99
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,1,1-Trichloroethane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,1,2,2-Tetrachloroethane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,1,2-Trichloroethane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,1-Dichloroethane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,1-Dichloroethene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,1-Dichloropropene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,2,3-Trichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,2,3-Trichloropropane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,2,4-Trichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,2,4-Trimethylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,2-Dibromo-3-Chloropropane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,2-Dibromoethane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,2-Dichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,2-Dichloroethane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,2-Dichloropropane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,3,5-Trimethylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,3-Dichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,3-Dichloropropane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,4-Dichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1,4-Dioxane	ND (0.0976)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
1-Chlorohexane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
2,2-Dichloropropane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
2-Butanone	ND (0.0488)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
2-Chlorotoluene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
2-Hexanone	ND (0.0488)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
4-Chlorotoluene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
4-Isopropyltoluene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
4-Methyl-2-Pentanone	ND (0.0488)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Acetone	ND (0.0488)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Benzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Bromobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S and S Common Burrow B
 Date Sampled: 10/26/15 11:45
 Percent Solids: 99
 Initial Volume: 5.2
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1510737
 ESS Laboratory Sample ID: 1510737-02
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Bromodichloromethane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Bromoform	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Bromomethane	ND (0.0098)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Carbon Disulfide	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Carbon Tetrachloride	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Chlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Chloroethane	ND (0.0098)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Chloroform	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Chloromethane	ND (0.0098)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
cis-1,2-Dichloroethene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
cis-1,3-Dichloropropene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Dibromochloromethane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Dibromomethane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Dichlorodifluoromethane	ND (0.0098)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Diethyl Ether	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Di-isopropyl ether	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Ethyl tertiary-butyl ether	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Ethylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Hexachlorobutadiene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Isopropylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Methyl tert-Butyl Ether	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Methylene Chloride	ND (0.0244)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Naphthalene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
n-Butylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
n-Propylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
sec-Butylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Styrene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
tert-Butylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Tertiary-amyl methyl ether	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Tetrachloroethene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Tetrahydrofuran	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow B
Date Sampled: 10/26/15 11:45
Percent Solids: 99
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
trans-1,2-Dichloroethene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
trans-1,3-Dichloropropene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Trichloroethene	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Trichlorofluoromethane	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Vinyl Acetate	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Vinyl Chloride	ND (0.0098)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Xylene O	ND (0.0049)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Xylene P,M	ND (0.0098)		8260B Low		1	10/27/15 22:17	CYJ0359	CJ52733
Xylenes (Total)	ND (0.0098)		8260B Low		1	10/27/15 22:17		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>107 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>93 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>99 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>97 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow B
Date Sampled: 10/26/15 11:45
Percent Solids: 99
Initial Volume: 19.6
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 10/27/15 12:35

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (38.8)		8100M		1	10/28/15 4:09	CYJ0361	CJ52723
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>84 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow B
Date Sampled: 10/26/15 11:45
Percent Solids: 99
Initial Volume: 14
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
1,2,4-Trichlorobenzene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
1,2-Dichlorobenzene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
1,3-Dichlorobenzene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
1,4-Dichlorobenzene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2,3,4,6-Tetrachlorophenol	ND (1.82)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2,4,5-Trichlorophenol	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2,4,6-Trichlorophenol	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2,4-Dichlorophenol	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2,4-Dimethylphenol	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2,4-Dinitrophenol	ND (1.82)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2,4-Dinitrotoluene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2,6-Dinitrotoluene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2-Chloronaphthalene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2-Chlorophenol	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2-Methylnaphthalene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2-Methylphenol	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2-Nitroaniline	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
2-Nitrophenol	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
3,3'-Dichlorobenzidine	ND (0.725)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
3+4-Methylphenol	ND (0.725)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
3-Nitroaniline	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
4,6-Dinitro-2-Methylphenol	ND (1.82)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
4-Bromophenyl-phenylether	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
4-Chloro-3-Methylphenol	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
4-Chloroaniline	ND (0.725)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
4-Chloro-phenyl-phenyl ether	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
4-Nitroaniline	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
4-Nitrophenol	ND (1.82)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Acenaphthene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Acenaphthylene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Acetophenone	ND (0.725)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow B
Date Sampled: 10/26/15 11:45
Percent Solids: 99
Initial Volume: 14
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.725)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Anthracene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Azobenzene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Benzo(a)anthracene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Benzo(a)pyrene	ND (0.182)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Benzo(b)fluoranthene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Benzo(g,h,i)perylene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Benzo(k)fluoranthene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Benzoic Acid	ND (1.82)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Benzyl Alcohol	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
bis(2-Chloroethoxy)methane	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
bis(2-Chloroethyl)ether	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
bis(2-chloroisopropyl)Ether	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
bis(2-Ethylhexyl)phthalate	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Butylbenzylphthalate	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Carbazole	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Chrysene	ND (0.182)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Dibenzo(a,h)Anthracene	ND (0.182)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Dibenzofuran	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Diethylphthalate	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Dimethylphthalate	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Di-n-butylphthalate	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Di-n-octylphthalate	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Fluoranthene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Fluorene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Hexachlorobenzene	ND (0.182)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Hexachlorobutadiene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Hexachlorocyclopentadiene	ND (1.82)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Hexachloroethane	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Indeno(1,2,3-cd)Pyrene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Isophorone	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Naphthalene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow B
Date Sampled: 10/26/15 11:45
Percent Solids: 99
Initial Volume: 14
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-02
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
N-Nitrosodimethylamine	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
N-Nitroso-Di-n-Propylamine	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
N-nitrosodiphenylamine	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Pentachlorophenol	ND (1.82)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Phenanthrene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Phenol	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Pyrene	ND (0.362)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820
Pyridine	ND (1.82)		8270D		1	10/28/15 19:43	CYJ0398	CJ52820

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>69 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>70 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>70 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>79 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>68 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>79 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>71 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>95 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow C
Date Sampled: 10/26/15 11:58
Percent Solids: 99

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-03
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	2.35 (2.29)		6010C		1	KJK	10/29/15 23:45	2.21	100	CJ52747
Barium	12.1 (2.29)		6010C		1	KJK	10/29/15 23:45	2.21	100	CJ52747
Cadmium	ND (0.46)		6010C		1	KJK	10/29/15 23:45	2.21	100	CJ52747
Chromium	1.93 (0.92)		6010C		1	KJK	10/29/15 23:45	2.21	100	CJ52747
Lead	ND (4.59)		6010C		1	KJK	10/29/15 23:45	2.21	100	CJ52747
Mercury	ND (0.033)		7471B		1	PJP	10/28/15 13:21	0.61	40	CJ52751
Selenium	ND (9.17)		6010C		2	KJK	10/30/15 17:10	2.21	100	CJ52747
Silver	ND (0.46)		6010C		1	KJK	10/29/15 23:45	2.21	100	CJ52747



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow C
Date Sampled: 10/26/15 11:58
Percent Solids: 99
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,1,1-Trichloroethane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,1,2,2-Tetrachloroethane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,1,2-Trichloroethane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,1-Dichloroethane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,1-Dichloroethene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,1-Dichloropropene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,2,3-Trichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,2,3-Trichloropropane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,2,4-Trichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,2,4-Trimethylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,2-Dibromo-3-Chloropropane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,2-Dibromoethane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,2-Dichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,2-Dichloroethane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,2-Dichloropropane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,3,5-Trimethylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,3-Dichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,3-Dichloropropane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,4-Dichlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1,4-Dioxane	ND (0.0974)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
1-Chlorohexane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
2,2-Dichloropropane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
2-Butanone	ND (0.0487)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
2-Chlorotoluene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
2-Hexanone	ND (0.0487)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
4-Chlorotoluene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
4-Isopropyltoluene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
4-Methyl-2-Pentanone	ND (0.0487)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Acetone	ND (0.0487)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Benzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Bromobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow C
Date Sampled: 10/26/15 11:58
Percent Solids: 99
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Bromodichloromethane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Bromoform	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Bromomethane	ND (0.0097)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Carbon Disulfide	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Carbon Tetrachloride	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Chlorobenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Chloroethane	ND (0.0097)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Chloroform	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Chloromethane	ND (0.0097)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
cis-1,2-Dichloroethene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
cis-1,3-Dichloropropene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Dibromochloromethane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Dibromomethane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Dichlorodifluoromethane	ND (0.0097)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Diethyl Ether	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Di-isopropyl ether	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Ethyl tertiary-butyl ether	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Ethylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Hexachlorobutadiene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Isopropylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Methyl tert-Butyl Ether	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Methylene Chloride	ND (0.0244)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Naphthalene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
n-Butylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
n-Propylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
sec-Butylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Styrene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
tert-Butylbenzene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Tertiary-amyl methyl ether	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Tetrachloroethene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Tetrahydrofuran	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow C
Date Sampled: 10/26/15 11:58
Percent Solids: 99
Initial Volume: 5.2
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
trans-1,2-Dichloroethene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
trans-1,3-Dichloropropene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Trichloroethene	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Trichlorofluoromethane	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Vinyl Acetate	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Vinyl Chloride	ND (0.0097)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Xylene O	ND (0.0049)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Xylene P,M	ND (0.0097)		8260B Low		1	10/27/15 22:45	CYJ0359	CJ52733
Xylenes (Total)	ND (0.0097)		8260B Low		1	10/27/15 22:45		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>104 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>79 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>101 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>112 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow C
Date Sampled: 10/26/15 11:58
Percent Solids: 99
Initial Volume: 19.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 10/27/15 12:35

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (39.0)		8100M		1	10/28/15 6:05	CYJ0361	CJ52723
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>90 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow C
Date Sampled: 10/26/15 11:58
Percent Solids: 99
Initial Volume: 14.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
1,2,4-Trichlorobenzene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
1,2-Dichlorobenzene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
1,3-Dichlorobenzene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
1,4-Dichlorobenzene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2,3,4,6-Tetrachlorophenol	ND (1.73)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2,4,5-Trichlorophenol	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2,4,6-Trichlorophenol	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2,4-Dichlorophenol	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2,4-Dimethylphenol	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2,4-Dinitrophenol	ND (1.73)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2,4-Dinitrotoluene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2,6-Dinitrotoluene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2-Chloronaphthalene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2-Chlorophenol	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2-Methylnaphthalene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2-Methylphenol	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2-Nitroaniline	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
2-Nitrophenol	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
3,3'-Dichlorobenzidine	ND (0.690)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
3+4-Methylphenol	ND (0.690)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
3-Nitroaniline	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
4,6-Dinitro-2-Methylphenol	ND (1.73)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
4-Bromophenyl-phenylether	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
4-Chloro-3-Methylphenol	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
4-Chloroaniline	ND (0.690)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
4-Chloro-phenyl-phenyl ether	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
4-Nitroaniline	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
4-Nitrophenol	ND (1.73)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Acenaphthene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Acenaphthylene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Acetophenone	ND (0.690)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow C
Date Sampled: 10/26/15 11:58
Percent Solids: 99
Initial Volume: 14.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-03
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.690)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Anthracene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Azobenzene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Benzo(a)anthracene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Benzo(a)pyrene	ND (0.173)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Benzo(b)fluoranthene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Benzo(g,h,i)perylene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Benzo(k)fluoranthene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Benzoic Acid	ND (1.73)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Benzyl Alcohol	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
bis(2-Chloroethoxy)methane	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
bis(2-Chloroethyl)ether	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
bis(2-chloroisopropyl)Ether	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
bis(2-Ethylhexyl)phthalate	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Butylbenzylphthalate	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Carbazole	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Chrysene	ND (0.173)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Dibenzo(a,h)Anthracene	ND (0.173)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Dibenzofuran	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Diethylphthalate	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Dimethylphthalate	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Di-n-butylphthalate	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Di-n-octylphthalate	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Fluoranthene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Fluorene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Hexachlorobenzene	ND (0.173)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Hexachlorobutadiene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Hexachlorocyclopentadiene	ND (1.73)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Hexachloroethane	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Indeno(1,2,3-cd)Pyrene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Isophorone	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Naphthalene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S and S Common Burrow C
 Date Sampled: 10/26/15 11:58
 Percent Solids: 99
 Initial Volume: 14.7
 Final Volume: 0.5
 Extraction Method: 3546

ESS Laboratory Work Order: 1510737
 ESS Laboratory Sample ID: 1510737-03
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: VSC
 Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
N-Nitrosodimethylamine	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
N-Nitroso-Di-n-Propylamine	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
N-nitrosodiphenylamine	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Pentachlorophenol	ND (1.73)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Phenanthrene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Phenol	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Pyrene	ND (0.344)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820
Pyridine	ND (1.73)		8270D		1	10/28/15 20:18	CYJ0398	CJ52820

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	75 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	71 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	72 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	83 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	71 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	82 %		30-130
<i>Surrogate: Phenol-d6</i>	73 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	94 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow D
Date Sampled: 10/26/15 13:10
Percent Solids: 99

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-04
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	3.35 (2.30)		6010C		1	KJK	10/29/15 23:49	2.19	100	CJ52747
Barium	13.2 (2.30)		6010C		1	KJK	10/29/15 23:49	2.19	100	CJ52747
Cadmium	ND (0.46)		6010C		1	KJK	10/29/15 23:49	2.19	100	CJ52747
Chromium	1.97 (0.92)		6010C		1	KJK	10/29/15 23:49	2.19	100	CJ52747
Lead	ND (4.60)		6010C		1	KJK	10/29/15 23:49	2.19	100	CJ52747
Mercury	ND (0.032)		7471B		1	PJP	10/28/15 13:27	0.63	40	CJ52751
Selenium	ND (9.20)		6010C		2	KJK	10/30/15 17:14	2.19	100	CJ52747
Silver	ND (0.46)		6010C		1	KJK	10/29/15 23:49	2.19	100	CJ52747



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence
 Client Sample ID: Material S and S Common Burrow D
 Date Sampled: 10/26/15 13:10
 Percent Solids: 99
 Initial Volume: 5.5
 Final Volume: 10
 Extraction Method: 5035

ESS Laboratory Work Order: 1510737
 ESS Laboratory Sample ID: 1510737-04
 Sample Matrix: Soil
 Units: mg/kg dry
 Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,1,1-Trichloroethane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,1,2,2-Tetrachloroethane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,1,2-Trichloroethane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,1-Dichloroethane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,1-Dichloroethene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,1-Dichloropropene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,2,3-Trichlorobenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,2,3-Trichloropropane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,2,4-Trichlorobenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,2,4-Trimethylbenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,2-Dibromo-3-Chloropropane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,2-Dibromoethane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,2-Dichlorobenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,2-Dichloroethane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,2-Dichloropropane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,3,5-Trimethylbenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,3-Dichlorobenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,3-Dichloropropane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,4-Dichlorobenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1,4-Dioxane	ND (0.0915)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
1-Chlorohexane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
2,2-Dichloropropane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
2-Butanone	ND (0.0458)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
2-Chlorotoluene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
2-Hexanone	ND (0.0458)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
4-Chlorotoluene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
4-Isopropyltoluene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
4-Methyl-2-Pentanone	ND (0.0458)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Acetone	ND (0.0458)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Benzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Bromobenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow D
Date Sampled: 10/26/15 13:10
Percent Solids: 99
Initial Volume: 5.5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Bromodichloromethane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Bromoform	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Bromomethane	ND (0.0092)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Carbon Disulfide	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Carbon Tetrachloride	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Chlorobenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Chloroethane	ND (0.0092)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Chloroform	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Chloromethane	ND (0.0092)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
cis-1,2-Dichloroethene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
cis-1,3-Dichloropropene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Dibromochloromethane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Dibromomethane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Dichlorodifluoromethane	ND (0.0092)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Diethyl Ether	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Di-isopropyl ether	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Ethyl tertiary-butyl ether	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Ethylbenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Hexachlorobutadiene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Isopropylbenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Methyl tert-Butyl Ether	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Methylene Chloride	ND (0.0229)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Naphthalene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
n-Butylbenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
n-Propylbenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
sec-Butylbenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Styrene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
tert-Butylbenzene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Tertiary-amyl methyl ether	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Tetrachloroethene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Tetrahydrofuran	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow D
Date Sampled: 10/26/15 13:10
Percent Solids: 99
Initial Volume: 5.5
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
trans-1,2-Dichloroethene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
trans-1,3-Dichloropropene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Trichloroethene	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Trichlorofluoromethane	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Vinyl Acetate	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Vinyl Chloride	ND (0.0092)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Xylene O	ND (0.0046)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Xylene P,M	ND (0.0092)		8260B Low		1	10/27/15 23:14	CYJ0359	CJ52733
Xylenes (Total)	ND (0.0092)		8260B Low		1	10/27/15 23:14		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>108 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>75 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>101 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>98 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow D
Date Sampled: 10/26/15 13:10
Percent Solids: 99
Initial Volume: 20.5
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 10/27/15 12:35

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (36.8)		8100M		1	10/28/15 6:44	CYJ0361	CJ52723
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>90 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow D
Date Sampled: 10/26/15 13:10
Percent Solids: 99
Initial Volume: 14.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
1,2,4-Trichlorobenzene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
1,2-Dichlorobenzene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
1,3-Dichlorobenzene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
1,4-Dichlorobenzene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2,3,4,6-Tetrachlorophenol	ND (1.72)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2,4,5-Trichlorophenol	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2,4,6-Trichlorophenol	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2,4-Dichlorophenol	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2,4-Dimethylphenol	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2,4-Dinitrophenol	ND (1.72)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2,4-Dinitrotoluene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2,6-Dinitrotoluene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2-Chloronaphthalene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2-Chlorophenol	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2-Methylnaphthalene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2-Methylphenol	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2-Nitroaniline	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
2-Nitrophenol	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
3,3'-Dichlorobenzidine	ND (0.685)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
3+4-Methylphenol	ND (0.685)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
3-Nitroaniline	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
4,6-Dinitro-2-Methylphenol	ND (1.72)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
4-Bromophenyl-phenylether	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
4-Chloro-3-Methylphenol	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
4-Chloroaniline	ND (0.685)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
4-Chloro-phenyl-phenyl ether	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
4-Nitroaniline	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
4-Nitrophenol	ND (1.72)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Acenaphthene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Acenaphthylene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Acetophenone	ND (0.685)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow D
Date Sampled: 10/26/15 13:10
Percent Solids: 99
Initial Volume: 14.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.685)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Anthracene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Azobenzene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Benzo(a)anthracene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Benzo(a)pyrene	ND (0.172)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Benzo(b)fluoranthene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Benzo(g,h,i)perylene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Benzo(k)fluoranthene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Benzoic Acid	ND (1.72)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Benzyl Alcohol	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
bis(2-Chloroethoxy)methane	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
bis(2-Chloroethyl)ether	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
bis(2-chloroisopropyl)Ether	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
bis(2-Ethylhexyl)phthalate	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Butylbenzylphthalate	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Carbazole	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Chrysene	ND (0.172)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Dibenzo(a,h)Anthracene	ND (0.172)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Dibenzofuran	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Diethylphthalate	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Dimethylphthalate	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Di-n-butylphthalate	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Di-n-octylphthalate	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Fluoranthene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Fluorene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Hexachlorobenzene	ND (0.172)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Hexachlorobutadiene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Hexachlorocyclopentadiene	ND (1.72)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Hexachloroethane	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Indeno(1,2,3-cd)Pyrene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Isophorone	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Naphthalene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow D
Date Sampled: 10/26/15 13:10
Percent Solids: 99
Initial Volume: 14.7
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-04
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
N-Nitrosodimethylamine	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
N-Nitroso-Di-n-Propylamine	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
N-nitrosodiphenylamine	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Pentachlorophenol	ND (1.72)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Phenanthrene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Phenol	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Pyrene	ND (0.342)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820
Pyridine	ND (1.72)		8270D		1	10/28/15 20:53	CYJ0398	CJ52820

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	<i>74 %</i>		<i>30-130</i>
<i>Surrogate: 2,4,6-Tribromophenol</i>	<i>70 %</i>		<i>30-130</i>
<i>Surrogate: 2-Chlorophenol-d4</i>	<i>72 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorobiphenyl</i>	<i>79 %</i>		<i>30-130</i>
<i>Surrogate: 2-Fluorophenol</i>	<i>70 %</i>		<i>30-130</i>
<i>Surrogate: Nitrobenzene-d5</i>	<i>76 %</i>		<i>30-130</i>
<i>Surrogate: Phenol-d6</i>	<i>73 %</i>		<i>30-130</i>
<i>Surrogate: p-Terphenyl-d14</i>	<i>94 %</i>		<i>30-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow E
Date Sampled: 10/26/15 13:20
Percent Solids: 99

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-05
Sample Matrix: Soil
Units: mg/kg dry

Extraction Method: 3050B

Total Metals

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Arsenic	2.76 (2.35)		6010C		1	KJK	10/29/15 23:53	2.16	100	CJ52747
Barium	12.4 (2.35)		6010C		1	KJK	10/29/15 23:53	2.16	100	CJ52747
Cadmium	ND (0.47)		6010C		1	KJK	10/29/15 23:53	2.16	100	CJ52747
Chromium	1.86 (0.94)		6010C		1	KJK	10/29/15 23:53	2.16	100	CJ52747
Lead	ND (4.70)		6010C		1	KJK	10/29/15 23:53	2.16	100	CJ52747
Mercury	ND (0.033)		7471B		1	PJP	10/28/15 13:29	0.6	40	CJ52751
Selenium	ND (9.40)		6010C		2	KJK	10/30/15 17:18	2.16	100	CJ52747
Silver	ND (0.47)		6010C		1	KJK	10/29/15 23:53	2.16	100	CJ52747



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow E
Date Sampled: 10/26/15 13:20
Percent Solids: 99
Initial Volume: 5.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,1,1-Trichloroethane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,1,2,2-Tetrachloroethane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,1,2-Trichloroethane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,1-Dichloroethane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,1-Dichloroethene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,1-Dichloropropene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,2,3-Trichlorobenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,2,3-Trichloropropane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,2,4-Trichlorobenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,2,4-Trimethylbenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,2-Dibromo-3-Chloropropane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,2-Dibromoethane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,2-Dichlorobenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,2-Dichloroethane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,2-Dichloropropane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,3,5-Trimethylbenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,3-Dichlorobenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,3-Dichloropropane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,4-Dichlorobenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1,4-Dioxane	ND (0.0875)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
1-Chlorohexane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
2,2-Dichloropropane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
2-Butanone	ND (0.0437)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
2-Chlorotoluene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
2-Hexanone	ND (0.0437)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
4-Chlorotoluene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
4-Isopropyltoluene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
4-Methyl-2-Pentanone	ND (0.0437)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Acetone	ND (0.0437)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Benzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Bromobenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow E
Date Sampled: 10/26/15 13:20
Percent Solids: 99
Initial Volume: 5.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Bromodichloromethane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Bromoform	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Bromomethane	ND (0.0087)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Carbon Disulfide	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Carbon Tetrachloride	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Chlorobenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Chloroethane	ND (0.0087)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Chloroform	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Chloromethane	ND (0.0087)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
cis-1,2-Dichloroethene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
cis-1,3-Dichloropropene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Dibromochloromethane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Dibromomethane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Dichlorodifluoromethane	ND (0.0087)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Diethyl Ether	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Di-isopropyl ether	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Ethyl tertiary-butyl ether	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Ethylbenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Hexachlorobutadiene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Isopropylbenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Methyl tert-Butyl Ether	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Methylene Chloride	ND (0.0219)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Naphthalene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
n-Butylbenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
n-Propylbenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
sec-Butylbenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Styrene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
tert-Butylbenzene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Tertiary-amyl methyl ether	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Tetrachloroethene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Tetrahydrofuran	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow E
Date Sampled: 10/26/15 13:20
Percent Solids: 99
Initial Volume: 5.8
Final Volume: 10
Extraction Method: 5035

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: MEK

5035/8260B Volatile Organic Compounds / Low Level

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Toluene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
trans-1,2-Dichloroethene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
trans-1,3-Dichloropropene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Trichloroethene	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Trichlorofluoromethane	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Vinyl Acetate	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Vinyl Chloride	ND (0.0087)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Xylene O	ND (0.0044)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Xylene P,M	ND (0.0087)		8260B Low		1	10/27/15 23:42	CYJ0359	CJ52733
Xylenes (Total)	ND (0.0087)		8260B Low		1	10/27/15 23:42		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>109 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>101 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>98 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>120 %</i>		<i>70-130</i>



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow E
Date Sampled: 10/26/15 13:20
Percent Solids: 99
Initial Volume: 20.3
Final Volume: 1
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: DPS
Prepared: 10/27/15 12:35

8100M Total Petroleum Hydrocarbons

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Total Petroleum Hydrocarbons	ND (37.5)		8100M		1	10/28/15 7:23	CYJ0361	CJ52723
		<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>				
<i>Surrogate: O-Terphenyl</i>		<i>86 %</i>		<i>40-140</i>				



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow E
Date Sampled: 10/26/15 13:20
Percent Solids: 99
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1-Biphenyl	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
1,2,4-Trichlorobenzene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
1,2-Dichlorobenzene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
1,3-Dichlorobenzene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
1,4-Dichlorobenzene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2,3,4,6-Tetrachlorophenol	ND (1.67)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2,4,5-Trichlorophenol	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2,4,6-Trichlorophenol	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2,4-Dichlorophenol	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2,4-Dimethylphenol	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2,4-Dinitrophenol	ND (1.67)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2,4-Dinitrotoluene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2,6-Dinitrotoluene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2-Chloronaphthalene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2-Chlorophenol	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2-Methylnaphthalene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2-Methylphenol	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2-Nitroaniline	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
2-Nitrophenol	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
3,3'-Dichlorobenzidine	ND (0.668)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
3+4-Methylphenol	ND (0.668)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
3-Nitroaniline	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
4,6-Dinitro-2-Methylphenol	ND (1.67)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
4-Bromophenyl-phenylether	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
4-Chloro-3-Methylphenol	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
4-Chloroaniline	ND (0.668)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
4-Chloro-phenyl-phenyl ether	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
4-Nitroaniline	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
4-Nitrophenol	ND (1.67)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Acenaphthene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Acenaphthylene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Acetophenone	ND (0.668)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow E
Date Sampled: 10/26/15 13:20
Percent Solids: 99
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Aniline	ND (0.668)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Anthracene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Azobenzene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Benzo(a)anthracene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Benzo(a)pyrene	ND (0.167)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Benzo(b)fluoranthene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Benzo(g,h,i)perylene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Benzo(k)fluoranthene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Benzoic Acid	ND (1.67)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Benzyl Alcohol	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
bis(2-Chloroethoxy)methane	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
bis(2-Chloroethyl)ether	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
bis(2-chloroisopropyl)Ether	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
bis(2-Ethylhexyl)phthalate	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Butylbenzylphthalate	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Carbazole	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Chrysene	ND (0.167)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Dibenzo(a,h)Anthracene	ND (0.167)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Dibenzofuran	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Diethylphthalate	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Dimethylphthalate	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Di-n-butylphthalate	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Di-n-octylphthalate	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Fluoranthene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Fluorene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Hexachlorobenzene	ND (0.167)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Hexachlorobutadiene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Hexachlorocyclopentadiene	ND (1.67)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Hexachloroethane	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Indeno(1,2,3-cd)Pyrene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Isophorone	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Naphthalene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence
Client Sample ID: Material S and S Common Burrow E
Date Sampled: 10/26/15 13:20
Percent Solids: 99
Initial Volume: 15.2
Final Volume: 0.5
Extraction Method: 3546

ESS Laboratory Work Order: 1510737
ESS Laboratory Sample ID: 1510737-05
Sample Matrix: Soil
Units: mg/kg dry
Analyst: VSC
Prepared: 10/28/15 14:06

8270D Semi-Volatile Organic Compounds

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Nitrobenzene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
N-Nitrosodimethylamine	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
N-Nitroso-Di-n-Propylamine	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
N-nitrosodiphenylamine	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Pentachlorophenol	ND (1.67)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Phenanthrene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Phenol	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Pyrene	ND (0.334)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820
Pyridine	ND (1.67)		8270D		1	10/28/15 21:28	CYJ0398	CJ52820

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichlorobenzene-d4</i>	62 %		30-130
<i>Surrogate: 2,4,6-Tribromophenol</i>	67 %		30-130
<i>Surrogate: 2-Chlorophenol-d4</i>	61 %		30-130
<i>Surrogate: 2-Fluorobiphenyl</i>	72 %		30-130
<i>Surrogate: 2-Fluorophenol</i>	60 %		30-130
<i>Surrogate: Nitrobenzene-d5</i>	69 %		30-130
<i>Surrogate: Phenol-d6</i>	62 %		30-130
<i>Surrogate: p-Terphenyl-d14</i>	95 %		30-130



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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Total Metals

Batch CJ52747 - 3050B

Blank

Arsenic	ND	2.50	mg/kg wet
Barium	ND	2.50	mg/kg wet
Cadmium	ND	0.50	mg/kg wet
Chromium	ND	1.00	mg/kg wet
Lead	ND	5.00	mg/kg wet
Selenium	ND	5.00	mg/kg wet
Silver	ND	0.50	mg/kg wet

LCS

Arsenic	40.2	9.43	mg/kg wet	52.30	77	43-169
Barium	121	9.43	mg/kg wet	145.0	84	80-120
Cadmium	48.1	1.89	mg/kg wet	71.60	67	62-138
Chromium	71.5	3.77	mg/kg wet	88.50	81	80-120
Selenium	60.0	18.9	mg/kg wet	81.10	74	64-137
Silver	93.8	1.89	mg/kg wet	114.0	82	80-120

LCS

Lead	107	18.5	mg/kg wet	133.0	81	80-120
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LCS Dup

Arsenic	42.6	9.80	mg/kg wet	52.30	81	43-169	6	20
Barium	134	9.80	mg/kg wet	145.0	92	80-120	10	20
Cadmium	49.4	1.96	mg/kg wet	71.60	69	62-138	3	20
Chromium	72.6	3.92	mg/kg wet	88.50	82	80-120	1	20
Selenium	53.4	19.6	mg/kg wet	81.10	66	64-137	12	20
Silver	101	1.96	mg/kg wet	114.0	89	80-120	7	20

LCS Dup

Lead	116	19.6	mg/kg wet	133.0	87	80-120	8	20
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Batch CJ52751 - 7471A

Blank

Mercury	ND	0.033	mg/kg wet
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LCS

Mercury	9.90	1.71	mg/kg wet	9.700	102	80-120
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LCS Dup

Mercury	9.62	1.98	mg/kg wet	9.700	99	80-120	3	20
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ52733 - 5035

Blank

1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet
1,1,1-Trichloroethane	ND	0.0050	mg/kg wet
1,1,2,2-Tetrachloroethane	ND	0.0050	mg/kg wet
1,1,2-Trichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethane	ND	0.0050	mg/kg wet
1,1-Dichloroethene	ND	0.0050	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
 Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ52733 - 5035

1,1-Dichloropropene	ND	0.0050	mg/kg wet
1,2,3-Trichlorobenzene	ND	0.0050	mg/kg wet
1,2,3-Trichloropropane	ND	0.0050	mg/kg wet
1,2,4-Trichlorobenzene	ND	0.0050	mg/kg wet
1,2,4-Trimethylbenzene	ND	0.0050	mg/kg wet
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/kg wet
1,2-Dibromoethane	ND	0.0050	mg/kg wet
1,2-Dichlorobenzene	ND	0.0050	mg/kg wet
1,2-Dichloroethane	ND	0.0050	mg/kg wet
1,2-Dichloropropane	ND	0.0050	mg/kg wet
1,3,5-Trimethylbenzene	ND	0.0050	mg/kg wet
1,3-Dichlorobenzene	ND	0.0050	mg/kg wet
1,3-Dichloropropane	ND	0.0050	mg/kg wet
1,4-Dichlorobenzene	ND	0.0050	mg/kg wet
1,4-Dioxane	ND	0.100	mg/kg wet
1-Chlorohexane	ND	0.0050	mg/kg wet
2,2-Dichloropropane	ND	0.0050	mg/kg wet
2-Butanone	ND	0.0500	mg/kg wet
2-Chlorotoluene	ND	0.0050	mg/kg wet
2-Hexanone	ND	0.0500	mg/kg wet
4-Chlorotoluene	ND	0.0050	mg/kg wet
4-Isopropyltoluene	ND	0.0050	mg/kg wet
4-Methyl-2-Pentanone	ND	0.0500	mg/kg wet
Acetone	ND	0.0500	mg/kg wet
Benzene	ND	0.0050	mg/kg wet
Bromobenzene	ND	0.0050	mg/kg wet
Bromochloromethane	ND	0.0050	mg/kg wet
Bromodichloromethane	ND	0.0050	mg/kg wet
Bromoform	ND	0.0050	mg/kg wet
Bromomethane	ND	0.0100	mg/kg wet
Carbon Disulfide	ND	0.0050	mg/kg wet
Carbon Tetrachloride	ND	0.0050	mg/kg wet
Chlorobenzene	ND	0.0050	mg/kg wet
Chloroethane	ND	0.0100	mg/kg wet
Chloroform	ND	0.0050	mg/kg wet
Chloromethane	ND	0.0100	mg/kg wet
cis-1,2-Dichloroethene	ND	0.0050	mg/kg wet
cis-1,3-Dichloropropene	ND	0.0050	mg/kg wet
Dibromochloromethane	ND	0.0050	mg/kg wet
Dibromomethane	ND	0.0050	mg/kg wet
Dichlorodifluoromethane	ND	0.0100	mg/kg wet
Diethyl Ether	ND	0.0050	mg/kg wet
Di-isopropyl ether	ND	0.0050	mg/kg wet
Ethyl tertiary-butyl ether	ND	0.0050	mg/kg wet
Ethylbenzene	ND	0.0050	mg/kg wet



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ52733 - 5035

Hexachlorobutadiene	ND	0.0050	mg/kg wet							
Isopropylbenzene	ND	0.0050	mg/kg wet							
Methyl tert-Butyl Ether	ND	0.0050	mg/kg wet							
Methylene Chloride	ND	0.0250	mg/kg wet							
Naphthalene	ND	0.0050	mg/kg wet							
n-Butylbenzene	ND	0.0050	mg/kg wet							
n-Propylbenzene	ND	0.0050	mg/kg wet							
sec-Butylbenzene	ND	0.0050	mg/kg wet							
Styrene	ND	0.0050	mg/kg wet							
tert-Butylbenzene	ND	0.0050	mg/kg wet							
Tertiary-amyl methyl ether	ND	0.0050	mg/kg wet							
Tetrachloroethene	ND	0.0050	mg/kg wet							
Tetrahydrofuran	ND	0.0050	mg/kg wet							
Toluene	ND	0.0050	mg/kg wet							
trans-1,2-Dichloroethene	ND	0.0050	mg/kg wet							
trans-1,3-Dichloropropene	ND	0.0050	mg/kg wet							
Trichloroethene	ND	0.0050	mg/kg wet							
Trichlorofluoromethane	ND	0.0050	mg/kg wet							
Vinyl Acetate	ND	0.0050	mg/kg wet							
Vinyl Chloride	ND	0.0100	mg/kg wet							
Xylene O	ND	0.0050	mg/kg wet							
Xylene P,M	ND	0.0100	mg/kg wet							
Xylenes (Total)	ND	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0491		mg/kg wet	0.05000		98	70-130			
Surrogate: 4-Bromofluorobenzene	0.0475		mg/kg wet	0.05000		95	70-130			
Surrogate: Dibromofluoromethane	0.0477		mg/kg wet	0.05000		95	70-130			
Surrogate: Toluene-d8	0.0526		mg/kg wet	0.05000		105	70-130			

LCS

1,1,1,2-Tetrachloroethane	0.0500	0.0050	mg/kg wet	0.05000		100	70-130			
1,1,1-Trichloroethane	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
1,1,2,2-Tetrachloroethane	0.0472	0.0050	mg/kg wet	0.05000		94	70-130			
1,1,2-Trichloroethane	0.0548	0.0050	mg/kg wet	0.05000		110	70-130			
1,1-Dichloroethane	0.0566	0.0050	mg/kg wet	0.05000		113	70-130			
1,1-Dichloroethene	0.0544	0.0050	mg/kg wet	0.05000		109	70-130			
1,1-Dichloropropene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			
1,2,3-Trichlorobenzene	0.0452	0.0050	mg/kg wet	0.05000		90	70-130			
1,2,3-Trichloropropane	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
1,2,4-Trichlorobenzene	0.0444	0.0050	mg/kg wet	0.05000		89	70-130			
1,2,4-Trimethylbenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
1,2-Dibromo-3-Chloropropane	0.0559	0.0050	mg/kg wet	0.05000		112	70-130			
1,2-Dibromoethane	0.0654	0.0050	mg/kg wet	0.05000		131	70-130			B+
1,2-Dichlorobenzene	0.0451	0.0050	mg/kg wet	0.05000		90	70-130			
1,2-Dichloroethane	0.0551	0.0050	mg/kg wet	0.05000		110	70-130			
1,2-Dichloropropane	0.0494	0.0050	mg/kg wet	0.05000		99	70-130			
1,3,5-Trimethylbenzene	0.0517	0.0050	mg/kg wet	0.05000		103	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ52733 - 5035

1,3-Dichlorobenzene	0.0492	0.0050	mg/kg wet	0.05000		98	70-130			
1,3-Dichloropropane	0.0663	0.0050	mg/kg wet	0.05000		133	70-130			B+
1,4-Dichlorobenzene	0.0490	0.0050	mg/kg wet	0.05000		98	70-130			
1,4-Dioxane	1.15	0.100	mg/kg wet	1.000		115	70-130			
1-Chlorohexane	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
2,2-Dichloropropane	0.0584	0.0050	mg/kg wet	0.05000		117	70-130			
2-Butanone	0.269	0.0500	mg/kg wet	0.2500		108	70-130			
2-Chlorotoluene	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
2-Hexanone	0.368	0.0500	mg/kg wet	0.2500		147	70-130			B+
4-Chlorotoluene	0.0510	0.0050	mg/kg wet	0.05000		102	70-130			
4-Isopropyltoluene	0.0498	0.0050	mg/kg wet	0.05000		100	70-130			
4-Methyl-2-Pentanone	0.299	0.0500	mg/kg wet	0.2500		120	70-130			
Acetone	0.318	0.0500	mg/kg wet	0.2500		127	70-130			
Benzene	0.0567	0.0050	mg/kg wet	0.05000		113	70-130			
Bromobenzene	0.0416	0.0050	mg/kg wet	0.05000		83	70-130			
Bromochloromethane	0.0558	0.0050	mg/kg wet	0.05000		112	70-130			
Bromodichloromethane	0.0555	0.0050	mg/kg wet	0.05000		111	70-130			
Bromoform	0.0480	0.0050	mg/kg wet	0.05000		96	70-130			
Bromomethane	0.0503	0.0100	mg/kg wet	0.05000		101	70-130			
Carbon Disulfide	0.0586	0.0050	mg/kg wet	0.05000		117	70-130			
Carbon Tetrachloride	0.0560	0.0050	mg/kg wet	0.05000		112	70-130			
Chlorobenzene	0.0486	0.0050	mg/kg wet	0.05000		97	70-130			
Chloroethane	0.0478	0.0100	mg/kg wet	0.05000		96	70-130			
Chloroform	0.0499	0.0050	mg/kg wet	0.05000		100	70-130			
Chloromethane	0.0564	0.0100	mg/kg wet	0.05000		113	70-130			
cis-1,2-Dichloroethene	0.0581	0.0050	mg/kg wet	0.05000		116	70-130			
cis-1,3-Dichloropropene	0.0530	0.0050	mg/kg wet	0.05000		106	70-130			
Dibromochloromethane	0.0766	0.0050	mg/kg wet	0.05000		153	70-130			B+
Dibromomethane	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
Dichlorodifluoromethane	0.0520	0.0100	mg/kg wet	0.05000		104	70-130			
Diethyl Ether	0.0491	0.0050	mg/kg wet	0.05000		98	70-130			
Di-isopropyl ether	0.0493	0.0050	mg/kg wet	0.05000		99	70-130			
Ethyl tertiary-butyl ether	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
Ethylbenzene	0.0443	0.0050	mg/kg wet	0.05000		89	70-130			
Hexachlorobutadiene	0.0429	0.0050	mg/kg wet	0.05000		86	70-130			
Isopropylbenzene	0.0392	0.0050	mg/kg wet	0.05000		78	70-130			
Methyl tert-Butyl Ether	0.0509	0.0050	mg/kg wet	0.05000		102	70-130			
Methylene Chloride	0.0640	0.0250	mg/kg wet	0.05000		128	70-130			
Naphthalene	0.0397	0.0050	mg/kg wet	0.05000		79	70-130			
n-Butylbenzene	0.0522	0.0050	mg/kg wet	0.05000		104	70-130			
n-Propylbenzene	0.0484	0.0050	mg/kg wet	0.05000		97	70-130			
sec-Butylbenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130			
Styrene	0.0462	0.0050	mg/kg wet	0.05000		92	70-130			
tert-Butylbenzene	0.0489	0.0050	mg/kg wet	0.05000		98	70-130			
Tertiary-amyl methyl ether	0.0527	0.0050	mg/kg wet	0.05000		105	70-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ52733 - 5035

Tetrachloroethene	0.0664	0.0050	mg/kg wet	0.05000		133	70-130			B+
Tetrahydrofuran	0.0589	0.0050	mg/kg wet	0.05000		118	70-130			
Toluene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130			
trans-1,2-Dichloroethene	0.0542	0.0050	mg/kg wet	0.05000		108	70-130			
trans-1,3-Dichloropropene	0.0508	0.0050	mg/kg wet	0.05000		102	70-130			
Trichloroethene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130			
Trichlorofluoromethane	0.0561	0.0050	mg/kg wet	0.05000		112	70-130			
Vinyl Acetate	0.0961	0.0050	mg/kg wet	0.05000		192	70-130			B+
Vinyl Chloride	0.0475	0.0100	mg/kg wet	0.05000		95	70-130			
Xylene O	0.0504	0.0050	mg/kg wet	0.05000		101	70-130			
Xylene P,M	0.0947	0.0100	mg/kg wet	0.1000		95	70-130			
Xylenes (Total)	0.145	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0471		mg/kg wet	0.05000		94	70-130			
Surrogate: 4-Bromofluorobenzene	0.0458		mg/kg wet	0.05000		92	70-130			
Surrogate: Dibromofluoromethane	0.0479		mg/kg wet	0.05000		96	70-130			
Surrogate: Toluene-d8	0.0617		mg/kg wet	0.05000		123	70-130			

LCS Dup

1,1,1,2-Tetrachloroethane	0.0569	0.0050	mg/kg wet	0.05000		114	70-130	13	25	
1,1,1-Trichloroethane	0.0568	0.0050	mg/kg wet	0.05000		114	70-130	4	25	
1,1,2,2-Tetrachloroethane	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	10	25	
1,1,2-Trichloroethane	0.0559	0.0050	mg/kg wet	0.05000		112	70-130	2	25	
1,1-Dichloroethane	0.0578	0.0050	mg/kg wet	0.05000		116	70-130	2	25	
1,1-Dichloroethene	0.0566	0.0050	mg/kg wet	0.05000		113	70-130	4	25	
1,1-Dichloropropene	0.0535	0.0050	mg/kg wet	0.05000		107	70-130	3	25	
1,2,3-Trichlorobenzene	0.0514	0.0050	mg/kg wet	0.05000		103	70-130	13	25	
1,2,3-Trichloropropane	0.0611	0.0050	mg/kg wet	0.05000		122	70-130	18	25	
1,2,4-Trichlorobenzene	0.0577	0.0050	mg/kg wet	0.05000		115	70-130	26	25	D+
1,2,4-Trimethylbenzene	0.0550	0.0050	mg/kg wet	0.05000		110	70-130	12	25	
1,2-Dibromo-3-Chloropropane	0.0659	0.0050	mg/kg wet	0.05000		132	70-130	17	25	B+
1,2-Dibromoethane	0.0538	0.0050	mg/kg wet	0.05000		108	70-130	20	25	
1,2-Dichlorobenzene	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	13	25	
1,2-Dichloroethane	0.0552	0.0050	mg/kg wet	0.05000		110	70-130	0.1	25	
1,2-Dichloropropane	0.0499	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
1,3,5-Trimethylbenzene	0.0596	0.0050	mg/kg wet	0.05000		119	70-130	14	25	
1,3-Dichlorobenzene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	6	25	
1,3-Dichloropropane	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	23	25	
1,4-Dichlorobenzene	0.0511	0.0050	mg/kg wet	0.05000		102	70-130	4	25	
1,4-Dioxane	1.29	0.100	mg/kg wet	1.000		129	70-130	12	20	
1-Chlorohexane	0.0550	0.0050	mg/kg wet	0.05000		110	70-130	12	25	
2,2-Dichloropropane	0.0596	0.0050	mg/kg wet	0.05000		119	70-130	2	25	
2-Butanone	0.277	0.0500	mg/kg wet	0.2500		111	70-130	3	25	
2-Chlorotoluene	0.0575	0.0050	mg/kg wet	0.05000		115	70-130	18	25	
2-Hexanone	0.306	0.0500	mg/kg wet	0.2500		122	70-130	18	25	
4-Chlorotoluene	0.0572	0.0050	mg/kg wet	0.05000		114	70-130	12	25	
4-Isopropyltoluene	0.0531	0.0050	mg/kg wet	0.05000		106	70-130	6	25	



CERTIFICATE OF ANALYSIS

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ESS Laboratory Work Order: 1510737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ52733 - 5035

4-Methyl-2-Pentanone	0.315	0.0500	mg/kg wet	0.2500		126	70-130	5	25	
Acetone	0.331	0.0500	mg/kg wet	0.2500		132	70-130	4	25	B+
Benzene	0.0572	0.0050	mg/kg wet	0.05000		114	70-130	1	25	
Bromobenzene	0.0589	0.0050	mg/kg wet	0.05000		118	70-130	34	25	D+
Bromochloromethane	0.0582	0.0050	mg/kg wet	0.05000		116	70-130	4	25	
Bromodichloromethane	0.0559	0.0050	mg/kg wet	0.05000		112	70-130	0.7	25	
Bromoform	0.0486	0.0050	mg/kg wet	0.05000		97	70-130	1	25	
Bromomethane	0.0512	0.0100	mg/kg wet	0.05000		102	70-130	2	25	
Carbon Disulfide	0.0600	0.0050	mg/kg wet	0.05000		120	70-130	2	25	
Carbon Tetrachloride	0.0571	0.0050	mg/kg wet	0.05000		114	70-130	2	25	
Chlorobenzene	0.0507	0.0050	mg/kg wet	0.05000		101	70-130	4	25	
Chloroethane	0.0456	0.0100	mg/kg wet	0.05000		91	70-130	5	25	
Chloroform	0.0513	0.0050	mg/kg wet	0.05000		103	70-130	3	25	
Chloromethane	0.0572	0.0100	mg/kg wet	0.05000		114	70-130	1	25	
cis-1,2-Dichloroethene	0.0595	0.0050	mg/kg wet	0.05000		119	70-130	2	25	
cis-1,3-Dichloropropene	0.0541	0.0050	mg/kg wet	0.05000		108	70-130	2	25	
Dibromochloromethane	0.0584	0.0050	mg/kg wet	0.05000		117	70-130	27	25	D+
Dibromomethane	0.0502	0.0050	mg/kg wet	0.05000		100	70-130	1	25	
Dichlorodifluoromethane	0.0534	0.0100	mg/kg wet	0.05000		107	70-130	3	25	
Diethyl Ether	0.0510	0.0050	mg/kg wet	0.05000		102	70-130	4	25	
Di-isopropyl ether	0.0497	0.0050	mg/kg wet	0.05000		99	70-130	0.8	25	
Ethyl tertiary-butyl ether	0.0521	0.0050	mg/kg wet	0.05000		104	70-130	2	25	
Ethylbenzene	0.0520	0.0050	mg/kg wet	0.05000		104	70-130	16	25	
Hexachlorobutadiene	0.0579	0.0050	mg/kg wet	0.05000		116	70-130	30	25	D+
Isopropylbenzene	0.0589	0.0050	mg/kg wet	0.05000		118	70-130	40	25	D+
Methyl tert-Butyl Ether	0.0528	0.0050	mg/kg wet	0.05000		106	70-130	4	25	
Methylene Chloride	0.0651	0.0250	mg/kg wet	0.05000		130	70-130	2	25	
Naphthalene	0.0547	0.0050	mg/kg wet	0.05000		109	70-130	32	25	D+
n-Butylbenzene	0.0512	0.0050	mg/kg wet	0.05000		102	70-130	2	25	
n-Propylbenzene	0.0584	0.0050	mg/kg wet	0.05000		117	70-130	19	25	
sec-Butylbenzene	0.0571	0.0050	mg/kg wet	0.05000		114	70-130	11	25	
Styrene	0.0473	0.0050	mg/kg wet	0.05000		95	70-130	2	25	
tert-Butylbenzene	0.0549	0.0050	mg/kg wet	0.05000		110	70-130	12	25	
Tertiary-amyl methyl ether	0.0527	0.0050	mg/kg wet	0.05000		105	70-130	0.04	25	
Tetrachloroethene	0.0554	0.0050	mg/kg wet	0.05000		111	70-130	18	25	
Tetrahydrofuran	0.0603	0.0050	mg/kg wet	0.05000		121	70-130	2	25	
Toluene	0.0521	0.0050	mg/kg wet	0.05000		104	70-130	2	25	
trans-1,2-Dichloroethene	0.0550	0.0050	mg/kg wet	0.05000		110	70-130	2	25	
trans-1,3-Dichloropropene	0.0515	0.0050	mg/kg wet	0.05000		103	70-130	1	25	
Trichloroethene	0.0519	0.0050	mg/kg wet	0.05000		104	70-130	0.7	25	
Trichlorofluoromethane	0.0578	0.0050	mg/kg wet	0.05000		116	70-130	3	25	
Vinyl Acetate	0.0969	0.0050	mg/kg wet	0.05000		194	70-130	0.9	25	B+
Vinyl Chloride	0.0482	0.0100	mg/kg wet	0.05000		96	70-130	1	25	
Xylene O	0.0425	0.0050	mg/kg wet	0.05000		85	70-130	17	25	
Xylene P,M	0.100	0.0100	mg/kg wet	0.1000		100	70-130	6	25	



CERTIFICATE OF ANALYSIS

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Quality Control Data

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5035/8260B Volatile Organic Compounds / Low Level

Batch CJ52733 - [CALC]

Xylenes (Total)	0.143	0.0100	mg/kg wet							
Surrogate: 1,2-Dichloroethane-d4	0.0480		mg/kg wet	0.05000		96	70-130			
Surrogate: 4-Bromofluorobenzene	0.0482		mg/kg wet	0.05000		96	70-130			
Surrogate: Dibromofluoromethane	0.0490		mg/kg wet	0.05000		98	70-130			
Surrogate: Toluene-d8	0.0504		mg/kg wet	0.05000		101	70-130			

8100M Total Petroleum Hydrocarbons

Batch CJ52723 - 3546

Blank

Decane (C10)	ND	0.2	mg/kg wet							
Docosane (C22)	ND	0.2	mg/kg wet							
Dodecane (C12)	ND	0.2	mg/kg wet							
Eicosane (C20)	ND	0.2	mg/kg wet							
Hexacosane (C26)	ND	0.2	mg/kg wet							
Hexadecane (C16)	ND	0.2	mg/kg wet							
Nonadecane (C19)	ND	0.2	mg/kg wet							
Nonane (C9)	ND	0.2	mg/kg wet							
Octacosane (C28)	ND	0.2	mg/kg wet							
Octadecane (C18)	ND	0.2	mg/kg wet							
Tetracosane (C24)	ND	0.2	mg/kg wet							
Tetradecane (C14)	ND	0.2	mg/kg wet							
Total Petroleum Hydrocarbons	ND	37.5	mg/kg wet							
Triacontane (C30)	ND	0.2	mg/kg wet							

Surrogate: O-Terphenyl	4.66		mg/kg wet	5.000		93	40-140			
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LCS

Decane (C10)	2.4	0.2	mg/kg wet	2.500		95	40-140			
Docosane (C22)	2.9	0.2	mg/kg wet	2.500		115	40-140			
Dodecane (C12)	2.7	0.2	mg/kg wet	2.500		106	40-140			
Eicosane (C20)	2.9	0.2	mg/kg wet	2.500		115	40-140			
Hexacosane (C26)	2.9	0.2	mg/kg wet	2.500		114	40-140			
Hexadecane (C16)	2.8	0.2	mg/kg wet	2.500		114	40-140			
Nonadecane (C19)	2.9	0.2	mg/kg wet	2.500		117	40-140			
Nonane (C9)	2.0	0.2	mg/kg wet	2.500		82	30-140			
Octacosane (C28)	2.7	0.2	mg/kg wet	2.500		107	40-140			
Octadecane (C18)	2.8	0.2	mg/kg wet	2.500		113	40-140			
Tetracosane (C24)	2.7	0.2	mg/kg wet	2.500		108	40-140			
Tetradecane (C14)	2.8	0.2	mg/kg wet	2.500		111	40-140			
Total Petroleum Hydrocarbons	42.0	37.5	mg/kg wet	35.00		120	40-140			
Triacontane (C30)	2.5	0.2	mg/kg wet	2.500		101	40-140			

Surrogate: O-Terphenyl	4.91		mg/kg wet	5.000		98	40-140			
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LCS Dup

Decane (C10)	2.3	0.2	mg/kg wet	2.500		91	40-140	4	25	
Docosane (C22)	2.8	0.2	mg/kg wet	2.500		111	40-140	4	25	



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8100M Total Petroleum Hydrocarbons

Batch CJ52723 - 3546

Dodecane (C12)	2.6	0.2	mg/kg wet	2.500		104	40-140	2	25	
Eicosane (C20)	2.8	0.2	mg/kg wet	2.500		111	40-140	3	25	
Hexacosane (C26)	2.7	0.2	mg/kg wet	2.500		110	40-140	4	25	
Hexadecane (C16)	2.8	0.2	mg/kg wet	2.500		111	40-140	2	25	
Nonadecane (C19)	2.8	0.2	mg/kg wet	2.500		113	40-140	3	25	
Nonane (C9)	2.0	0.2	mg/kg wet	2.500		78	30-140	4	25	
Octacosane (C28)	2.6	0.2	mg/kg wet	2.500		102	40-140	5	25	
Octadecane (C18)	2.8	0.2	mg/kg wet	2.500		111	40-140	2	25	
Tetracosane (C24)	2.6	0.2	mg/kg wet	2.500		103	40-140	4	25	
Tetradecane (C14)	2.7	0.2	mg/kg wet	2.500		109	40-140	2	25	
Total Petroleum Hydrocarbons	40.2	37.5	mg/kg wet	35.00		115	40-140	4	25	
Triacotane (C30)	2.4	0.2	mg/kg wet	2.500		95	40-140	5	25	

Surrogate: O-Terphenyl 4.63 mg/kg wet 5.000 93 40-140

8270D Semi-Volatile Organic Compounds

Batch CJ52820 - 3546

Blank

1,1-Biphenyl	ND	0.333	mg/kg wet							
1,2,4-Trichlorobenzene	ND	0.333	mg/kg wet							
1,2-Dichlorobenzene	ND	0.333	mg/kg wet							
1,3-Dichlorobenzene	ND	0.333	mg/kg wet							
1,4-Dichlorobenzene	ND	0.333	mg/kg wet							
2,3,4,6-Tetrachlorophenol	ND	1.67	mg/kg wet							
2,4,5-Trichlorophenol	ND	0.333	mg/kg wet							
2,4,6-Trichlorophenol	ND	0.333	mg/kg wet							
2,4-Dichlorophenol	ND	0.333	mg/kg wet							
2,4-Dimethylphenol	ND	0.333	mg/kg wet							
2,4-Dinitrophenol	ND	1.67	mg/kg wet							
2,4-Dinitrotoluene	ND	0.333	mg/kg wet							
2,6-Dinitrotoluene	ND	0.333	mg/kg wet							
2-Chloronaphthalene	ND	0.333	mg/kg wet							
2-Chlorophenol	ND	0.333	mg/kg wet							
2-Methylnaphthalene	ND	0.333	mg/kg wet							
2-Methylphenol	ND	0.333	mg/kg wet							
2-Nitroaniline	ND	0.333	mg/kg wet							
2-Nitrophenol	ND	0.333	mg/kg wet							
3,3'-Dichlorobenzidine	ND	0.667	mg/kg wet							
3+4-Methylphenol	ND	0.667	mg/kg wet							
3-Nitroaniline	ND	0.333	mg/kg wet							
4,6-Dinitro-2-Methylphenol	ND	1.67	mg/kg wet							
4-Bromophenyl-phenylether	ND	0.333	mg/kg wet							
4-Chloro-3-Methylphenol	ND	0.333	mg/kg wet							
4-Chloroaniline	ND	0.667	mg/kg wet							
4-Chloro-phenyl-phenyl ether	ND	0.333	mg/kg wet							



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8270D Semi-Volatile Organic Compounds

Batch CJ52820 - 3546

4-Nitroaniline	ND	0.333	mg/kg wet							
4-Nitrophenol	ND	1.67	mg/kg wet							
Acenaphthene	ND	0.333	mg/kg wet							
Acenaphthylene	ND	0.333	mg/kg wet							
Acetophenone	ND	0.667	mg/kg wet							
Aniline	ND	0.667	mg/kg wet							
Anthracene	ND	0.333	mg/kg wet							
Azobenzene	ND	0.333	mg/kg wet							
Benzo(a)anthracene	ND	0.333	mg/kg wet							
Benzo(a)pyrene	ND	0.167	mg/kg wet							
Benzo(b)fluoranthene	ND	0.333	mg/kg wet							
Benzo(g,h,i)perylene	ND	0.333	mg/kg wet							
Benzo(k)fluoranthene	ND	0.333	mg/kg wet							
Benzoic Acid	ND	1.67	mg/kg wet							
Benzyl Alcohol	ND	0.333	mg/kg wet							
bis(2-Chloroethoxy)methane	ND	0.333	mg/kg wet							
bis(2-Chloroethyl)ether	ND	0.333	mg/kg wet							
bis(2-chloroisopropyl)Ether	ND	0.333	mg/kg wet							
bis(2-Ethylhexyl)phthalate	ND	0.333	mg/kg wet							
Butylbenzylphthalate	ND	0.333	mg/kg wet							
Carbazole	ND	0.333	mg/kg wet							
Chrysene	ND	0.167	mg/kg wet							
Dibenzo(a,h)Anthracene	ND	0.167	mg/kg wet							
Dibenzofuran	ND	0.333	mg/kg wet							
Diethylphthalate	ND	0.333	mg/kg wet							
Dimethylphthalate	ND	0.333	mg/kg wet							
Di-n-butylphthalate	ND	0.333	mg/kg wet							
Di-n-octylphthalate	ND	0.333	mg/kg wet							
Fluoranthene	ND	0.333	mg/kg wet							
Fluorene	ND	0.333	mg/kg wet							
Hexachlorobenzene	ND	0.167	mg/kg wet							
Hexachlorobutadiene	ND	0.333	mg/kg wet							
Hexachlorocyclopentadiene	ND	1.67	mg/kg wet							
Hexachloroethane	ND	0.333	mg/kg wet							
Indeno(1,2,3-cd)Pyrene	ND	0.333	mg/kg wet							
Isophorone	ND	0.333	mg/kg wet							
Naphthalene	ND	0.333	mg/kg wet							
Nitrobenzene	ND	0.333	mg/kg wet							
N-Nitrosodimethylamine	ND	0.333	mg/kg wet							
N-Nitroso-Di-n-Propylamine	ND	0.333	mg/kg wet							
N-nitrosodiphenylamine	ND	0.333	mg/kg wet							
Pentachlorophenol	ND	1.67	mg/kg wet							
Phenanthrene	ND	0.333	mg/kg wet							
Phenol	ND	0.333	mg/kg wet							
Pyrene	ND	0.333	mg/kg wet							



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8270D Semi-Volatile Organic Compounds

Batch CJ52820 - 3546

Pyridine	ND	1.67	mg/kg wet							
Surrogate: 1,2-Dichlorobenzene-d4	2.59		mg/kg wet	3.333		78	30-130			
Surrogate: 2,4,6-Tribromophenol	3.18		mg/kg wet	5.000		64	30-130			
Surrogate: 2-Chlorophenol-d4	3.92		mg/kg wet	5.000		78	30-130			
Surrogate: 2-Fluorobiphenyl	2.47		mg/kg wet	3.333		74	30-130			
Surrogate: 2-Fluorophenol	3.75		mg/kg wet	5.000		75	30-130			
Surrogate: Nitrobenzene-d5	2.60		mg/kg wet	3.333		78	30-130			
Surrogate: Phenol-d6	3.93		mg/kg wet	5.000		79	30-130			
Surrogate: p-Terphenyl-d14	3.17		mg/kg wet	3.333		95	30-130			

LCS

1,1-Biphenyl	2.29	0.333	mg/kg wet	3.333		69	40-140			
1,2,4-Trichlorobenzene	2.33	0.333	mg/kg wet	3.333		70	40-140			
1,2-Dichlorobenzene	2.20	0.333	mg/kg wet	3.333		66	40-140			
1,3-Dichlorobenzene	2.20	0.333	mg/kg wet	3.333		66	40-140			
1,4-Dichlorobenzene	2.18	0.333	mg/kg wet	3.333		65	40-140			
2,3,4,6-Tetrachlorophenol	2.17	1.67	mg/kg wet	3.333		65	30-130			
2,4,5-Trichlorophenol	2.65	0.333	mg/kg wet	3.333		79	30-130			
2,4,6-Trichlorophenol	2.43	0.333	mg/kg wet	3.333		73	30-130			
2,4-Dichlorophenol	2.41	0.333	mg/kg wet	3.333		72	30-130			
2,4-Dimethylphenol	2.38	0.333	mg/kg wet	3.333		71	30-130			
2,4-Dinitrophenol	2.18	1.67	mg/kg wet	3.333		65	30-130			
2,4-Dinitrotoluene	2.93	0.333	mg/kg wet	3.333		88	40-140			
2,6-Dinitrotoluene	2.62	0.333	mg/kg wet	3.333		78	40-140			
2-Chloronaphthalene	2.11	0.333	mg/kg wet	3.333		63	40-140			
2-Chlorophenol	2.31	0.333	mg/kg wet	3.333		69	30-130			
2-Methylnaphthalene	2.16	0.333	mg/kg wet	3.333		65	40-140			
2-Methylphenol	2.22	0.333	mg/kg wet	3.333		67	30-130			
2-Nitroaniline	2.03	0.333	mg/kg wet	3.333		61	40-140			
2-Nitrophenol	2.40	0.333	mg/kg wet	3.333		72	30-130			
3,3'-Dichlorobenzidine	2.45	0.667	mg/kg wet	3.333		73	40-140			
3+4-Methylphenol	4.94	0.667	mg/kg wet	6.667		74	30-130			
3-Nitroaniline	2.48	0.333	mg/kg wet	3.333		74	40-140			
4,6-Dinitro-2-Methylphenol	3.24	1.67	mg/kg wet	3.333		97	30-130			
4-Bromophenyl-phenylether	2.58	0.333	mg/kg wet	3.333		77	40-140			
4-Chloro-3-Methylphenol	2.44	0.333	mg/kg wet	3.333		73	30-130			
4-Chloroaniline	1.86	0.667	mg/kg wet	3.333		56	40-140			
4-Chloro-phenyl-phenyl ether	2.53	0.333	mg/kg wet	3.333		76	40-140			
4-Nitroaniline	2.84	0.333	mg/kg wet	3.333		85	40-140			
4-Nitrophenol	2.26	1.67	mg/kg wet	3.333		68	30-130			
Acenaphthene	2.44	0.333	mg/kg wet	3.333		73	40-140			
Acenaphthylene	2.44	0.333	mg/kg wet	3.333		73	40-140			
Acetophenone	2.16	0.667	mg/kg wet	3.333		65	40-140			
Aniline	1.64	0.667	mg/kg wet	3.333		49	40-140			
Anthracene	2.96	0.333	mg/kg wet	3.333		89	40-140			
Azobenzene	2.67	0.333	mg/kg wet	3.333		80	40-140			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CJ52820 - 3546

Benzo(a)anthracene	3.15	0.333	mg/kg wet	3.333		94	40-140			
Benzo(a)pyrene	2.91	0.167	mg/kg wet	3.333		87	40-140			
Benzo(b)fluoranthene	3.05	0.333	mg/kg wet	3.333		92	40-140			
Benzo(g,h,i)perylene	2.83	0.333	mg/kg wet	3.333		85	40-140			
Benzo(k)fluoranthene	2.43	0.333	mg/kg wet	3.333		73	40-140			
Benzoic Acid	2.04	1.67	mg/kg wet	3.333		61	40-140			
Benzyl Alcohol	1.74	0.333	mg/kg wet	3.333		52	40-140			
bis(2-Chloroethoxy)methane	2.26	0.333	mg/kg wet	3.333		68	40-140			
bis(2-Chloroethyl)ether	1.99	0.333	mg/kg wet	3.333		60	40-140			
bis(2-chloroisopropyl)Ether	2.22	0.333	mg/kg wet	3.333		67	40-140			
bis(2-Ethylhexyl)phthalate	3.26	0.333	mg/kg wet	3.333		98	40-140			
Butylbenzylphthalate	3.04	0.333	mg/kg wet	3.333		91	40-140			
Carbazole	2.99	0.333	mg/kg wet	3.333		90	40-140			
Chrysene	3.06	0.167	mg/kg wet	3.333		92	40-140			
Dibenzo(a,h)Anthracene	3.34	0.167	mg/kg wet	3.333		100	40-140			
Dibenzofuran	2.36	0.333	mg/kg wet	3.333		71	40-140			
Diethylphthalate	2.89	0.333	mg/kg wet	3.333		87	40-140			
Dimethylphthalate	2.65	0.333	mg/kg wet	3.333		80	40-140			
Di-n-butylphthalate	2.84	0.333	mg/kg wet	3.333		85	40-140			
Di-n-octylphthalate	3.40	0.333	mg/kg wet	3.333		102	40-140			
Fluoranthene	3.02	0.333	mg/kg wet	3.333		91	40-140			
Fluorene	2.65	0.333	mg/kg wet	3.333		80	40-140			
Hexachlorobenzene	2.49	0.167	mg/kg wet	3.333		75	40-140			
Hexachlorobutadiene	2.23	0.333	mg/kg wet	3.333		67	40-140			
Hexachlorocyclopentadiene	1.85	1.67	mg/kg wet	3.333		56	40-140			
Hexachloroethane	2.21	0.333	mg/kg wet	3.333		66	40-140			
Indeno(1,2,3-cd)Pyrene	2.77	0.333	mg/kg wet	3.333		83	40-140			
Isophorone	2.36	0.333	mg/kg wet	3.333		71	40-140			
Naphthalene	2.32	0.333	mg/kg wet	3.333		70	40-140			
Nitrobenzene	2.25	0.333	mg/kg wet	3.333		67	40-140			
N-Nitrosodimethylamine	2.15	0.333	mg/kg wet	3.333		64	40-140			
N-Nitroso-Di-n-Propylamine	2.30	0.333	mg/kg wet	3.333		69	40-140			
N-nitrosodiphenylamine	2.78	0.333	mg/kg wet	3.333		84	40-140			
Pentachlorophenol	2.09	1.67	mg/kg wet	3.333		63	30-130			
Phenanthrene	2.78	0.333	mg/kg wet	3.333		84	40-140			
Phenol	2.19	0.333	mg/kg wet	3.333		66	30-130			
Pyrene	3.12	0.333	mg/kg wet	3.333		94	40-140			
Pyridine	1.67	1.67	mg/kg wet	3.333		50	40-140			
Surrogate: 1,2-Dichlorobenzene-d4	2.42		mg/kg wet	3.333		73	30-130			
Surrogate: 2,4,6-Tribromophenol	3.73		mg/kg wet	5.000		75	30-130			
Surrogate: 2-Chlorophenol-d4	3.56		mg/kg wet	5.000		71	30-130			
Surrogate: 2-Fluorobiphenyl	2.52		mg/kg wet	3.333		76	30-130			
Surrogate: 2-Fluorophenol	3.46		mg/kg wet	5.000		69	30-130			
Surrogate: Nitrobenzene-d5	2.56		mg/kg wet	3.333		77	30-130			
Surrogate: Phenol-d6	3.52		mg/kg wet	5.000		70	30-130			
Surrogate: p-Terphenyl-d14	3.31		mg/kg wet	3.333		99	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8270D Semi-Volatile Organic Compounds

Batch CJ52820 - 3546

LCS Dup

1,1-Biphenyl	2.50	0.333	mg/kg wet	3.333		75	40-140	9	30	
1,2,4-Trichlorobenzene	2.52	0.333	mg/kg wet	3.333		75	40-140	8	30	
1,2-Dichlorobenzene	2.46	0.333	mg/kg wet	3.333		74	40-140	11	30	
1,3-Dichlorobenzene	2.46	0.333	mg/kg wet	3.333		74	40-140	11	30	
1,4-Dichlorobenzene	2.43	0.333	mg/kg wet	3.333		73	40-140	11	30	
2,3,4,6-Tetrachlorophenol	2.38	1.67	mg/kg wet	3.333		71	30-130	9	30	
2,4,5-Trichlorophenol	2.86	0.333	mg/kg wet	3.333		86	30-130	8	30	
2,4,6-Trichlorophenol	2.73	0.333	mg/kg wet	3.333		82	30-130	11	30	
2,4-Dichlorophenol	2.78	0.333	mg/kg wet	3.333		83	30-130	14	30	
2,4-Dimethylphenol	2.72	0.333	mg/kg wet	3.333		82	30-130	13	30	
2,4-Dinitrophenol	2.54	1.67	mg/kg wet	3.333		76	30-130	15	30	
2,4-Dinitrotoluene	3.25	0.333	mg/kg wet	3.333		98	40-140	11	30	
2,6-Dinitrotoluene	2.81	0.333	mg/kg wet	3.333		84	40-140	7	30	
2-Chloronaphthalene	2.30	0.333	mg/kg wet	3.333		69	40-140	9	30	
2-Chlorophenol	2.60	0.333	mg/kg wet	3.333		78	30-130	12	30	
2-Methylnaphthalene	2.48	0.333	mg/kg wet	3.333		74	40-140	14	30	
2-Methylphenol	2.57	0.333	mg/kg wet	3.333		77	30-130	15	30	
2-Nitroaniline	2.25	0.333	mg/kg wet	3.333		68	40-140	10	30	
2-Nitrophenol	2.75	0.333	mg/kg wet	3.333		83	30-130	14	30	
3,3'-Dichlorobenzidine	2.63	0.667	mg/kg wet	3.333		79	40-140	7	30	
3+4-Methylphenol	5.69	0.667	mg/kg wet	6.667		85	30-130	14	30	
3-Nitroaniline	2.74	0.333	mg/kg wet	3.333		82	40-140	10	30	
4,6-Dinitro-2-Methylphenol	3.65	1.67	mg/kg wet	3.333		109	30-130	12	30	
4-Bromophenyl-phenylether	2.72	0.333	mg/kg wet	3.333		82	40-140	5	30	
4-Chloro-3-Methylphenol	2.86	0.333	mg/kg wet	3.333		86	30-130	16	30	
4-Chloroaniline	2.33	0.667	mg/kg wet	3.333		70	40-140	22	30	
4-Chloro-phenyl-phenyl ether	2.73	0.333	mg/kg wet	3.333		82	40-140	8	30	
4-Nitroaniline	3.13	0.333	mg/kg wet	3.333		94	40-140	10	30	
4-Nitrophenol	2.56	1.67	mg/kg wet	3.333		77	30-130	12	30	
Acenaphthene	2.68	0.333	mg/kg wet	3.333		80	40-140	9	30	
Acenaphthylene	2.69	0.333	mg/kg wet	3.333		81	40-140	10	30	
Acetophenone	2.50	0.667	mg/kg wet	3.333		75	40-140	15	30	
Aniline	1.93	0.667	mg/kg wet	3.333		58	40-140	16	30	
Anthracene	3.12	0.333	mg/kg wet	3.333		94	40-140	5	30	
Azobenzene	2.74	0.333	mg/kg wet	3.333		82	40-140	3	30	
Benzo(a)anthracene	3.29	0.333	mg/kg wet	3.333		99	40-140	4	30	
Benzo(a)pyrene	3.02	0.167	mg/kg wet	3.333		90	40-140	3	30	
Benzo(b)fluoranthene	3.24	0.333	mg/kg wet	3.333		97	40-140	6	30	
Benzo(g,h,i)perylene	2.97	0.333	mg/kg wet	3.333		89	40-140	5	30	
Benzo(k)fluoranthene	2.66	0.333	mg/kg wet	3.333		80	40-140	9	30	
Benzoic Acid	2.43	1.67	mg/kg wet	3.333		73	40-140	18	30	
Benzyl Alcohol	2.28	0.333	mg/kg wet	3.333		68	40-140	27	30	
bis(2-Chloroethoxy)methane	2.58	0.333	mg/kg wet	3.333		77	40-140	13	30	
bis(2-Chloroethyl)ether	2.31	0.333	mg/kg wet	3.333		69	40-140	15	30	



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510737

Quality Control Data

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
8270D Semi-Volatile Organic Compounds										
Batch CJ52820 - 3546										
bis(2-chloroisopropyl)Ether	2.50	0.333	mg/kg wet	3.333		75	40-140	11	30	
bis(2-Ethylhexyl)phthalate	3.40	0.333	mg/kg wet	3.333		102	40-140	4	30	
Butylbenzylphthalate	3.22	0.333	mg/kg wet	3.333		97	40-140	6	30	
Carbazole	3.17	0.333	mg/kg wet	3.333		95	40-140	6	30	
Chrysene	3.22	0.167	mg/kg wet	3.333		96	40-140	5	30	
Dibenzo(a,h)Anthracene	3.55	0.167	mg/kg wet	3.333		106	40-140	6	30	
Dibenzofuran	2.60	0.333	mg/kg wet	3.333		78	40-140	10	30	
Diethylphthalate	3.14	0.333	mg/kg wet	3.333		94	40-140	8	30	
Dimethylphthalate	2.86	0.333	mg/kg wet	3.333		86	40-140	8	30	
Di-n-butylphthalate	3.02	0.333	mg/kg wet	3.333		90	40-140	6	30	
Di-n-octylphthalate	3.65	0.333	mg/kg wet	3.333		110	40-140	7	30	
Fluoranthene	3.23	0.333	mg/kg wet	3.333		97	40-140	7	30	
Fluorene	2.92	0.333	mg/kg wet	3.333		88	40-140	9	30	
Hexachlorobenzene	2.56	0.167	mg/kg wet	3.333		77	40-140	3	30	
Hexachlorobutadiene	2.44	0.333	mg/kg wet	3.333		73	40-140	9	30	
Hexachlorocyclopentadiene	2.04	1.67	mg/kg wet	3.333		61	40-140	10	30	
Hexachloroethane	2.41	0.333	mg/kg wet	3.333		72	40-140	8	30	
Indeno(1,2,3-cd)Pyrene	2.91	0.333	mg/kg wet	3.333		87	40-140	5	30	
Isophorone	2.67	0.333	mg/kg wet	3.333		80	40-140	12	30	
Naphthalene	2.57	0.333	mg/kg wet	3.333		77	40-140	10	30	
Nitrobenzene	2.49	0.333	mg/kg wet	3.333		75	40-140	10	30	
N-Nitrosodimethylamine	2.36	0.333	mg/kg wet	3.333		71	40-140	10	30	
N-Nitroso-Di-n-Propylamine	2.65	0.333	mg/kg wet	3.333		79	40-140	14	30	
N-nitrosodiphenylamine	2.90	0.333	mg/kg wet	3.333		87	40-140	4	30	
Pentachlorophenol	2.35	1.67	mg/kg wet	3.333		71	30-130	12	30	
Phenanthrene	2.92	0.333	mg/kg wet	3.333		88	40-140	5	30	
Phenol	2.85	0.333	mg/kg wet	3.333		86	30-130	26	30	
Pyrene	3.31	0.333	mg/kg wet	3.333		99	40-140	6	30	
Pyridine	1.84	1.67	mg/kg wet	3.333		55	40-140	10	30	
Surrogate: 1,2-Dichlorobenzene-d4	2.56		mg/kg wet	3.333		77	30-130			
Surrogate: 2,4,6-Tribromophenol	3.78		mg/kg wet	5.000		76	30-130			
Surrogate: 2-Chlorophenol-d4	3.87		mg/kg wet	5.000		77	30-130			
Surrogate: 2-Fluorobiphenyl	2.63		mg/kg wet	3.333		79	30-130			
Surrogate: 2-Fluorophenol	3.75		mg/kg wet	5.000		75	30-130			
Surrogate: Nitrobenzene-d5	2.74		mg/kg wet	3.333		82	30-130			
Surrogate: Phenol-d6	3.91		mg/kg wet	5.000		78	30-130			
Surrogate: p-Terphenyl-d14	3.38		mg/kg wet	3.333		101	30-130			



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510737

Notes and Definitions

- U Analyte included in the analysis, but not detected
- Q Calibration required quadratic regression (Q).
- D+ Relative percent difference for duplicate is outside of criteria (D+).
- D Diluted.
- CD+ Continuing Calibration %Diff/Drift is above control limit (CD+).
- CD- Continuing Calibration %Diff/Drift is below control limit (CD-).
- B+ Blank Spike recovery is above upper control limit (B+).
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report



CERTIFICATE OF ANALYSIS

Client Name: Charter Environmental, Inc.
Client Project ID: Textron Providence

ESS Laboratory Work Order: 1510737

ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS

ENVIRONMENTAL

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutOfStateCommercialLaboratories.pdf

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/mecdc/environmental-health/water/dwp-services/labcert/documents/AllLabs.xls>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

http://www.depweb.state.pa.us/portal/server.pt/community/labs/13780/laboratory_accreditation_program/590095

Sample and Cooler Receipt Checklist

Client: Charter Environmental
 Client Project ID: _____
 Shipped/Delivered Via: Other

ESS Project ID: 15100737
 Date Project Due: 11/2/15
 Days For Project: 5 Day

Items to be checked upon receipt:

- | | | | |
|--|-------------------------------|---|---|
| 1. Air Bill Manifest Present? | <input type="checkbox"/> * No | 10. Are the samples properly preserved? | <input type="checkbox"/> Yes |
| Air No.: | | 11. Proper sample containers used? | <input type="checkbox"/> Yes |
| 2. Were Custody Seals Present? | <input type="checkbox"/> No | 12. Any air bubbles in the VOA vials? | <input type="checkbox"/> N/A |
| 3. Were Custody Seals Intact? | <input type="checkbox"/> N/A | 13. Holding times exceeded? | <input type="checkbox"/> No |
| 4. Is Radiation count < 100 CPM? | <input type="checkbox"/> Yes | 14. Sufficient sample volumes? | <input type="checkbox"/> Yes |
| 5. Is a cooler present? | <input type="checkbox"/> Yes | 15. Any Subcontracting needed? | <input type="checkbox"/> No |
| Cooler Temp: <u>5.3</u> | | 16. Are ESS labels on correct containers? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Iced With: <u>Ice</u> | | 17. Were samples received intact? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| 6. Was COC included with samples? | <input type="checkbox"/> Yes | ESS Sample IDs: _____ | |
| 7. Was COC signed and dated by client? | <input type="checkbox"/> Yes | Sub Lab: _____ | |
| 8. Does the COC match the sample | <input type="checkbox"/> Yes | Analysis: _____ | |
| 9. Is COC complete and correct? | <input type="checkbox"/> Yes | TAT: _____ | |

18. Was there need to call project manager to discuss status? If yes, please explain.

LL VIALS Frozen @ 1733 JL 10/26/15

Who was called?: _____ By whom? _____

Sample Number	Properly Preserved	Container Type	# of Containers	Preservative
1	Yes	40 ml - VOA	1	MeOH
1	Yes	40 ml - VOA	2	other
1	Yes	8 oz Soil Jar	1	NP
2	Yes	40 ml - VOA	1	MeOH
2	Yes	40 ml - VOA	2	other
2	Yes	8 oz Soil Jar	1	NP
3	Yes	40 ml - VOA	1	MeOH
3	Yes	40 ml - VOA	2	other
3	Yes	8 oz Soil Jar	1	NP
4	Yes	40 ml - VOA	1	MeOH
4	Yes	40 ml - VOA	2	other
4	Yes	8 oz Soil Jar	1	NP
5	Yes	40 ml - VOA	1	MeOH
5	Yes	40 ml - VOA	2	other
5	Yes	8 oz Soil Jar	1	NP

Completed By: [Signature]
 Reviewed By: [Signature]

Date/Time: 10/26/15 1625
 Date/Time: 10/26/15 1705

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-2211
 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # **1510737**

Reporting Limits **RI DEM RDEC**

Turn Time **5** Days

Regulatory State **Rhode Island**

Is this project for any of the following?:

OCT RCP MA MCP ORGP DOD

Project # **74-15-0002.134** Project Name **Textron Providence**

Address **500 Harrison Avenue, Suite 4R** PO #

City **Boston** State **MA** Zip Code **02118**

Telephone Number **(857) 246-6812** FAX Number

ESS Lab ID **1** Collection Date **10/26/15** Collection Time **1130** Sample Type **Grab** Sample Matrix **Soil** Sample ID **A**

2 **10/26/15** **1145** **Grab** **Soil** **B**

3 **10/26/15** **1158** **Grab** **Soil** **C**

4 **10/26/15** **1310** **Grab** **Soil** **D**

5 **10/26/15** **1330** **Grab** **Soil** **D-E**

Container Type: **AC-Air Cassette** **AG-Amber Glass** **B-BOD Bottle** **C-Cubitainer** **J-Jar** **O-Other** **P-Poly** **S-Sterile** **V-Vial**

Container Volume: **1-100 mL** **2-2.5 gal** **3-250 mL** **4-300 mL** **5-500 mL** **6-1L** **7-VOA** **8-2 oz** **9-4 oz** **10-8 oz** **11-Other**

Preservation Code: **1-Non Preserved**, **2-HCl**, **3-H2SO4**, **4-HNO3**, **5-NaOH**, **6-MeOH**, **7-Na2S2O3**, **8-ZnAc2**, **NaOH**, **9-NH4Cl**, **10-Other**

Number of Containers: **1** **1** **1** **2** **1**

Sampled by: **M. Sheehan-Thielsch**

Comments: **Please specify "Other" preservative and containers types in this space**

Please CC: **mpolsky@thielsch.com**

Cooler Present: **YES** Drop Off Pickup

Seals Intact: **NO** Technician Hours →

Cooler Temperature: **5.3** **7.5** **10.2** **6.1** **5**

Relinquished by: **[Signature]** **10/26/15** Received by: **[Signature]** **10/26/15**

Relinquished by: **[Signature]** **10/26/15** Received by: **[Signature]** **10/26/15**

Electronnic Deliverables Data Checker Other (Please Specify →)

VOC Low Level VOC SVOC FCRA TPH Excel

Analysis

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID	VOC	VOC Low Level	SVOC	FCRA	TPH
1	10/26/15	1130	Grab	Soil	A	X	X	X	X	X
2	10/26/15	1145	Grab	Soil	B	X	X	X	X	X
3	10/26/15	1158	Grab	Soil	C	X	X	X	X	X
4	10/26/15	1310	Grab	Soil	D	X	X	X	X	X
5	10/26/15	1330	Grab	Soil	D-E	X	X	X	X	X

Laboratory Use Only

Cooler Present: **YES** Drop Off Pickup

Seals Intact: **NO** Technician Hours →

Cooler Temperature: **5.3** **7.5** **10.2** **6.1** **5**

Relinquished by: **[Signature]** **10/26/15** Received by: **[Signature]** **10/26/15**

Relinquished by: **[Signature]** **10/26/15** Received by: **[Signature]** **10/26/15**